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Validation of the ICF Core Sets for schizophrenia from the expert perspective

Validació dels Conjunts Bàsics de la CIF per a l'esquizofrènia des de la perspectiva experta

Laura Nuño Gómez

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Tesis doctoral presentada per

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Per optar al grau de Doctora en Psicologia amb menció internacional

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Barcelona, gener 2020

Doctorat en Psicologia Clínica i de la Salut

Departament de Psicologia Social i Psicologia Quantitativa

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UNIVERSITAT DE BARCELONA

Agraïments

Vull aprofitar aquest apartat per donar **infinites gràcies.** És un privilegi tenir la oportunitat d'oferir un agraïment a totes aquelles persones que m'han acompanyat aquests últims quatre anys, d'una manera o una altra, en totes les aventures que han envoltat la tesi. És encara més privilegi tenir aquests moments de pensar en tots i totes vosaltres, i sentir-me tan afortunada.

Per començar i sens dubte, mil gràcies a tot l'**equip de recerca.** A tu **Maite**, per fer la feina fàcil amb la teva energia, alegria i positivisme en cada reunió, i per la teva enorme implicació. A tu **Emilio**, per donar els tocs de timó necessaris per afinar el rumb de la recerca. A tu **Jor**, per estar sempre disponible i ser la meva "tercera directora". A ti **Juan Antonio,** por acompañarme en mis primeros pasos en la investigación. A l'equip **let's link**: **Ainoa**, **Ángela**, **Karina** i **Viviana**; perquè gràcies a la vostra predisposició i capacitat de treball, no vam arribar a la fase "I hate linking" (encara que va faltar poc!).

A tots i totes les **meves companyes de feina** que, sense formar part d'aquesta investigació, m'han acompanyat durant aquest procés. A tu **Toni**, gràcies per confiar i apostar per mi, i per donar-me l'oportunitat de formar part d'aquest gran equip. A tu **Lluïsa**, per ser la "jefa-osito"; a tu **Lidia**, pel teu "aguante"; a tu **Laia**, per ser companya i amiga i comptar amb mi per tantes coses; a tu **Pol**, per ser el "cotilla" que escolta amb més interès i estar sempre disposat a fer-ho; a tu **Pablo**, pels teus ànims amb la tesi (i amb l'escalada!); a tu **Mercè**, per obrir camins per fer les coses diferents; a tu **Neus**, per la teva autenticitat, que sempre arriba tant; a tu **Miquel**, per la teva disposició sempre a ajudar; a ti **Ana** (López), por tu transparencia; a tu **Ana** (Lligoña), per fer que les coses tirin endavant; a tu **Silvia**, pel teu interès en com anava avançant aquest projecte; a ti **Soraya**, por tu apoyo siempre presente; a ti **Cristal**, por tu dulzura; a vosotras, **Rosa y Carlota**, por vuestra disponibilidad; a tu **Clara**, perquè tan sovint les nostres diferències em fan somriure; a tu **Hugo**, per fer-me de "mentor" tantes vegades; a ti **Crhys**, por esas grandes ideas con las que nos entusiasmas a todas; a ti **Pablito**, por hacer las cosas tan fáciles.

A tots i totes les **companyes de residència,** per ajudar-me a "sobreviure-la" i, sobretot, a gaudir-la un munt; especialment, a tu **Joana**, per ser una gran tutora durant aquell camí, durant el que vaig començar la tesi.

Als meus **amics i amigues**, per ser tan i tan especials i estimar-me tant. A ti **Iria**, gracias por ser compañera de aventuras y transformación. A ti **Adri**, por tu sinceridad y apoyo. A tu **Marina**, per encomanar la teva il·lusió per la vida i les "petites coses". A tu **Sara**, perquè només pensar en tu em fa somriure i tenir mil ganes de veure't. A tu **Mireia**, per recordar-me la papallona que tenim dins. A ti **Dani** (Ilzarbe), porque aunque pierdas la competi de la tesis, sigues siendo el

mejor compañero de salsa. A tu **Laura** (Reverter), per ser tan intensa i lluitadora. A tu **Clara** i a tu **Èlia**, per ser tan voluntarioses i estar disposades a fer una prelectura d'aquest projecte. A *veranito* (**Iri**, **Iago**, **Clara**, **Michael**, **Marta**, **Zalo** y **Gio**), porque nuestros planes, sean de verano o invierno, siempre ayudan a desconectar, disfrutar y recargar fuerzas. A tu **Mireia** i a ti **Xènia**, por ser mis limones favoritos... el temps no ens roba els nostres moments. A ti **Rachel**, por tu escucha, siempre atenta e incisiva. I a tu, **Ruth**... per tantes coses! No crec que ningú de fora de la família m'hagi donat mai tant... gràcies! Perquè em fas sentir que puc amb (quasi) tot, i que no estic sola.

Y para acabar, a mi **família**, porque me siento muy afortunada de teneros, gracias por estar siempre ahí. A ti **mama,** por creer tanto en mí y por tener paciencia infinita conmigo (aunque no siempre yo la tenga). A ti **papa**, por tu cariño y tu fe en mis capacidades. A ti **Jordi,** por tu apoyo, y por hacerme tocar con los pies en el suelo de vez en cuando y ayudarme a ponerme límites. A ti **Laura,** por tu toque práctico y sereno. Y a los dos, por Ona! **Ona**, gracias por tus sonrisas y tus "tieta" con la mirada iluminada. A ti **Dani**, por llevar toda una vida soportándome... y por esforzarte para hacerte "más soportable" para mí 😊. A ti **Neus,** por ser una prima casi hermana. A todo el equipo *primos*, por poder contar siempre con vosotr@s**.** A ti **yaya**, por preocuparte siempre por mí (aunque sea demasiado), y a ti **yayo**, por "darme permiso para irme" y despedirte antes de irte tú. I finalment, a tu **Seba**, perquè gràcies a tu, ja no només tinc la família "de sèrie"; gràcies per fer-me sentir tant viva i amb tantes ganes de lluitar pels meus i nostres projectes, i per la i·lusió amb la que vivim cada un d'ells. I perquè no, al **Vetxo**... gràcies per les teves dosis d'amor infinit tan reconfortants, han estat empentes d'energia per acabar aquest projecte!

A tots i totes les persones mencionades i les que em pugui deixar, que m'heu aportat tant durant aquest temps (i espero que seguiu fent-ho per molt de temps)... **GRÀCIES**! Us envio una forta abraçada,

Laura

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Català		Anglès	
CIF	Classificació Internacional del Funcionament, de la Discapacitat i de la Salut	ICF	International Classification of Functioning, Disability and Health, ICF
CB-CIF	Conjunt Bàsic de la CIF	ICF-CS	ICF Core Set
OMS	Organització Mundial de la Salut	WHO	World Health Organization
CIM-11	Classificació Internacional de les Malalties, 11ª edició	ICD-11	International Classification of Diseases, 11th edition
DSM-5	Manual Diagnòstic i Estadístic dels Trastorns Mentals, 5ª edició	DSM-5	Diagnostic and Statistical Manual of Mental Disorders, 5th edition
TO	Teràpia Ocupacional / Terapeuta Ocupacional	OT	Occupational Therapy / Occupational Therapist
TS	Treballador/a Social / Treball Social	SW	Social Worker / Social Work

Resum / abstract

Resum

L'esquizofrènia ha estat considerada al llarg de la història com una malaltia mental crònica predestinada a un deteriorament progressiu irreversible. En les últimes dècades, però, l'evidència científica ha demostrat que la recuperació en les persones amb esquizofrènia és possible i ha de ser, per tant, un objectiu prioritari en el seu tractament. En aquest sentit, el model de la recuperació ha pres força i ha transformat la visió de la malaltia psiquiàtrica. Aquest enfocament mou l'objectiu terapèutic de la remissió simptomàtica a la recuperació d'un funcionament satisfactori i adequat. Davant d'això, es fa necessari un sistema d'atenció integral e interdisciplinari on els professionals dels diferents àmbits que tracten a la persona diagnosticada treballin conjuntament per abordar no només els seus símptomes, sinó també les dificultats que presenta en el seu funcionament diari, les seves característiques personals i els factors ambientals que l'afecten.

Aquest canvi en l'abordatge terapèutic fa evident la necessitat de disposar d'una eina que permeti valorar tot l'espectre de dificultats en el funcionament que pot presentar una persona, totes les variables contextuals implicades i que faciliti la coordinació i treball conjunt entre totes les professions partícips del procés de recuperació. A tots aquests requeriments s'ajusta la Classificació Internacional del Funcionament, de la Discapacitat i de la Salut (CIF). Atès que aquesta consta de més de 1400 categories, s'han desenvolupat els Conjunts Bàsics de la CIF (CB-CIF) vinculats a determinats estats de salut. Els CB-CIF consisteixen en una llista de les categories més rellevants de la CIF per a la descripció del funcionament i la discapacitat de les persones que viuen amb una condició de salut determinada. En el cas de l'esquizofrènia, s'han desenvolupat dues versions de CB-CIF: l'abreujada i la completa.

Per tal que els CB-CIF puguin ser aplicats a la pràctica clínica, cal que siguin validats a través de diferents fonts d'evidència. En aquest context, la present tesi pretén dur a terme la validació de contingut dels CB-CIF per a l'esquizofrènia des de la perspectiva del col·lectiu expert en el tractament d'aquesta població, així com identificar les repercussions potencials d'aquesta condició de salut en el funcionament de les persones diagnosticades d'aquest trastorn. Per assolir aquest objectiu es van dur a terme sis estudis Delphi de 3 rondes a grups d'experts de diferents àmbits professionals que han demostrat tenir un paper rellevant en el tractament de persones amb esquizofrènia (i.e., psiquiatria, psicologia, infermeria, teràpia ocupacional, treball social i fisioteràpia). Cada un d'aquests estudis identifica les dificultats en el funcionament des de la perspectiva d'una d'aquestes àrees professionals i analitza si els aspectes identificats estan representats als CB-CIF per a l'esquizofrènia. Un cop obtinguts els resultats dels sis estudis

Delphi, es va realitzar la integració de totes les dades per concloure la perspectiva del col·lectiu expert i avaluar globalment la validesa de contingut dels CB-CIF.

En total, 790 experts (352 psiquiatres, 175 psicòlegs i psicòlogues, 101 infermers i infermeres, 92 terapeutes ocupacionals, 57 treballadors i treballadores socials i 13 fisioterapeutes) provinents de 85 països diferents i que abastaven les 6 regions demogràfiques de la OMS (i.e., Àfrica, Amèriques, Àsia Sud-oriental, Europa, Mediterrani Oriental i Pacífic Occidental) van participar en la primera ronda dels diferents estudis Delphi realitzats. Es van identificar 113 categories de la CIF i 31 Factors personals que van arribar a consens (el 75% o més dels experts d'una professió la va considerar rellevant) per part d'almenys una perspectiva professional. D'aquestes, 90 categories de la CIF i 28 Factors personals van arribar a consens expert (van arribar a consens des de 4 perspectives professionals o més). El 100% de les categories de la versió abreujada del CB-CIF per a l'esquizofrènia van arribar a consens des de totes les perspectives professionals considerades. Considerant la versió completa, el 89,7% de les seves categories (87 categories) van arribar a consens expert.

En conjunt, la present tesi proporciona un suport important a la validesa de contingut a nivell mundial dels CB-CIF per a l'esquizofrènia des de la perspectiva experta. Els resultats destaquen la rellevància, en l'avaluació i tractament de les persones amb esquizofrènia, de valorar el funcionament considerant les funcions corporals, la participació en activitats, els aspectes ambientals i els factors personals que els experts han identificat. Tot això suggereix que la CIF i aquests CB-CIF proporcionen un marc efectiu des del qual valorar i descriure el funcionament en persones amb esquizofrènia i poden ser una eina útil en el tractament integral d'aquesta població.

Abstract

Schizophrenia has long been considered a chronic mental illness predestined to irreversible progressive deterioration. However, in recent decades scientific evidence has shown that recovery in people with schizophrenia is possible and should therefore be a priority in their treatment. In that sense, the recovery model has gained strength and transformed the view of mental illness. This approach moves the therapeutic goal from symptomatic remission to the recovery of satisfactory and proper functioning. In view of this, an integrated and interdisciplinary care system is needed where professionals from different fields who treat people diagnosed with the condition work together to address not only their symptoms, but also the difficulties they present in their daily functioning, their personal characteristics and the environmental factors that affect them.

This change in the therapeutic approach highlights the need for a tool that can assess the full spectrum of difficulties in functioning that a person may have and all the contextual variables involved and that facilitates the coordination and joint work between all the professions involved in the recovery process. The International Classification of Functioning, Disability and Health (ICF) covers all these requirements. Since it has more than 1400 categories, ICF Core Sets (ICF-CSs) linked to certain health states have been developed. The ICF-CSs consist of a list of the most relevant ICF categories for the description of the functioning and disability of people living with a given health condition. In the case of schizophrenia, two versions of ICF-CSs have been developed: the brief and the comprehensive.

In order to apply the ICF-CSs in clinical practice, they must be validated through different sources of evidence. In this context, the present thesis aims to evaluate the content validity of the ICF-CSs for schizophrenia from the perspective of experts in the treatment of this population, as well as to identify the potential repercussions of this health condition in the functioning of people diagnosed with this disorder. To achieve this, six three-round Delphi studies were conducted with expert panels from different professional backgrounds which have shown a significant role in the treatment of people with schizophrenia (i.e., psychiatry, psychology, nursing, occupational therapy, social work and physiotherapy). Each of these studies identifies functioning difficulties from the perspective of one of these professional areas and analyzes whether the identified aspects are represented in the ICF-CSs for schizophrenia. Once the results of the six Delphi studies were obtained, all the data were integrated to conclude the expert perspective and to evaluate the content validity of the ICF-CSs globally.

In total, 790 experts (352 psychiatrists, 175 psychologists, 101 nurses, 92 occupational therapists, 57 social workers and 13 physiotherapists) from 85 different countries covering the 6 demographic WHO regions (i.e., Africa, Americas, South-east Asia, Europe, Eastern Mediterranean and Western Pacific) participated in the first round of the different Delphi studies. Globally, 113 ICF categories and 31 Personal factors reached consensus (75% or more of the experts of a profession considered them relevant) by at least one professional perspective. Of these, 90 ICF categories and 28 personal factors reached expert consensus (they reached consensus from four or more professional perspectives). One hundred percent of the categories in the brief version of the ICF-CS for schizophrenia reached consensus from all professional perspectives considered. Regarding the comprehensive version, 89.7% of its categories (87 categories) reached expert consensus.

Overall, the present thesis provides important support for the worldwide content validity of the ICF-CSs for schizophrenia from the expert perspective. The results highlight the relevance, in the evaluation and treatment of people with schizophrenia, of assessing functioning by considering the body functions, participation in activities, environmental aspects and personal factors that experts have identified. All this suggests that the ICF and these ICF-CSs provide an effective framework from which to evaluate and describe functioning in people with schizophrenia and therefore may be a useful tool in the comprehensive treatment of this population.

Presentació

Fa 4 anys em van oferir realitzar aquest projecte de recerca com a tesi doctoral. Estava en tercer de residència de psicologia clínica i volia dedicar-me a les addiccions. Suposo que si no fos per la meva tendència a apuntar-me a tot (i al fet que tot em sembli tremendament interessant) hagués declinat o, almenys, m'ho hagués pensat una mica més. Però afortunadament vaig dir que sí. Quatre anys després puc dir que hi ha hagut moments d'estrès, de sentir-me saturada i dubtar de la idoneïtat del pla… però que ha valgut la pena. Avui em trobo treballant en el que més gaudeixo (com a psicòloga clínica a l'Hospital Clínic, en el camp que volia -addiccions- i amb un equip excepcional), i presentant la tesi amb un altre equip increïble i d'una temàtica que, tot que pot semblar allunyada del meu àmbit, hi té un nexe d'unió bàsic: l'interès pel benestar de les persones.

En aquesta línia, volia aprofitar per a introduir que aquesta tesi va de persones. Persones, diagnosticades d'esquizofrènia; persones, que exerceixen una determinada professió, i són expertes en un tema; persones, que són capaces de fer certes coses; persones, que tenen dificultats per a realitzar unes altres. Pel màxim respecte a totes aquestes persones, la tesi s'ha intentat redactar amb un llenguatge inclusiu i no discriminatori. En aquesta línia, s'han seguit les guies d'usos no sexistes de la llengua (Universistat de Barcelona, Serveis Lingüístics, 2019) i s'ha evitat l'ús del terme pacient per les connotacions negatives que pot implicar. També s'ha fet referència sempre que ha estat possible a elles per l'essència del que són: una persona, un ésser humà, molt més enllà de les etiquetes que se li afegeixen; de fet, persona i persones són les paraules que més apareixen en el text (més de 150 cops!).

D'altra banda, i sense ànim de marejar al lector, la tesi està escrita en dos idiomes. La introducció, el mètode i els objectius, així com un resum dels resultats, estan redactats en català, la llengua amb la que he crescut, amb la que creo i formo els meus projectes, perquè aquesta tesi és un d'ells, i per fer-li un petit lloc "a la comunitat científica" a aquesta bonica llengua. En canvi, tots els articles que composen aquesta tesi, així com la discussió i conclusions d'aquesta, estan redactats en anglès, la principal llengua de divulgació científica avui dia, amb la fi també d'optar a la menció de doctorat internacional.

1. Introducció

Més enllà dels símptomes i aspectes mèdics associats a una malaltia, a les persones ens importa què serem capaces de fer i en què tindrem dificultats degut a presentar una determinada condició de salut: ens importa el nostre funcionament, i com es veurà afectat. Per això, el focus en el tractament de les malalties mentals s'ha anat movent dels símptomes clínics concrets a poder assolir un bon i satisfactori funcionament psicosocial. En aquest context, la present tesi s'emmarca dins del procés de validació d'una eina que faciliti un marc holístic i comprensiu per abordar el funcionament i la recuperació de les persones amb esquizofrènia.

Aquesta introducció consta de dos subapartats. En el primer, es fa una breu introducció sobre l'esquizofrènia, les seves repercussions en les persones que la pateixen i les implicacions que té a nivell funcional i en la possibilitat de recuperació d'aquesta població. En el segon subapartat, s'explica la Classificació Internacional del Funcionament, de la Discapacitat i de la Salut (CIF; World Health Organisation, 2001), i els Conjunts Bàsics de la CIF (CB-CIF) per a l'esquizofrènia, que es proposen com a eina per considerar el funcionament d'aquesta població des d'una perspectiva biopsicosocial.

1.1. L'esquizofrènia

1.1.1. El concepte d'esquizofrènia

Les primeres referències científiques de l'entitat nosològica que avui coneixem com a "esquizofrènia" daten de mitjans del segle XIX. L'any 1853, Bénedict Morel va descriure la "demence précoce" (demència precoç) fent referència a "la funesta terminació de la bogeria hereditària. Una immobilització sobtada de totes les facultats, una demència precoç, indiquen que el o la jove ha assolit el terme de la seva vida intel·lectual" (Morel, 1860, p. 565). Com assenyalen Novella i Huertas (2010), quan Morel descrivia aquest tipus d'afecció no estava aïllant una entitat nosològica discreta, sinó explicant algunes formes característiques de les "bogeries hereditàries".

Anys després, Emil Kraepelin va proposar el mateix terme, "demència precoç", per establir una entitat nosològica diferenciada d'altres malalties mentals, caracteritzant-la com "un conjunt de quadres clínics que tenen la particularitat comuna de conduir a estats d'una deterioració psíquica característica" (Kraepelin, 1899, p. 167), on destacava la presència de símptomes deficitaris com el deteriorament afectiu, la desorganització del pensament o l'apatia. Kraepelin va recollir sota aquest terme altres expressions utilitzades fins al moment per descriure aquests casos, tals com l'hebefrènia o la catatonia. L'autor remarcava el curs marcat pel progressiu deteriorament, que portava a la incapacitat de la persona afectada sense opció a la cura, i el seu inici precoç, a diferència d'altres formes de demència com la demència senil. Tot i així,

posteriorment va diferenciar una forma evolutiva de demència precoç que cursava amb brots i no tenia un dèficit irreversible.

No va ser fins a inicis del segle XX que s'utilitzà per primer cop el terme esquizofrènia. Bleuler va considerar que el terme demència precoç no era adient per definir aquest trastorn. D'una banda, l'evolució de la malaltia no era sempre cap a un deteriorament progressiu i s'observaven casos d'estabilització o millora; d'altra banda, el trastorn ocasionalment podia debutar en edats més avançades (Bleuler, 1996; text original 1926). Bleuer va proposar la paraula "esquizofrènia" (literalment, "ment escindida") per considerar que el tret psicopatològic fonamental d'aquest trastorn era l'escissió del jo, que consistia en la pèrdua de correspondència entre els processos de formació de les idees i l'expressió d'emocions. Així mateix, l'autor va atorgar primacia a la simptomatologia sobre el curs del trastorn. En aquest sentit, va definir els símptomes principals com "les quatre As": disgregació en les associacions d'idees (associació d'idees il·lògiques i formalment incoherents), afecte embotat o incongruent (reducció severa de la intensitat de la expressió emocional o expressió inadequada de l'afecte en relació al discurs), ambivalència (presència simultània de pensaments, sentiments o actituds contradictòries) i autisme (predomini morbós de la vida interior sobre la vida relacional). Va indicar que aquests símptomes eren els constants i exclusius de les persones amb esquizofrènia i que la gravetat i incapacitat que comportava el trastorn estaven associats a aquests. Així mateix, va assenyalar que es podien presentar altres símptomes "accessoris" com les idees delirants, les al·lucinacions, les alteracions del llenguatge o les pertorbacions de la memòria (Bleuler, 1961). Posteriorment, Kurt Schneider va invertir la jerarquia proposada per Bleuler en la seva caracterització dels símptomes esquizofrènics. Schneider va proposar com a símptomes "de primer rang", útils per detectar la presència d'esquizofrènia, "la sonorització del pensament, l'audició de veus que opinen i repliquen a la persona, l'audició de veus que comenten les seves accions, les experiències corporals d'influència, el robatori del pensament i altres influències exercides sobre el pensament, la difusió del pensament, la percepció delirant i la convicció de la persona de ser influenciada en els sentiments, tendències i volicions" (Schneider, 1997, p. 171).

1.1.2. Definició i característiques clíniques

Els criteris i símptomes proposats per Kraepelin, Bleuler i Schneider van establir les bases de la definició que avui dia es fa de l'esquizofrènia, al descriure els símptomes psicòtics que actualment es classifiquen com a símptomes positius (com les al·lucinacions o els deliris), símptomes negatius (com l'expressió emocional disminuïda o l'abúlia) i símptomes de desorganització (com llenguatge o conducta desorganitzada), a més d'altres pertorbacions com les alteracions cognitives.

En aquesta línia, els principals sistemes de classificació de les malalties mentals que s'utilitzen avui dia continuen definint l'esquizofrènia en funció de la presència d'aquests símptomes. Així, la cinquena edició del Manual Diagnòstic i Estadístic dels Trastorns Mentals (DSM-5; American Psychiatric Association, 2013) indica com a criteri diagnòstic la presència de dos o més dels símptomes següents, un dels quals ha de ser un dels tres primers: a) idees delirants, b) al·lucinacions, c) llenguatge desorganitzat, d) comportament catatònic o greument desorganitzat, i e) símptomes negatius. D'altra banda, la onzena edició de la Classificació Internacional de les Malalties (CIM-11; World Health Organization, 2018) defineix l'esquizofrènia com un trastorn en múltiples modalitats mentals. Aquestes modalitats inclouen el pensament (per exemple, idees delirants o desorganització en la forma de pensament), la percepció (per exemple, al·lucinacions), l'experiència personal (com ara l'experiència que els sentiments, impulsos, pensaments o comportaments propis estan sota el control d'una força externa), la cognició (com ara problemes d'atenció, memòria verbal i cognició social), la volició o voluntat (per exemple, pèrdua de motivació), l'afecte (per exemple, expressió emocional aplanada) i el comportament (com ara comportaments que semblen sense propòsit, i respostes emocionals impredictibles o inapropiades que interfereixen en l'organització del comportament). Segons la CIM-11, aquest trastorn pot comportar també alteracions psicomotores, com la catatonia. Les idees delirants i les al·lucinacions persistents, els trastorns del pensament i les experiències d'influència, de passivitat o de control es consideren símptomes centrals en aquest manual diagnòstic.

En ambdós sistemes de classificació els símptomes han d'haver persistit durant almenys un mes perquè es pugui assignar el diagnòstic d'esquizofrènia. El DSM-5, de forma addicional, exigeix la presència de signes continus de l'alteració, encara que siguin de menor intensitat, durant almenys sis mesos, i indica també com a criteri necessari per al diagnòstic un deteriorament del funcionament en una o més àrees importants de la vida diària, com són el treball, les relacions interpersonals o l'autocura durant una part significativa del temps des de l'inici de l'alteració. En canvi, la CIM-11, d'acord amb el criteri general proposat per la Organització Mundial de la Salut (OMS), evita incloure la interferència en la vida diària com a criteri diagnòstic de les malalties mentals (Reed, 2010). Respecte al funcionament, l'OMS proposa l'ús conjunt i complementari de la CIM-11 amb la CIF per descriure l'estat de salut i el seu impacte en el funcionament de la persona, i la utilització, si escau, de qualificadors de les categories de la CIF per indicar el nivell de deteriorament funcional.

Les darreres versions d'aquests sistemes diagnòstics proposen un canvi molt rellevant respecte a les anteriors, atès que desapareixen els subtipus d'esquizofrènia, que abans era

classificada pel DSM-IV-TR com paranoide, desorganitzada, catatònica, indiferenciada o residual, i per la CIM-10 com paranoide, hebefrènica, simple, catatònica, residual o depressió post-esquizofrènica. Aquest canvi es realitza per la constatació que els símptomes presents en cada moment varien al llarg del temps i la categorització en subtipus és poc estable en l'avaluació longitudinal (Keller, Fischer i Carpenter, 2011; Mattila et al., 2015). Per això, ambdós sistemes de classificació proposen la valoració amb especificadors de gravetat en diferents dominis. La CIM-11 proposa els dominis de símptomes positius, negatius, depressius, maníacs, psicomotrius i cognitius, i el DSM-5 proposa els dominis de distorsió de la realitat (al·lucinacions i deliris), desorganització, símptomes negatius, deteriorament cognitiu, comportament psicomotor anormal i aspectes de l'humor (depressió i mania). Aquest canvi indica una visió més dimensional i menys categòrica del trastorn.

Els criteris diagnòstics descrits deixen entreveure l'enorme heterogeneïtat que aixopluga aquest diagnòstic. Així, cap símptoma és necessari ni patognòmic, és a dir, cap assegura per sí mateix la presència del trastorn, i l'expressió d'aquests símptomes pot variar no només d'una persona a una altra, sinó que també en una mateixa persona al llarg del temps.

1.1.3. Etiologia

Des de la definició de l'esquizofrènia, la seva etiologia ha estat un dels focus d'estudi més actius en salut mental. S'han proposat múltiples teories des de diferents enfocs: les teories biològiques busquen les causes de la malaltia en la genètica, la bioquímica o la neurofisiologia; els models psicològics se centren en els processos psicològics de la persona, que es formen a través de les seves experiències durant el desenvolupament i l'aprenentatge; per la seva part, els models ecològics s'enfoquen en els factors contextuals. Totes aquestes teories han assenyalat factors relacionats amb el trastorn i possiblement amb les seves causes, però sense que els elements que proposaven expliquessin completament la seva etiologia ni la complexitat d'aquest trastorn.

En aquest context, Zubin i Spring (1977) proposen el model de vulnerabilitat (diàtesis) – estrès com un model de segon ordre que inclou els elements biològics, psicològics, socials i contextuals considerats des dels diferents models existents. Aquesta perspectiva proposa que cada persona està dotada d'un grau de vulnerabilitat envers l'esquizofrènia que, davant de determinades circumstàncies, es podria expressar en un episodi del trastorn (Zubin i Spring, 1977). Els estressors desencadenen crisis en tots els éssers humans, les quals desafien la homeòstasis de la persona i requereixen una readaptació per mantenir l'equilibri. Depenent de la intensitat de l'estrès desencadenat i del llindar per a tolerar-lo (és a dir, de la vulnerabilitat de

cada persona), la crisi es contindrà i es mantindrà l'equilibri, o conduirà a un episodi de desequilibri, en aquest cas, un episodi psicòtic. Així, davant d'una vulnerabilitat elevada, fan falta pocs estressors per desenvolupar un episodi, mentre que davant d'una vulnerabilitat baixa la persona serà capaç d'afrontar més estressors sense desenvolupar el trastorn i seran necessaris estressors d'elevada intensitat per a desenvolupar un episodi psicòtic (veure Figura 1).

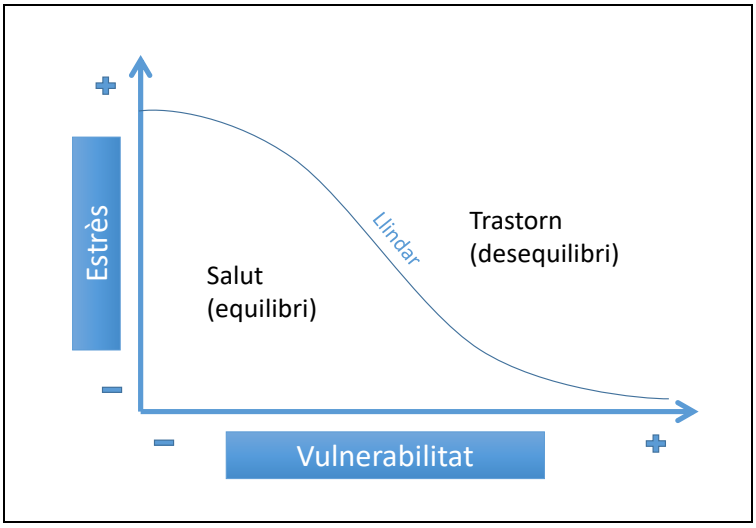

Figura 1. Estat de salut en funció del grau d'estrès i el nivell de vulnerabilitat (figura adaptada de Zubin i Spring, 1977).

Quan l'estrès excedeix el llindar, és probable que la persona desenvolupi un episodi psicopatològic. Zubin i Spring (1977) proposen que aquest episodi té un límit en el temps, i que quan l'estrès disminueix i deixa de superar el llindar de vulnerabilitat, l'episodi finalitza i la persona afectada torna a un estat similar al nivell d'adaptació previ. Així doncs, aquesta teoria se centra en la interacció entre la vulnerabilitat i l'estrès. El grau de vulnerabilitat ve determinat per components innats, com els gens, i adquirits, com les experiències traumàtiques, les complicacions perinatals o malalties específiques (Shah, Tandon i Keshavan, 2013; van Os, Kenis i Rutten, 2010). D'altra banda, els estressors poden ser interns, com la ingesta de substàncies tòxiques o canvis en la maduració de l'organisme, o externs, com són els successos vitals tals com les pèrdues o els canvis de rol. El model reconeix també l'existència de factors de protecció personals, com les habilitats socials, i factors de protecció ambientals, com el suport familiar o social, que poden proporcionar un amortiment contra els efectes nocius de l'estrès i atenuar el risc de patir un brot psicòtic en persones constitucionalment predisposades a ell (Mueser i McGurk, 2004). Tots aquests elements i la seva interacció queden representats a la Figura 2. Dins d'aquest model, tant les teories biològiques com psicològiques o ecològiques podrien oferir hipòtesis sobre les possibles fonts de vulnerabilitat, factors de protecció i de risc, i potencials estressors ambientals.

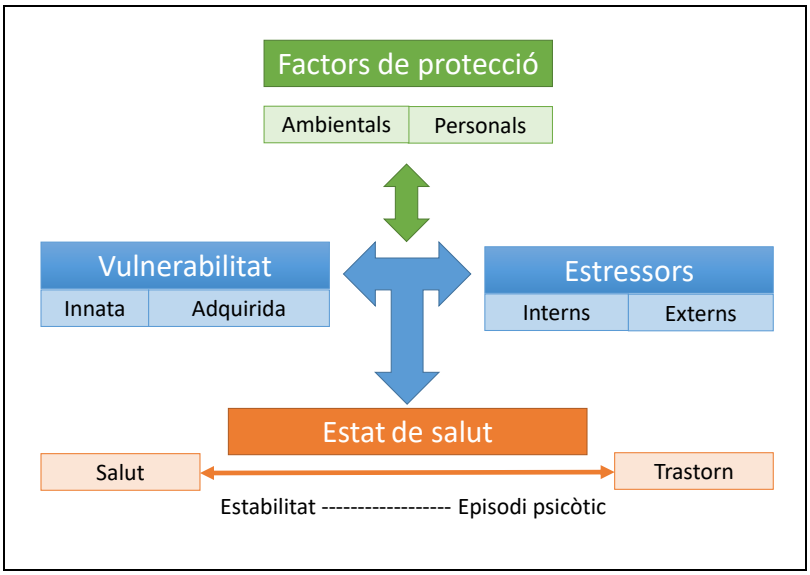

Figura 2. Interacció entre els elements considerats pel model de vulnerabilitat – estrès.

Aquest model va oferir una mirada més àmplia de l'esquizofrènia al proposar una explicació més complexa per a una realitat igualment complexa. El model fomenta investigar sobre la contribució real de cada un dels factors al desenvolupament i manteniment de l'esquizofrènia i evoluciona nodrint-se dels estudis d'àmbits concrets, com la genètica o la investigació sobre els factors contextuals relacionats amb el trastorn. Tot i que la investigació sobre l'etiologia de l'esquizofrènia ha continuat centrant-se en la recerca de factors concrets, com ara la investigació sobre gens específics associats a l'esquizofrènia (Ripke et al., 2011; Sanders, 2014), aquest model ha anat incorporant aquells factors que demostraven estar associats i ha anat creant amb ells un model més global i exhaustiu. Un exemple és el model neural diàtesi-estrès de la psicosi (Walker, Mittal i Tessner, 2008), revisat anys després per Pruessner, Cullen, Aas i Walker (2017). Aquest model se centra en el paper que l'eix hipotàlamic-hipofisari-adrenal (HPA) té en el desencadenament i l'exacerbació dels símptomes psicòtics. El model proposa que els factors de vulnerabilitat (innats, com la genètica, i adquirits, com factors adversos durant la infància) poden alterar el neurodesenvolupament i l'eix HPA, i predisposar a la persona a respostes no adaptatives als estressors, de manera que s'incrementa el risc de desenvolupar psicosi. D'aquesta manera, aquest model dona cabuda a la hipòtesis del neurodesenvolupament (Rapoport, Giedd i Gogtay, 2012), que associa l'esquizofrènia amb processos patològics que es donen durant l'adolescència, produïts per factors biològics i ambientals, i alhora a la hipòtesi de la dopamina, que defensa el paper de la desregulació en els circuits neuronals de la dopamina com a font explicativa de la simptomatologia present al trastorn (Howes i Kapur, 2009).

El model de vulnerabilitat-estrès encaixa en l'enfoc d'aquesta tesi doncs ofereix una visió global, àmplia i exhaustiva de la persona i del seu estat de salut, considerant tot el ventall de

factors que influeixen en el seu estat. En aquest sentit, és coherent amb el model biopsicosocial de la salut i el funcionament que proposa l'OMS (World Health Organisation, 2001) en el que es basarà aquesta tesi i que serà explicat més endavant. A més, aquesta teoria distingeix entre vulnerabilitat a l'esquizofrènia, que considera un tret crònic i relativament permanent, i els episodis de "desequilibri esquizofrènic", que són estats que poden augmentar o disminuir. Aquesta visió contrasta amb la visió tradicional, que es refereix a l'esquizofrènia com una condició permanent que condueix a un deteriorament crònic e irreversible. En aquest sentit, indica que la persona, més enllà de la seva vulnerabilitat, pot estar estable i assolir nivells de benestar i funcionament adients, i que això es pot aconseguir intervenint en múltiples dimensions. En aquesta direcció, Liberman i Kopelowicz (2002) ja assenyalaven que sembla haver un efecte terapèutic sinèrgic entre la medicació i l'atenció psicològica, de manera que beneficiar-se d'intervencions psicosocials òptimes pot permetre reduir la quantitat de medicaments necessaris per assolir l'estabilitat. En definitiva, el model permet considerar múltiples nivells d'intervenció complementaris entre sí, como són el biològic, el psicosocial i el contextual, i evidencia la necessitat d'un tractament interdisciplinari de cara a atendre els múltiples factors associats (Vita i Barlati, 2018).

1.1.4. Epidemiologia

Els estudis de prevalença de l'esquizofrènia mostren certa variabilitat i situen la seva prevalença al llarg de la vida entorn el 0,3 i l'1% (Stilo i Murray, 2010; van Os i Kapur, 2009). S'estima que, aproximadament, 21 milions de persones al món la pateixen (Charlson et al., 2018). El seu inici sol situar-se entre l'adolescència tardana i l'inici de l'adultesa (Ramsay et al., 2011) i s'ha identificat un inici lleugerament més precoç en homes que en dones (Eranti, MacCabe, Bundy i Murray, 2013). En general, s'ha postulat una major incidència en homes. Per exemple, McGrath, Saha, Chant i Welham (2008), en una metanàlisi, troben una ràtio de 1,4:1 homes:dones, encara que hi ha estudis que no troben diferències de sexe en la seva prevalença (Charlson et al., 2018). La seva associació amb altres variables sociodemogràfiques tampoc és clara. Diversos estudis assenyalen que no es troben diferències significatives entre països o regions demogràfiques (Charlson et al., 2018; Saha, Chant, Welham i McGrath, 2005). D'altra banda, alguns estudis assenyalen que l'exposició a factors com el tipus d'urbanisme, l'estatus econòmic o la latitud estan associats a diferents mesures de freqüència (McGrath et al., 2008). Així doncs, és possible que hi hagi variables sociodemogràfiques associades a una major o menor incidència d'esquizofrènia, fet que evidencia la necessitat de dur a terme nous estudis per dilucidar quines són aquestes variables i quin efecte tenen.

Tot i que l'esquizofrènia és un trastorn de baixa prevalença, la càrrega social i econòmica associada a aquesta és considerable (Olesen, Gustavsson, Svensson, Wittchen i Jönsson, 2012). Segons una metanàlisi recent, l'esquizofrènia representa 13,4 milions d'anys de vida viscuts amb discapacitat a nivell mundial, els quals suposen un 1,7% del total d'anys de vida viscuts amb discapacitat del 2016 (Charlson et al., 2018). L'article indica com a possibles factors relacionats amb aquest fet l'inici precoç del trastorn, els baixos índexs de remissió i el pes elevat associat de la discapacitat. L'esquizofrènia també s'ha associat amb alteracions significatives en el funcionament psicosocial (Bellack, 2006), fins i tot en aquelles persones que han aconseguit la remissió simptomàtica (Karow, Moritz, Lambert, Schöttle i Naber, 2012). Les persones amb esquizofrènia tenen més dificultats socials i menys xarxa social, més probabilitat d'estar a l'atur, sense llar o viure en la pobresa i majors dificultats per portar a terme adequadament les tasques domèstiques i de cura personal (Knapp, Mangalore i Simon, 2004; Mueser i McGurk, 2004). Patir esquizofrènia ha estat relacionat també amb una esperança de vida reduïda (Laursen, Nordentoft i Mortensen, 2014) i major mortalitat en totes les franges d'edat (Charlson et al., 2015), la qual s'ha relacionat amb un augment de la prevalença de comorbilitats (Lawrence, 2015). De fet, la majoria d'excessos de morts es deuen a malalties físiques subjacents, especialment malalties cròniques, coronàries o respiratòries, accidents cerebrovasculars, diabetis tipus II i càncer (Laursen et al., 2014). Tot això, a més d'un fort impacte en la vida de les persones afectades i el seu cercle proper, té una gran repercussió econòmica pel sistema sanitari (Chong et al., 2016). L'impacte econòmic prové dels costos directes del sistema sanitari (per exemple, estades hospitalàries, visites a urgències, visites externes i medicaments amb recepta), però també dels costos del sistema social, tant directes (per exemple, pensions, gestió de la custòdia o tutela) com indirectes (per exemple, pèrdua de productivitat per no tenir feina, reducció de la productivitat laboral en les persones que treballen i el temps dedicat per part de la família cuidadora) (Cloutier et al., 2016).

1.1.5. Curs i evolució

Les dades expressades prèviament porten al plantejament de quina evolució es pot esperar de les persones que pateixen aquest trastorn. Com s'ha indicat a l'inici, l'esquizofrènia va ser considerada inicialment com una malaltia crònica predestinada a un deteriorament progressiu irreversible. Tot i que aquesta visió va ser refutada ja per Bleuler (1996; text original 1926), la consideració que la remissió dels símptomes i la recuperació d'un adequat funcionament per part de les persones amb aquest diagnòstic és poc probable s'ha mantingut en la visió del col·lectiu sanitari, de les pròpies persones afectades i de la societat (Frese, Knight i Saks, 2009).

En les darreres dècades, el model de la recuperació ha pres força i ha transformat la visió de la malaltia psiquiàtrica. Aquest model marca com a objectius del tractament assolir una vida satisfactòria, amb esperança i aportacions a la societat, i desenvolupar un nou sentit i propòsits vitals per créixer més enllà dels efectes de la malaltia (Anthony, 1993). L'origen d'aquest model es troba als anys 60-70 (Sampietro i Gavaldà Castet, 2018), a partir dels moviments d'antipsiquiatria (moviment impulsat per professionals crítics amb el model vigent), el moviment "supervivents de la psiquiatria" (moviment de salut mental en primera persona) i els moviments pels drets dels usuaris i usuàries i els drets civils. Aquest canvi també va de la mà de la desinstucionalització psiquiàtrica, de la revolució farmacèutica, la qual possibilita la remissió i control dels símptomes, i del desenvolupament de les xarxes d'atenció comunitària. És a partir de finals dels anys 80 que el model de recuperació comença a implantar-se i avaluar-se en les xarxes de salut mental públiques de països anglosaxons com Estats Units (Singh, Barcer i Van Sant, 2016), Canadà o Anglaterra, i progressivament també d'alguns països europeus com Alemanya, Àustria, Suïssa, Noruega i Suècia (Slade, Amering i Oades, 2008). En aquest context, l'any 2017 a Catalunya es planteja el "Nou Pla Integral de Salut Mental i addiccions 2017-2019" (Departament de Salut de la Generalitat de Catalunya, 2017), encaminat en la mateixa direcció.

Aquesta evolució en el model d'assistència ha fomentat una major investigació enfocada en la recuperació. Progressivament s'ha publicat un nombre creixent d'estudis que evidencien que l'esquizofrènia té un curs molt variable i heterogeni (van Eck, Burger, Vellinga, Schirmbeck i De Haan, 2018), des de casos severs que requereixen múltiples ingressos hospitalaris, a casos on es produeix un sol episodi i una recuperació posterior completa (Harvey i Bellack, 2009; Liberman i Kopelowicz, 2005; Vita i Barlati, 2018). Això queda reflectit en la categorització del curs de la malaltia que ofereixen els sistemes de classificació DSM-5 i CIM-11. Segons aquests, el curs dels trastorns esquizofrènics pot ser continu o episòdic, pot haver-hi tan sols un episodi o múltiples, i fora dels episodis hi pot haver una remissió parcial o completa. La visió del personal sanitari també ha canviat progressivament, i hi ha estudis que indiquen una major percepció per part d'aquest de la capacitat de recuperació de les persones amb esquizofrènia. Per exemple, Lahera et al. (2018) troben que el 86,5% del panel de psiquiatres del seu estudi Delphi consideraven que la recuperació funcional era un objectiu assolible per a les persones amb esquizofrènia.

En la seva revisió, Vita i Barlati (2018) assenyalen que la proporció de persones amb esquizofrènia que aconsegueix assolir la recuperació se situa entre el 13,5% i el 50%. En una revisió anterior, Emsley, Chiliza, Asmal i Lehloenya (2011) troben un rang de variabilitat encara major (del 17% al 88%). Una metanàlisi recent en primers episodis psicòtics (Lally et al., 2017)

indica que les taxes de remissió simptomatològica en el subgrup de persones amb esquizofrènia són del 56%, mentre que les de recuperació, que inclou remissió simptomatològica i recuperació funcional, se situen entorn el 30%. Aquesta taxa de recuperació és similar al 31% reportat per Menezes, Arenovich i Zipursky (2006) en primers episodis d'esquizofrènia, i molt superior al 13,5% reportat per Jääskeläinen et al. (2013) en mostres heterogènies d'esquizofrènia que inclouen casos tant de primers com de múltiples episodis. Lally et al. (2017) també assenyalen que les taxes de recuperació no es redueixen en el seguiment a llarg termini i es mantenen estables en el seguiment a 2-6 anys respecte al seguiment de més de 6 anys. Aquests resultats suggereixen l'absència d'un deteriorament progressiu en les persones que pateixen aquest trastorn. Altres estudis han obtingut resultats similars; així, per exemple, Chan, Hui, Chang, Lee i Chen (2019), en un estudi retrospectiu amb persones amb trastorns de l'espectre de l'esquizofrènia als 10 anys de rebre una intervenció precoç de dos anys de duració, troben una remissió simptomatològica en el 48,6% dels casos, una recuperació funcional en el 37,4% i una recuperació completa en el 25%. Aquesta absència d'un deteriorament progressiu és coherent, així mateix, amb estudis que troben una tendència a l'estabilitat en les anomalies estructurals cerebrals identificades després d'un primer episodi psicòtic, així com en el dèficit cognitiu (Zipursky, Reilly i Murray, 2013).

D'altra banda, en la revisió de Lally et al. (2017) les taxes de recuperació no canvien dels estudis més antics als més nous, però sí les taxes de remissió, fet que suggereix un avanç en el maneig de la simptomatologia, segurament per l'evolució en els tractaments farmacològics, però en canvi un estancament en la millora del funcionament psicosocial. Això indica que, tot i els esforços i la implantació de tractaments intensius i d'atenció precoç en les últimes dècades, aquests no s'han vist traduïts en una millora de les taxes de recuperació. La recuperació continua sent una assignatura pendent, que requereix d'un major coneixement de les seves diferents facetes i dels factors associats per tal de contemplar-la i tractar-la en la seva globalitat i complexitat.

1.1.6. Remissió, funcionament i recuperació

Fora d'altres fonts de variabilitat, com per exemple diferències en les mostres dels estudis, les revisions anomenades a l'apartat anterior (Emsley et al., 2011; Lally et al., 2017; Vita i Barlati, 2018) consideren que la causa de la gran heterogeneïtat en el percentatge de recuperació reportat és la manca de consens sobre la definició d'aquest concepte.

El constructe de recuperació està format per dos conjunts diferents de fenòmens, que es refereixen a la faceta objectiva o clínica i a la faceta subjectiva o personal. La recuperació

objectiva es defineix per la severitat dels símptomes i el nivell de funcionament, mentre que la recuperació subjectiva es defineix per la qualitat de vida, la confiança personal, l'esperança, la voluntat de demanar ajuda, el grau d'independència dels altres i que la persona no es vegi dominada pels símptomes (Roe, Mashiach-Eizenberg i Lysaker, 2011; Silverstein i Bellack, 2008). Aquestes dues facetes poden influir-se mútuament (Jørgensen et al., 2015), però l'associació entre una i l'altra, tot i ser significativa, és d'una intensitat petita-mitjana (van Eck et al., 2018).

Referint-se a la recuperació objectiva, Liberman, Kopelowicz, Ventura i Gutkind, (2002) proposen una definició operativa del concepte "recuperació" com el període de com a mínim dos anys en què la persona té un adequat funcionament social, un adequat funcionament professional, és capaç de viure independentment i es troba relativament lliure de símptomes psiquiàtrics (obté una puntuació de quatre o menys en la *Brief Psychiatric Ratings Scale;* Overall i Gorham, 1962).

A més, Liberman et al. (2002) detecten 10 factors relacionats amb la recuperació, que inclouen tant factors biològics (per exemple, la resposta als neurolèptics), com personals (per exemple, la història premòrbida), psicosocials (com el funcionament neurocognitiu o el suport familiar) o contextuals (com l'accés a un tractament continu). Aquests factors i les interaccions que l'estudi proposa entre aquests i la recuperació poden consultar-se a la Figura 3.

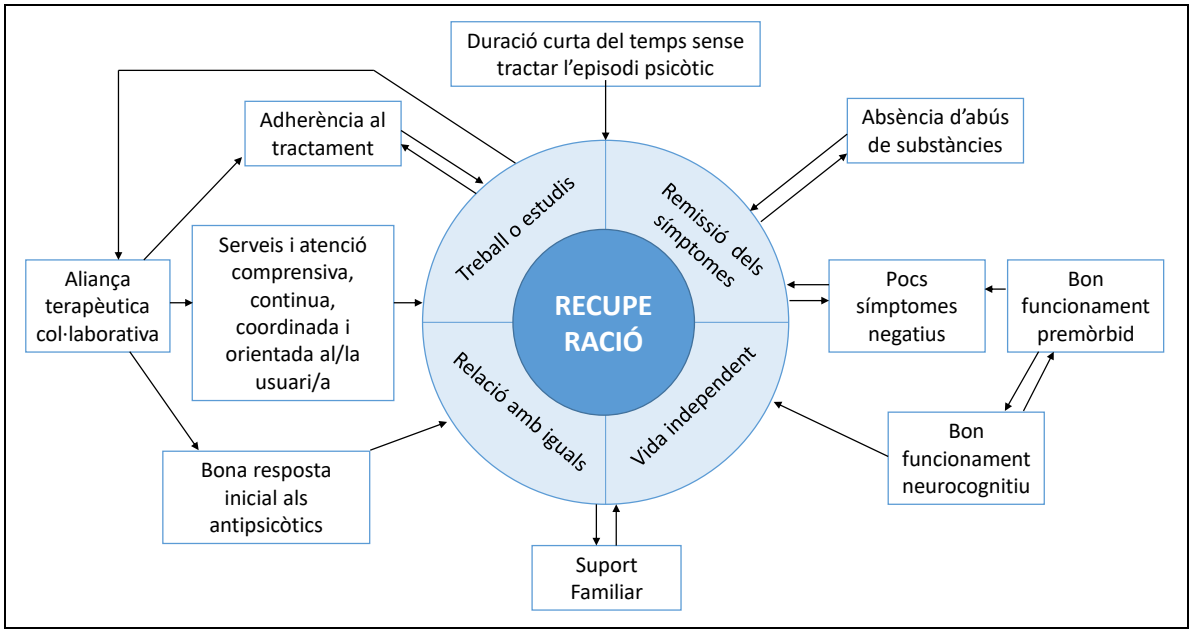

Figura 3. Criteris de recuperació i factors associats amb les relacions proposades (figura adaptada de Liberman et al., 2002).

Liberman et al. (2002) proposa aquests criteris operacionals però anima a continuar investigant i formulant-ne d'altres per arribar a una descripció i comprensió més exhaustiva del concepte de recuperació.

En la mateixa línia, la remissió dels símptomes s'ha definit com una millora en el símptomes nuclears en la mesura que tinguin una intensitat prou baixa com per no interferir significativament en la conducta de la persona (Andreasen et al., 2005). Andreasen indica que el *Remission in Schizophrenia Working Group* operativitza la remissió com a obtenir puntuacions de "lleu" o inferiors en determinats ítems que avaluen les dimensions de distorsió de la realitat, desorganització i simptomatologia negativa, durant un període d'almenys 6 mesos. Aquests ítems són seleccionats d'escales simptomatològiques com la *Positive and Negative Syndrome Scale* (Kay, Fiszbein i Opler, 1987), la *Brief Psychiatric Ratings Scale* (Overall i Gorham, 1962) o la *Scale for the Assessment of Positive Symptom* (Andreasen i Olsen, 1982).

Whitehorn, Brown, Richard, Rui i Kopala (2002) defineixen la recuperació incloent una vida diària autònoma, avaluada a través de puntuacions majors a 50 en la *Global Assessment of Functioning (*Jones, Thornicroft, Coffey i Dunn, 1995), un rang normal de funcionament social i ocupacional, avaluat amb una puntuació superior a 60 en la *Social and Occupational Functioning Assessment Scale* (Morosini, Magliano, Brambilla, Ugolini i Pioli, 2000) i una reducció significativa de la psicopatologia, equivalent a una puntuació de ≤ 4 a tots els ítems de la *Positive and Negative Syndrome Scale*. Altres estudis han proposat també l'ús de la GAF com a escala del funcionament, utilitzant diversos punts de tall per indicar disfunció (Mausbach, Moore, Bowie, Cardenas i Patterson, 2009; Torgalsboen, 2013).

En conjunt, si bé hi ha cert consens en la manera d'avaluar la remissió simptomatològica, de manera que les diferències entre els estudis es troben en el punt de tall considerat, encara està pendent el consens en la definició de la recuperació funcional i en una valoració estandarditzada d'aquesta (Buonocore et al., 2018; Harvey i Bellack, 2009; Morin i Franck, 2017; Vita i Barlati, 2018). Els mateixos equips de treball que utilitzen escales com la *Global Assessment of Functioning* per valorar aquest constructe reconeixen que fan servir escales molt "simplistes" i que son necessàries bateries d'instruments més sofisticades per capturar la complexitat de la "vida real" (Whitehorn et al., 2002). El *Remission in Schizophrenia Working Group* indica també que la definició completa de recuperació és fora del seu abast per la manca de consens sobre uns criteris operacionals pel funcionament psicosocial, l'altre element clau del concepte de recuperació i indica que és necessària més investigació en aquest sentit.

El funcionament psicosocial s'ha definit globalment com la capacitat d'una persona per funcionar en diferents rols socials, per exemple com a treballadora, estudiant, cònjuge, membre de la família, amiga o ésser independent que té cura de la seva pròpia casa i benestar (Karow et al., 2012). La definició també té en compte la satisfacció de la persona amb la seva capacitat d'aconseguir aquests rols, de tenir cura de sí mateixa i de l'abast de les seves activitats lúdiques i recreatives (Priebe, 2007). El *Remission in Schizophrenia Working Group* destaca que la recuperació és un concepte molt més ampli, demandant i a llarg termini que la remissió, ja que la recuperació inclou cert grau de remissió dels símptomes però també l'habilitat de funcionar a la comunitat, socialment i laboral. En aquesta línia, com s'ha assenyalat, les taxes de remissió simptomatològica són més elevades que les de recuperació funcional, la qual cosa indica que la remissió és necessària però no suficient per al procés cap a la recuperació. Així, si bé la remissió dels símptomes s'ha vist associada amb una millora del funcionament personal, cognitiu, social i ocupacional (Helldin, Kane, Karilampi, Norlander i Archer, 2006, 2007; van Os et al., 2006; Wunderink, Nienhuis, Sytema i Wiersma, 2007), així com a una millor qualitat de vida (Emsley, Rabinowitz i Medori, 2007), no és equivalent a que es produeixin aquests canvis. En les últimes dècades s'ha fet evident que les intervencions centrades només en la remissió simptomatològica no donen lloc a una millora en el benestar global de la persona, no cobreixen les diferents àrees afectades en la seva vida i no són suficients per millorar el rendiment ocupacional i les relacions interpersonals (Burns, 2007; Juckel i Morosini, 2008). La remissió dels símptomes psicòtics no dona resposta a totes les dificultats a què s'enfronta una persona amb esquizofrènia, i la recuperació es pot donar més enllà de la presència de símptomes psicòtics (Bellack, 2006; Morrison et al., 2014). De fet, diversos estudis reporten que les experiències psicòtiques ocasionals són comunes dins de la població sense patologia mental i que aquestes representen un continu en la població general. Per exemple, en la seva revisió, Beavan, Read i Cartwright, (2011) analitzen 17 estudis des de finals del segle XIX a principis del XXI i troben taxes d'al·lucinacions auditives verbals del 0,6% al 84% (amb mitjana 13,2%) en població general. Les diferències que marquen la necessitat d'una atenció per part de professionals de la salut i en molts casos el diagnòstic d'un trastorn mental no radiquen en la naturalesa i característiques dels símptomes, sinó principalment en les dificultats i malestar que comporten (Johns et al., 2014). Aquest malestar i aquestes dificultats, i no la simple remissió dels símptomes, hauria de ser l'objectiu clau per a les persones amb esquizofrènia i l'equip sanitari que les tracten.

1.1.7. L'atenció integral: abordatge interdisciplinar del funcionament

Les taxes de recuperació prèviament reportades indiquen que, si bé s'ha demostrat que aquesta és possible, representa encara una assignatura pendent en el tractament de

l'esquizofrènia. Donada l'elevada repercussió que l'esquizofrènia té en les persones que la pateixen i el seu entorn, la recuperació hauria de ser un objectiu prioritari per a les intervencions en aquesta població. Així doncs, és necessari un canvi en l'enfocament terapèutic, fins ara centrat en els símptomes, l'estabilitat i el control conductual. A més, s'ha demostrat que la informació basada en la capacitat de recuperació de les persones amb esquizofrènia redueix les respostes socials estigmatitzants en comparació a la informació centrada en la simptomatologia (Norman, Li, Sorrentino, Hampson i Ye, 2017), fet que recolza la rellevància d'aquest canvi també a nivell social.

Les alteracions funcionals que poden ser presents en una persona amb esquizofrènia comprenen tots els dominis del funcionament, des del rendiment social i vocacional fins l'autocura (Harvey, 2013). Diversos estudis han suggerit que les persones amb esquizofrènia poden viure a la seva comunitat de manera independent i satisfactòria sempre que hi hagi un sistema d'atenció ben cuidat i organitzat per satisfer les seves necessitats de salut mental de manera continua i mantinguda en el temps (Haberfellner, Grausgruber, Grausgruber-Berner, Ortmair i Schony, 2004; Juntapim i Nuntaboot, 2018; Priebe, Hoffmann, Insermann i Kaiser, 2002). El tractament farmacològic ha demostrat ser molt eficient en el control dels símptomes, però insuficient a l'hora d'aconseguir resultats més amplis en la vida diària de les persones amb esquizofrènia, com són la millora en la integració social, les habilitats professionals i el manteniment de relacions interpersonals de qualitat (Brissos, Molodynski, Dias i Figueira, 2011). Només un enfocament integral, interdisciplinari i multifacètic de farmacoteràpia, intervencions psicosocials i atenció a les circumstàncies ambientals, que coordini serveis d'atenció mèdica i altres serveis socials i comunitaris i que es mantingui al llarg del temps, pot millorar tots aquests àmbits i finalment repercutir en una major recuperació a nivell global (Fleischhacker et al., 2014). L'acompliment d'aquests reptes, a més, té la possibilitat de reduir els costos associats a la malaltia per la societat (Morgan et al., 2017).

Tot això evidencia la necessitat d'oferir una **atenció integral** des dels serveis de salut mental, que consisteixi en una atenció proveïda per equips interdisciplinaris que treballin conjuntament amb un pla de treball compartit. L'atenció integral implica una coordinació interactiva i sistemàtica entre totes les persones implicades professionalment en el tractament d'un usuari o usuària per aconseguir la gestió i el lliurament de serveis sanitaris adequats a aquest o aquesta, amb finalitats preventives i curatives i segons les seves necessitats de manera continuada al llarg del temps i en diferents nivells del sistema de salut (World Health Organization, 2008). Aquest abordatge treballa conjuntament amb les persones usuàries, així com amb les seves famílies. Utilitza un model sistemàtic i rendible per proporcionar una atenció

centrada en la persona i focalitzada en una població definida, i tracta aspectes de salut mental, ús de substàncies, patrons conductuals relacionats amb la salut, estressors vitals, símptomes físics i patrons d'ús dels serveis de salut inadequats (Agency for Healthcare Research and Quality, 2011). Així doncs, l'atenció integral amplia la gamma d'activitats, programes i serveis clínics i pretén abordar l'espectre biopsicosocial complet de les necessitats comunament presentades per les persones usuàries de salut mental, incloses les que sovint exhibeixen les persones amb esquizofrènia. A més, aquesta atenció holística millora els resultats clínics, com ara una reducció significativa dels símptomes, una millora del funcionament social i un augment de la satisfacció de la persona tractada (Cordeiro, Foroughe i Mastorakos, 2015; Malm, Ivarsson, Allebeck i Falloon, 2003).

L'atenció integral pretén aconseguir el triple objectiu de l'atenció sanitària: millorar l'atenció, satisfer les necessitats de salut de la població i reduir els costos (Berwick, Nolan i Whittington, 2008). Respecte al tractament de persones amb esquizofrènia, l'atenció integral ha demostrat ser més eficaç i eficient que el tractament farmacològic tradicional a l'hora de reduir els símptomes psiquiàtrics i la taxa de recaiguda, millorar el funcionament social i la qualitat de vida, així com reduir les taxes de tractament involuntari i millorar l'adherència al tractament (Malone, Marriott, Newton-Howes, Simmonds i Tyrer, 2009; Schöttle et al., 2018; She et al., 2017). S'han trobat resultats estadísticament significatius respecte a l'atenció estàndard en reduir el número d'admissions a hospitals i el nombre de dies d'estada mitjana a l'hospital, i en els resultats a nivell clínic i social en els àmbits d'allotjament, treball i satisfacció personal i familiar en el tractament (Amore i Howden-Chapman, 2012; Lambert et al., 2010). Concretament, aquests estudis constaten que les persones d'aquesta població que reben atenció integral comunitària tenen millor adherència a la medicació, és més probable que visquin de forma independent i que no es quedin sense llar a llarg termini, passen més dies en allotjaments independents, són menys propenses a estar a l'atur així com a realitzar un consum abusiu de substàncies i es mostren més satisfetes amb el tractament.

Els equips interdisciplinaris d'atenció a persones amb esquizofrènia inclouen professionals de múltiples àmbits, entre els que destaquen psiquiatria, psicologia, infermeria, teràpia ocupacional, treball social i, més recentment, fisioteràpia. Totes aquestes disciplines han demostrat tenir un paper molt rellevant a l'hora de treballar per a la recuperació en persones amb esquizofrènia.

Respecte a la **psiquiatria**, fins les últimes dècades les intervencions psiquiàtriques s'han basat fonamentalment en aplicar tractaments psicofarmacològics focalitzats en la remissió dels símptomes positius. Actualment s'aconsegueixen taxes de remissió dels símptomes positius

d'entorn el 80% en el primer any de tractament antipsicòtic en primers episodis (Zipursky i Agid, 2015). A més, el risc de recurrència d'aquests símptomes un cop remesos en persones que reben tractament antipsicòtic de manteniment és estimat entre el 0 i el 5% en el primer any de seguiment, mentre que el percentatge de reaparició dels símptomes psicòtics després de la discontinuació del tractament farmacològic se situa entorn el 78% durant el primer any (Zipursky, Menezes i Streiner, 2014). Com s'ha indicat, si bé no hi ha una relació directa, els símptomes positius tenen una important repercussió en el funcionament i la qualitat de vida de les persones amb esquizofrènia (Bailey, 2002). Per tant, el tractament antipsicòtic és una pedra angular en l'abordatge d'aquesta població. Tot i així, la creença inicial que la millora en els símptomes positius portaria "automàticament" a la millora en múltiples àrees de la vida diària no ha tingut el suport de la investigació científica (Juckel i Morosini, 2008), sinó que el seu efecte, si bé positiu, és limitat. En canvi, el símptomes afectius han demostrat tenir molta més influència en el funcionament psicosocial i mostren també bona resposta al tractament farmacològic en aquesta població (Bowie, Reichenberg, Patterson, Heaton i Harvey, 2006; van Eck et al., 2018). Els símptomes negatius també han estat identificats com a importants determinants del funcionament psicosocial (Ventura, Hellemann, Thames, Koellner i Nuechterlein, 2009), si bé hi ha resultats que ho posen en dubte i, si més no, indiquen que la relació entre els símptomes negatius i el funcionament és complexa (Shamsi et al., 2011). En tot cas, encara hi ha pocs estudis que abordin la repercussió del tractament psiquiàtric en el funcionament d'aquesta població. Una millora del funcionament psicosocial hauria de ser un resultat esperat del tractament psicofarmacològic per assolir una recuperació completa i, per tant, cal realitzar més investigació en aquest aspecte.

Des de l'àmbit de la **psicologia**, múltiples intervencions han demostrat ser efectives com a promotores de la recuperació, tant a nivell simptomàtic com funcional (Kendall et al., 2016). En una revisió, Kern, Glynn, Horan i Marder (2009) analitzen l'efecte de quatre tractaments terapèutics sobre el funcionament de persones amb esquizofrènia: l'entrenament en habilitats socials, la teràpia cognitiva conductual, la rehabilitació cognitiva i l'entrenament en cognició social. La revisió conclou que totes aquestes intervencions tenen un potencial considerable per abordar els components clau de la recuperació. L'entrenament en habilitats socials és eficaç per millorar els coneixements i habilitats socials de les persones tractades, de manera que facilita el funcionament en activitats comunitàries (Kurtz i Mueser, 2008). La teràpia cognitiva conductual és efectiva per reduir els símptomes tant positius com negatius, així com promoure millores en l'estat d'ànim i en el funcionament en la comunitat (Nowak, Sabariego, Świtaj i Anczewska, 2016; Wykes, Steel, Everitt i Tarrier, 2008). Per la seva part, la rehabilitació cognitiva pot ser

beneficiosa en termes de millora del funcionament cognitiu i del funcionament psicosocial (Penadés, Pérez-García, González-Rodríguez, Catalán i Bernardo, 2016). L'entrenament en cognició social és l'enfocament més recent i els estudis apunten a que les millores en les operacions mentals subjacents a les interaccions socials, com són la percepció emocional, la teoria de la ment i els biaixos atribucionals, poden conduir a millores en el funcionament social (Horan et al., 2009) i juguen un paper mediador entre neurocognició i funcionament (Martínez-Domínguez, Penadés, Segura, González-Rodríguez i Catalán, 2015). A més a més, les intervencions familiars, com la psicoeducació a familiars o la teràpia grupal multifamiliar, també han demostrat la seva eficàcia en millorar el funcionament psicosocial i promoure el benestar de les persones amb esquizofrènia, així com de les seves famílies (McFarlane, 2016; Okpokoro, Adams i Sampson, 2014).

El rol **d'infermeria** ha anat agafant progressivament major rellevància en les últimes dècades i ha adquirit un paper important en diversos aspectes de l'atenció de persones amb esquizofrènia (Eticha, Teklu, Ali, Solomon i Alemayehu, 2015). D'una banda, el personal d'infermeria ha demostrat desenvolupar un paper essencial en la millora de l'adherència al tractament en aquesta població (Tham et al., 2018), especialment a través de la presa de decisions compartida. La presa de decisions compartida posa el tractament en mans de les persones tractades, capacitant-les amb els coneixements necessaris per prendre decisions informades juntament amb el seu equip terapèutic amb la intenció de fomentar els nivells desitjats d'independència i facilitar que participin activament en el seu pla de tractament (Adams i Drake, 2006; Olesen et al., 2012). Aquest abordatge ha demostrat promoure una bona aliança terapèutica i una millor autogestió del trastorn i de la pròpia salut (Mahone et al., 2011), alhora que millora el seguiment del tractament (Haddad, Brain i Scott, 2014; Virgolesi et al., 2017). La falta d'una bona adherència al tractament és una dificultat comuna en les malalties cròniques. Així, s'ha estimat que fins el 50% de les persones amb malalties cròniques no realitzen un seguiment adient de la seva medicació. En el cas de persones amb esquizofrènia, els estudis indiquen taxes de baixa adherència a la medicació d'entre el 12% i el 60%, segons com aquesta sigui definida i mesurada (Kane, Kishimoto i Correll, 2013). La discontinuació del tractament farmacològic augmenta el risc de recaiguda, així com d'hospitalitzacions, suïcidi i problemes legals (Higashi et al., 2013). Això fa que la intervenció del personal d'infermeria sigui clau per millorar aquest aspecte. Les intervencions realitzades des d'infermeria també promouen l'adquisició d'hàbits saludables (Leach et al., 2018) i faciliten l'assoliment d'un suport social i terapèutic adequat (Virgolesi et al., 2017).

Per la seva part, la **teràpia ocupacional (TO)** ha contribuït al tractament i rehabilitació de persones amb problemes de salut mental greus des que va sorgir a principis del segle XX (Duncan, 2011). Aquesta teràpia es basa en el fet que la implicació en ocupacions significatives i satisfactòries contribueix a la salut i al benestar, a la inclusió social i a millorar el funcionament i el respecte d'una persona cap a sí mateixa (Wilcock, 2005). En persones amb esquizofrènia, estar actiu laboralment està associat a tenir millor qualitat de vida, major integració social i millor funcionament global (Bouwmans, De Sonneville, Mulder i Hakkaart-van Roijen, 2015; Burns et al., 2009; Luciano, Bond i Drake, 2014). Tot i així, les taxes d'ocupació en aquesta població són molt baixes, situant-se entre el 12% i el 39% en estudis realitzats a països occidentals (Knapp et al., 2004). Els programes de suport a l'ocupació oferts per la TO han demostrat facilitar l'obtenció de treballs competitius en persones amb esquizofrènia (Bond i Drake, 2014; Cook, Chambers i Coleman, 2009; Fioritti et al., 2014), fet que evidencia la rellevància de les intervencions d'aquest grup professional. La TO crea un entorn en el qual les persones experimenten l'aprenentatge i la possibilitat d'aplicar els seus recursos, de manera que permet desenvolupar el seu potencial, tractar de manera diferent les seves limitacions i millorar la seva interacció social (Buchain, Dias, Vizzotto, Neto i Elkis, 2003; Foruzandeh i Parvin, 2013). Diferents estudis han demostrat que la TO millora el funcionament social i està associada a una reducció del temps d'estada a l'hospital i del risc d'hospitalització (Cook i Howe, 2003; Oka et al., 2004). També ha estat associada a una reducció de la simptomatologia negativa, especialment l'apatia, l'aïllament social i l'anhedonia, de les alteracions del pensament i de la ideació paranoide (Foruzandeh i Parvin, 2013; Hoshii et al., 2013; Suresh Kumar, 2008). Els estudis també suggereixen efectes positius en el funcionament cognitiu (Shimada et al., 2019), així com una millora en la realització de les activitats diàries, especialment en la comunicació interpersonal (Buchain et al., 2003).

En el context de l'atenció integral, el personal de **treball social (TS)** és una part clau de l'atenció professional assistencial en l'àmbit de la salut mental (Horevitz i Manoleas, 2013; Poon, Joubert, Mackinnon i Harvey, 2018), atès que contribueix a implicar i coordinar els recursos comunitaris i gestionen el pla d'atenció a les persones usuàries, entre altres funcions (Fraser et al., 2018). El personal de TS intervé des d'una perspectiva multinivell i té en compte els sistemes biològics, familiars i macroeconòmics relacionats amb la realitat social i política que afecten la cura i l'estigma d'una persona (de Saxe Zerden, Lombardi i Guan, 2019). Aquesta perspectiva permet entendre els determinants socials de la salut i ofereix un punt de vista necessari per l' abordatge holístic de la persona. Així doncs, en la intervenció amb persones amb esquizofrènia, des de TS es coordina i integra l'àmplia gamma de serveis clínics i socials necessaris per aquesta

població, les necessitats de les quals no es podrien satisfer mitjançant el sistema mèdic o els serveis socials sols (Bond, Drake i Becker, 2010; Herman, 2014). El personal de TS pot tenir un paper central en la identificació de problemes per dur a terme activitats diàries i implementar plans d'intervenció individualitzada i col·laborativa guiats per l'estil de vida i les preferències de cada persona (Ashcroft, Kourgiantakis, Fearing, Robertson i Brown, 2019; Craig et al., 2016). També realitzen intervencions a nivell familiar, així com sobre l'entorn i sobre com afecta aquest a la persona usuària (Fox, Ramon i Morant, 2015; Poon et al., 2018). A més, el personal de TS està en una posició única per identificar joves en risc de patir esquizofrènia, joves que consulten a altres serveis per haver patit estressors ambientals que incrementen la vulnerabilitat vers aquesta malaltia, com ara abús a la infància (Varese et al., 2012) o assetjament escolar (van Dam et al., 2012). Amb una adequada valoració, el personal de TS pot fer les derivacions adequades sense necessitat que siguin les persones usuàries les que facin el primer pas per entrar en un programa de salut mental especialitzat (DeVylder, 2016).

Per millorar la qualitat de vida mental, física i social de les persones amb esquizofrènia, la **fisioteràpia** també té un paper rellevant en la seva atenció integral (Probst, 2017; Vancampfort et al., 2017). Les persones amb esquizofrènia presenten una mortalitat prematura entre dos i tres vegades més elevada que la població general, i la principal causa d'aquesta mortalitat és l'augment de la prevalença de comorbiditats (Hoang, Goldacre i Stewart, 2013; Lawrence, 2015). La majoria dels problemes de salut física observats en persones amb esquizofrènia, com ara l'obesitat, la diabetis i problemes ossis, estan associats a un estil de vida sedentari i a inactivitat física (Stubbs et al., 2014; Vancampfort et al., 2017), i hi ha proves sòlides sobre el paper de la fisioteràpia en el tractament d'aquestes comorbiditats (Probst, 2017; Soundy, Roskell, Stubbs, Probst i Vancampfort, 2015; Vancampfort et al., 2012; Vera-Garcia, Mayoral-Cleries, Vancampfort, Stubbs i Cuesta-Vargas, 2015). Des de la fisioteràpia s'està en una posició idònia per promoure opcions de vida més saludables i millorar els resultats funcionals d'aquesta població. A través de les seves intervencions, motiven les persones usuàries envers l'activitat física, milloren la consciència del cos, promouen la salut física (Probst, 2012; Vancampfort et al., 2017), i tracten el dolor clínic, que és més prevalent en aquesta població (Stubbs et al., 2015). Se sap que l'exercici redueix els símptomes negatius i positius (Dauwan, Begemann, Heringa i Sommer, 2016; Firth, Cotter, Elliott, French i Yung, 2015; Rosenbaum, Tiedemann, Sherrington, Curtis i Ward, 2014) i millora el funcionament cognitiu (Firth et al., 2017). A més, si aquestes activitats són prescrites per fisioterapeutes, l'adherència i compliment d'aquestes pautes han demostrat ser més elevats que quan ho prescriuen altres professionals (Vancampfort et al., 2016).

Totes aquestes intervencions generen sinèrgies entre sí i aprofiten el seu màxim potencial quan són aplicades en el marc de l'atenció integral, per un equip interdisciplinari on les persones professionals dels diferents àmbits intervenen de manera coordinada amb un mateix pla de treball i l'atenció s'integra en un únic procés al llarg del temps, contextos i disciplines 2rc conceptual holístic que faciliti la concepció global de la persona i la població que s'està tractant, així com un llenguatge comú per a l'enteniment entre totes les professions implicades. La CIF ofereix una resposta a aquesta necessitat (World Health Organisation, 2001).

1.2. La Classificació Internacional del Funcionament, de la Discapacitat i de la Salut (CIF)

1.2.1. El funcionament des del model biopsicosocial de l'OMS

L'OMS conceptualitza la salut des del model biopsicosocial i utilitza el terme "**funcionament**" per a representar l'aspecte positiu i pràctic de la salut: què pot fer o no una persona en el seu funcionament diari, més enllà de tenir una malaltia o una altra (World Health Organization, 2001). Per l'OMS, el funcionament aglutina totes les funcions i estructures corporals i tot el que la gent fa (accions, tasques, habilitats, etc.) així com tot el que són i aspiren a ser (mares o pares, treballadors, activistes, etc.). Tots aquests factors interactuen de manera dinàmica i bidireccional entre ells, com es pot apreciar a la Figura 4. Així doncs, la concepció del funcionament que proposa l'OMS inclou tant els símptomes i afectacions somàtiques (funcions i estructures corporals) com el funcionament psicosocial (activitats i participació).

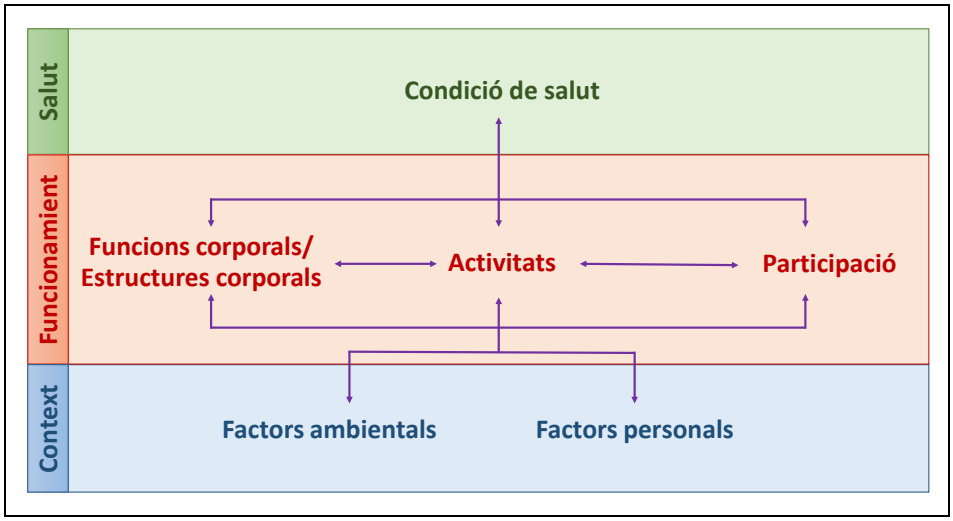

Figura 4. Model biopsicosocial del funcionament i la discapacitat.

Es concep el funcionament com un concepte continu, quantificable al llarg d'una dimensió des d'un funcionament complet o total a l'absència completa de funcionament. La discapacitat es defineix en funció del funcionament, és a dir, es dona quan el grau de funcionament se situa per sota d'un llindar determinat al llarg del continu definit per cada domini. L'OMS no concreta on es col·loca aquest llindar, que dependrà de normes científiques i pràctiques, així com de la població on s'apliqui i de característiques contextuals com per exemple aspectes econòmics i polítics. L'OMS assenyala que el funcionament és el que més importa a les persones, més enllà dels símptomes i aspectes mèdics. A les persones els importa si seran capaces de caminar o de veure els seus amics, o si podran treballar o ser pares i mares. La salut és important perquè afecta el que fem amb les nostres vides: el funcionament és l'experiència viscuda de la salut.

1.2.2. La CIF: una eina per valorar el funcionament en la seva globalitat

Per tot el que s'ha indicat prèviament, valorar el funcionament de manera integral es torna un imperatiu per investigar el curs de les persones amb esquizofrènia, els tractaments que poden ser adients i els resultats de la rehabilitació (Bromley i Brekke, 2010). No obstant, els instruments que s'utilitzen actualment amb persones amb esquizofrènia no ofereixen una informació global i exhaustiva del funcionament (Barrios et al., 2019), per la qual cosa es fa palesa la necessitat de disposar d'una eina que permeti valorar tot l'espectre de dificultats en el funcionament d'aquesta població i que inclogui totes les variables contextuals implicades. Pren especial rellevància conèixer quines àrees de la vida quotidiana acostumen a veure's més afectades en les persones amb una determinada condició de salut i saber-les avaluar per detectar-les i tractar el potencial de millora en aquestes. Aquesta eina hauria de ser multidisciplinària, per poder incloure totes les professions partícips del procés de recuperació i benestar de les persones amb esquizofrènia i facilitar la coordinació i comprensió entre les persones professionals de la salut i les persones usuàries.

A tots aquests requeriments s'ajusta la CIF (World Health Organisation, 2001), els objectius de la qual són proporcionar una base científica per a la comprensió i l'estudi de la salut i els estats relacionats amb ella, així com establir un llenguatge comú que permeti la comparació de dades i la comprensió entre països, disciplines sanitàries, serveis i poblacions, en diferents moments al llarg del temps (World Health Organization, 2002).

La CIF parteix del model biopsicosocial proposat per l'OMS, descrit a la Figura 4. El concepte de funcionament és considerat com un terme global, que fa referència a totes les funcions i estructures corporals, activitats i participació. De manera similar, el concepte de discapacitat engloba les deficiències en funcions o estructures corporals, limitacions en l'activitat, o

restriccions en la participació. La CIF també contempla els factors ambientals i els factors personals, que interaccionen amb tots aquests conceptes i poden actuar com a barreres (generant o augmentant la gravetat de la discapacitat) o bé facilitadors (millorant o inclús eliminant la discapacitat), pel que sempre s'han de tenir ambdós en compte al considerar el grau de funcionament d'una persona.

Tot i que el funcionament està associat a un estat de salut (que abasta malalties, trastorns i lesions), no es conceptualitza com una conseqüència directa d'aquest, sinó com el resultat de la seva interacció amb factors contextuals ambientals i personals. L'estat de salut es classifica a través de la CIM-11, de manera que ambdues classificacions són complementàries per descriure conjuntament l'estat de salut d'una persona i les implicacions que té aquest en el seu dia a dia.

1.2.3. Estructura de la CIF

Partint del model biopsicosocial prèviament descrit, la classificació de la CIF consta de dues parts: *Funcionament i discapacitat* i *Factors contextuals*. Cada una d'aquestes parts es divideix en diversos components: *Funcions corporals*, *Estructures corporals*, *Activitats i participació*, *Factors ambientals* i *Factors personals*, com es pot veure a la Figura 5.

Encara que els *Factors personals* estan inclosos en el model integrador del funcionament, la discapacitat i la salut, la seva classificació encara no ha estat desenvolupada. La resta de components estan formats per un conjunt de categories organitzades jeràrquicament. El primer nivell de classificació és el "capítol", que es subdivideix en elements bàsics de classificació, o categories, les quals s'organitzen de manera jeràrquica en categories de segon, tercer i quart nivell. Les categories de tercer i quart nivell són més específiques que les categories de segon nivell i comparteixen els atributs de la categoria de segon nivell amb què estan associades, pel que el seu ús implica que la corresponent categoria de segon nivell també és aplicable. Aquesta organització jeràrquica permet optar per una descripció més genèrica o més detallada d'una àrea de funcionament. Els codis dels capítols i les categories constitueixen un llenguatge classificador comú que pot aplicar-se inequívocament en diferents països, llenguatges, cultures i professions. La Figura 6 mostra un exemple concret de com s'articula l'estructura de la CIF en la categoria *b1671 Expressió del llenguatge*.

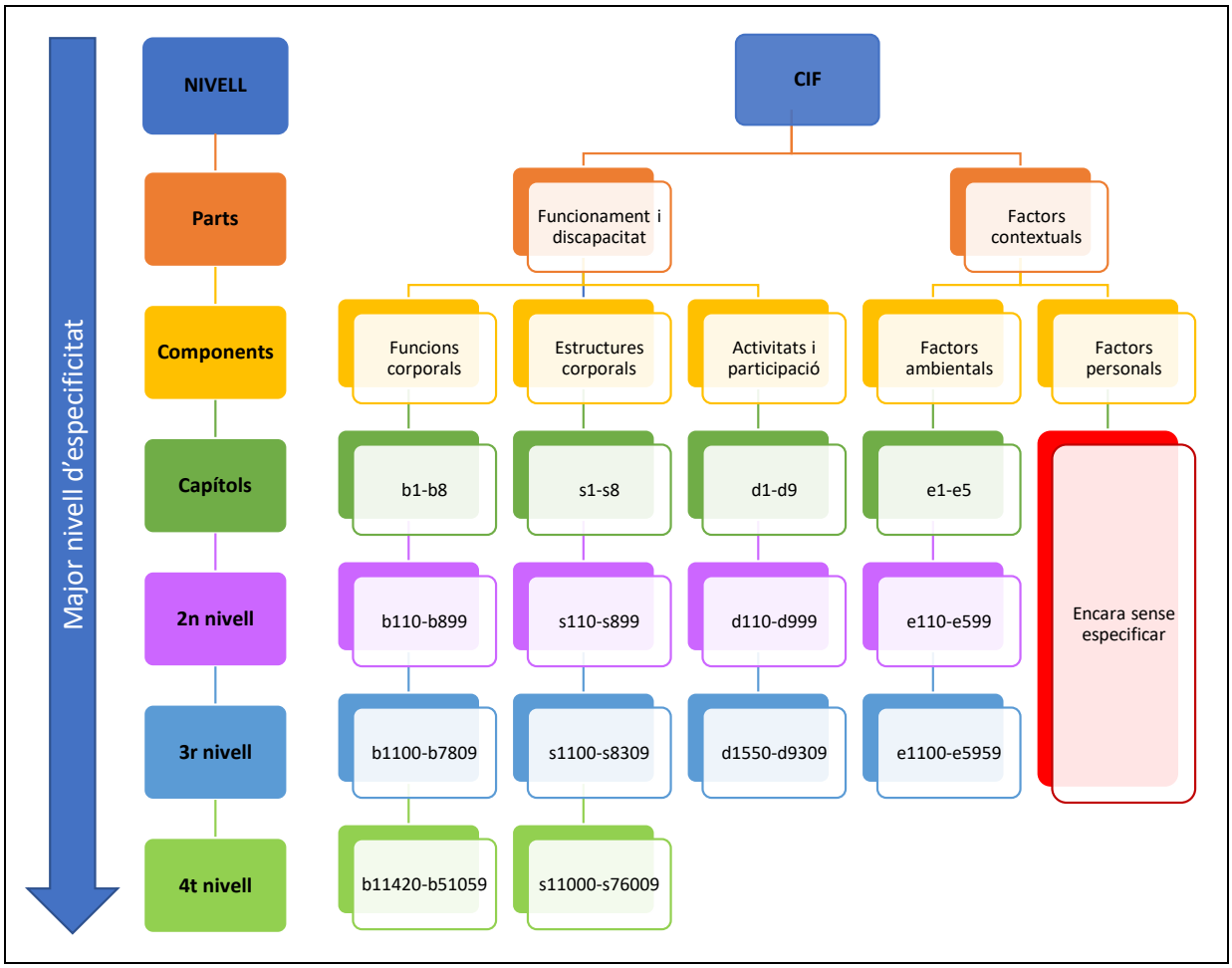

Figura 5. Estructura jeràrquica de la CIF.

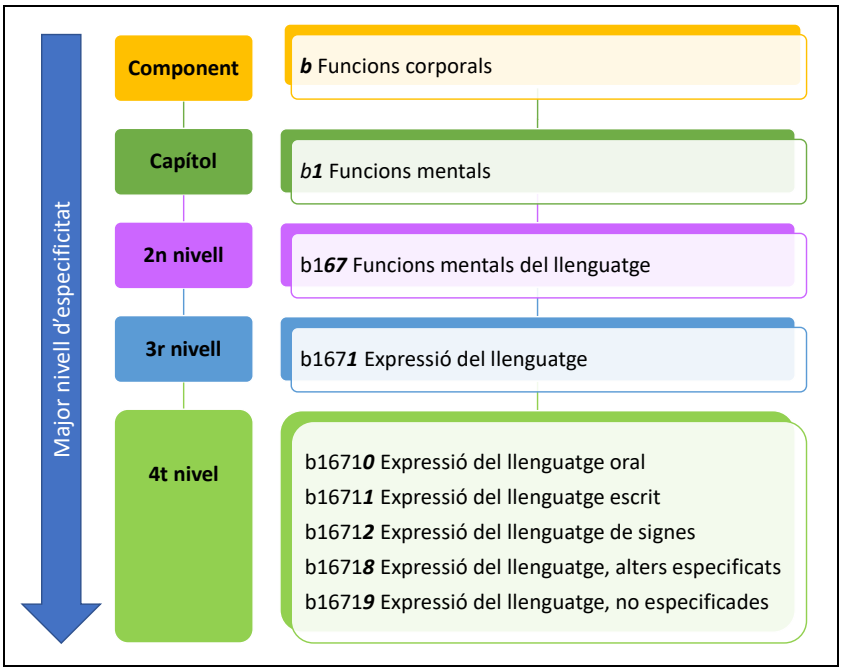

Figura 6. Exemplificació de l'estructura de la CIF amb la categoria b1671 Expressió del llenguatge.

La CIF ofereix una classificació exhaustiva de tots els elements dels components que la formen. Els capítols que constitueixen cada un d'aquests components poden consultar-se en la Figura 7.

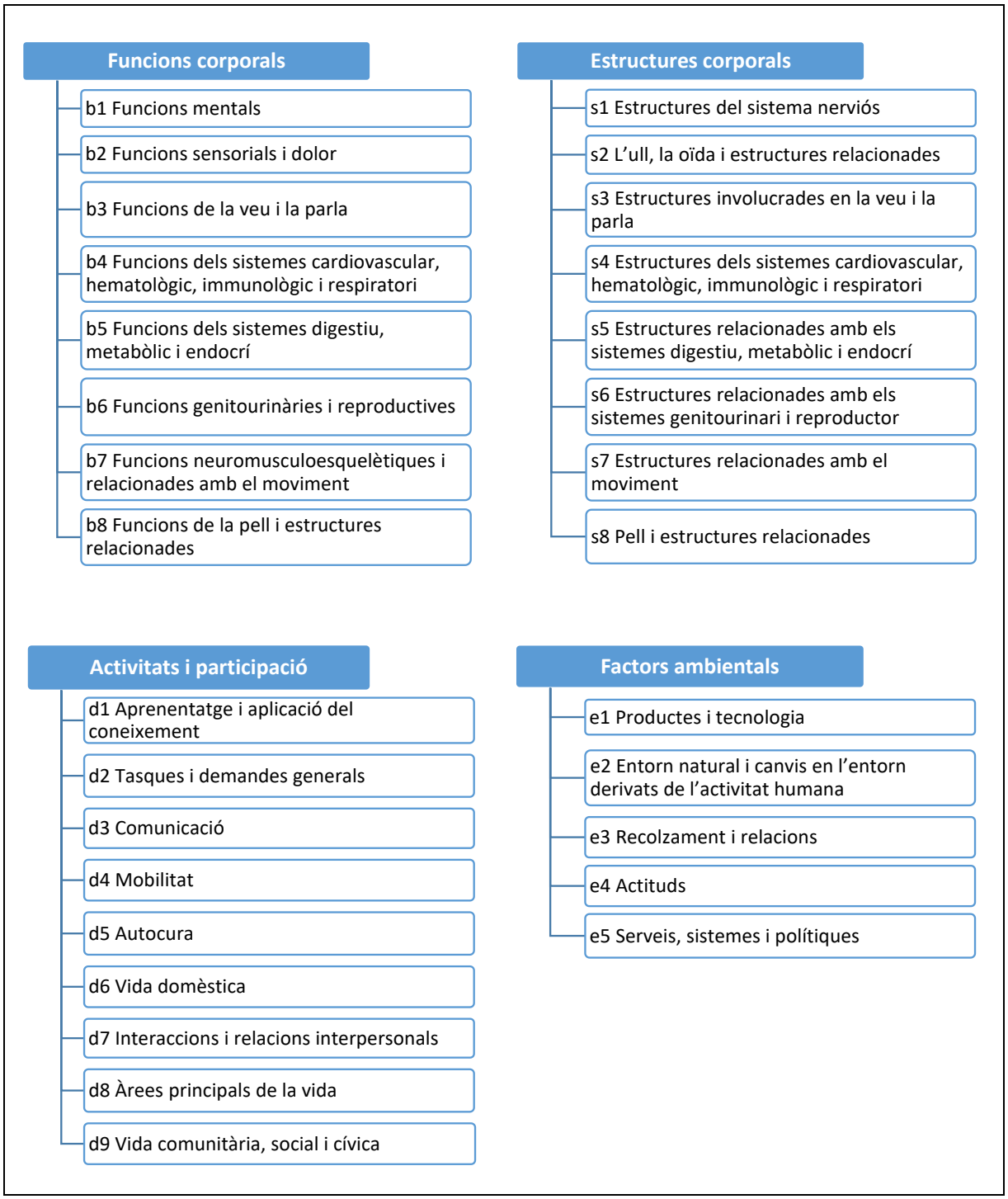

Figura 7. Capítols que formen part dels diferents components de la CIF.

1.2.4. Aplicació a la pràctica clínica: els CB-CIF

La CIF és un sistema de classificació exhaustiu i abraça tot l'espectre de dominis de la salut i relacionats amb la salut que constitueixen l'experiència del funcionament. Aquesta exhaustivitat implica que estigui formada per més de 1.400 categories, la qual cosa comporta que no és una eina aplicable a la pràctica clínica rutinària. Per a facilitar la implementació de la CIF s'han desenvolupat els Conjunts Bàsics de la CIF (CB-CIF) vinculats a un estat de salut determinat. Els CB-CIF consisteixen en una llista de les categories més rellevants de la CIF per a la descripció del funcionament i la discapacitat de les persones que viuen amb una condició de salut determinada.

En el cas de l'esquizofrènia, s'han desenvolupat dos CB-CIF: la versió completa i la versió abreujada. Aquests CB-CIF es van desenvolupar pel grup de recerca en què s'inclou aquesta tesi seguint el procés basat en l'evidència proposat per la ICF Research Branch, centre col·laborador de l'OMS (veure Figura 8).

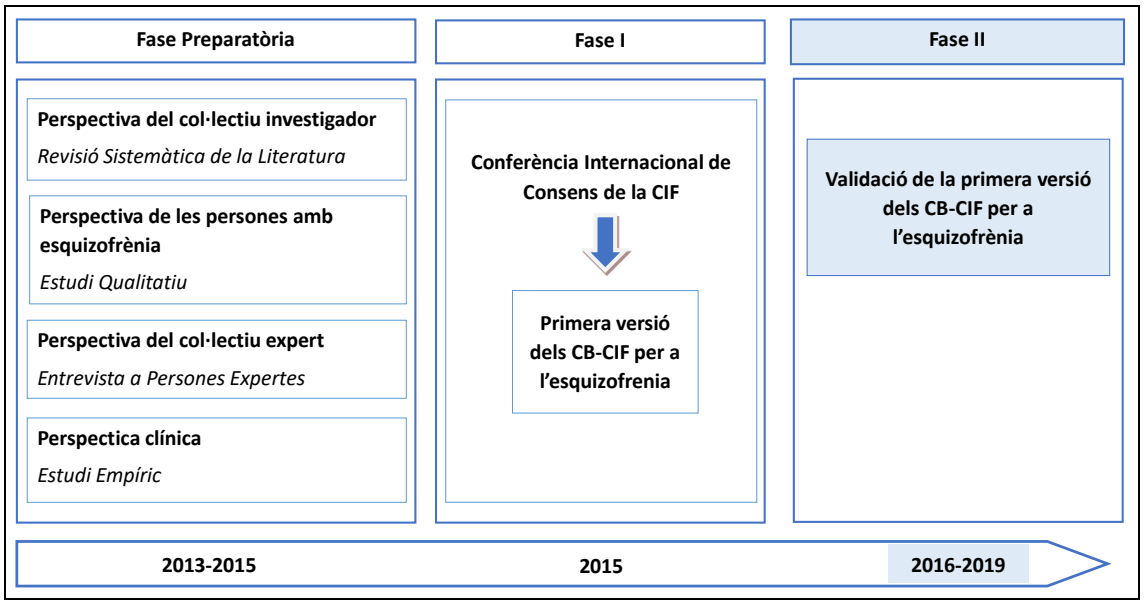

Figura 8. Procés de desenvolupament dels CB-CIF per a l'esquizofrènia.

Aquest procés consisteix en la realització d'una primera fase preparatòria, que va constar de quatre estudis preliminars per a seleccionar les categories candidates a formar part dels CB-CIF: un estudi empíric (Barrios, Gómez-Benito, Pino, Rojo i Guilera, 2018), una enquesta a persones expertes (Barrios, Guilera, Selb i Gómez-Benito, 2017), un estudi qualitatiu (Benítez, Pino, Padilla i Cuevas-Parra, 2016) i una revisió sistemàtica de la literatura (Gorostiaga, Balluerka, Guilera, Aliri i Barrios, 2017). En la fase següent (fase I), es va realitzar un procés de consens i presa de decisions en una conferència internacional (Gómez-Benito et al., 2018) formada per professionals de diferents àmbits de la salut experts en el tractament de

l'esquizofrènia de les sis regions en què l'OMS organitza les àrees geogràfiques del món (veure Figura 9). Fruit d'aquesta conferència es va desenvolupar la primera versió dels CB-CIF per a l'esquizofrènia.

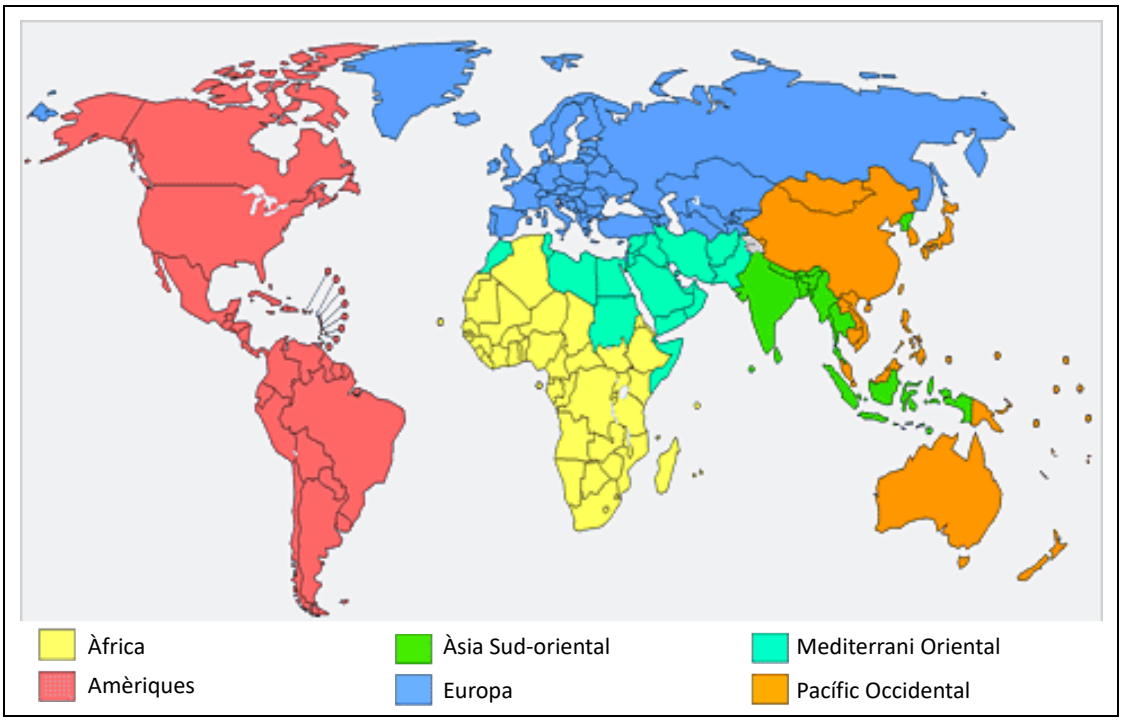

Figura 9. Regions proposades per l'OMS per organitzar les àrees geogràfiques del món.

La versió completa del CB-CIF és una llista de categories de la CIF que inclou tantes categories com siguin necessàries per ser prou exhaustiva com per descriure l'espectre típic dels problemes de funcionament i factors rellevants de l'entorn en una persona amb un estat de salut específic, però tan poques categories com sigui possible de cara a ser aplicable i pràctica. En el cas de l'esquizofrènia, aquest CB-CIF consta de 97 categories, que són llistades a la Taula 1. La versió abreujada d'un CB-CIF és una llista més curta de categories de la CIF, seleccionades de la versió completa com a les més rellevants. En el cas de l'esquizofrènia, aquest CB-CIF abreujat està format per 25 categories, que s'assenyalen a la Taula 1 amb un asterisc. Mentre que la versió completa ha estat dissenyada per utilitzar-la en avaluacions integrals, la versió abreujada es considera com el conjunt mínim de categories per documentar, informar i avaluar el funcionament i l'entorn de les persones que viuen amb una condició de salut específica, independentment de si es tracta d'un context clínic, d'investigació clínica o d'estudis epidemiològics (Selb et al., 2015). Les dues versions del CB-CIF per a l'esquizofrènia amb la definició de les categories que en formen part es poden descarregar de manera gratuïta a la pàgina web https://www.icf-research-branch.org/icf-core-sets-projects2/mental-health/icf-core-set-for-schizophrenia.

Taula 1. Categories que formen part dels CB-CIF per a l'esquizofrènia.

Funcions corporals	
Capítol b1 Funcions mentals b114 Funcions de l'orientació b117 Funcions intel·lectuals b122 Funcions psicosocials globals* b130 Funcions relacionades amb l'energia i els impulsos* b134 Funcions de la son b140 Funcions de l'atenció* b144 Funcions de la memòria b147 Funcions psicomotores b152 Funcions emocionals* b156 Funcions de la percepció* b160 Funcions del pensament* b164 Funcions cognitives superiors* b180 Experiències relacionades amb un mateix i amb el temps*	**Capítol b3 Funcions de la veu i la parla** b330 Funcions relacionades amb la fluïdesa i el ritme de la parla **Capítol b5 Funcions dels sistemes digestiu, metabòlic i endocrí** b530 Funcions relacionades amb el manteniment del pes **Capítol b6 Funcions genitourinàries i reproductives** b640 Funcions sexuals **Capítol b7 Funcions neuromusculoesquelètiques i relacionades amb el moviment** b765 Funcions relacionades amb els moviments involuntaris
Activitats i participació	
Capítol d1 Aprenentatge i aplicació del coneixement d155 Adquisició d'habilitats* d160 Centrar l'atenció d163 Pensar d166 Llegir d175 Resoldre problemes* d177 Prendre decisions **Capítol d2 Tasques i demandes generals** d210 Dur a terme una única tasca d220 Dur a terme múltiples tasques d230 Dur a terme rutines diàries* d240 Maneig de l'estrès i altres demandes psicològiques* **Capítol d3 Comunicació** d310 Comunicació-recepció de missatges parlats d315 Comunicació-recepció de missatges no verbals d330 Parlar d335 Producció de missatges no verbals d350 Conversació **Capítol d4 Mobilitat** d470 Utilització de mitjans de transport d475 Conducció **Capítol d5 Autocura** d510 Rentar-se d520 Cura de parts del cos d540 Vestir-se d570 Cura de la pròpia salut*	**Capítol d6 Vida domèstica** d610 Adquisició d'un lloc per viure d620 Adquisició de béns i serveis d630 Preparar dinars d640 Realitzar els quefers de la casa d650 Cura dels objectes de la llar d660 Ajudar els altres **Capítol d7 Interaccions i relacions interpersonals** d710 Interaccions interpersonals bàsiques* d720 Interaccions interpersonals complexes* d730 Relacionar-se amb estranys d740 Relacions formals d750 Relacions socials informals d760 Relacions familiars* d770 Relacions íntimes **Capítol d8 Àrees principals de la vida** d820 Educació escolar d825 Formació professional d830 Educació superior d840 Aprenentatge (preparació per al treball) d845 Aconseguir, mantenir i finalitzar un treball* d850 Treball remunerat d855 Treball no remunerat d860 Transaccions econòmiques bàsiques d865 Transaccions econòmiques complexes d870 Autosuficiència econòmica **Capítol d9 Vida comunitària, social i cívica** d910 Vida comunitària* d920 Temps lliure i oci d930 Religió i espiritualitat d950 Vida política i ciutadania

Factors ambientals	
Capítol e1 Productes i tecnologia e110 Productes o substàncies per al consum personal e125 Productes i tecnologia per a la comunicació e130 Productes i tecnologia per a l'educació e165 Pertinences **Capítol e3 Recolzament i relacions** e310 Familiars pròxims* e315 Altres familiars e320 Amics e325 Coneguts, companys, col·legues, veïns i membres de la comunitat e330 Persones en càrrecs d'autoritat e340 Cuidadors i personal d'ajuda e355 Professionals de la salut* e360 Altres professionals **Capítol e4 Actituds** e410 Actituds individuals de membres de la família pròxima* e415 Actituds individuals d'altres familiars e420 Actituds individuals d'amics e425 Actituds individuals de coneguts, companys, col·legues, veïns i membres de la comunitat e430 Actituds individuals de persones en càrrecs d'autoritat	**... continuació e4 Actituds** e440 Actituds individuals de cuidadors i personal d'ajuda e450 Actituds individuals de professionals de la salut* e455 Actituds individuals de professionals relacionats amb la salut e460 Actituds socials* e465 Normes, costums i ideologies socials **Capítol e5 Serveis, sistemes i polítiques** e525 Serveis, sistemes i polítiques d'habitatge e545 Serveis, sistemes i polítiques de protecció civil e550 Serveis, sistemes i polítiques legals e555 Serveis, sistemes i polítiques d'associació i organització e560 Serveis, sistemes i polítiques de mitjans de comunicació e570 Serveis, sistemes i polítiques de seguretat social* e575 Serveis, sistemes i polítiques de suport social general e580 Serveis, sistemes i polítiques sanitàries* e585 Serveis, sistemes i polítiques d'educació i formació e590 Serveis, sistemes i polítiques laborals i d'ocupació

* Categories presents a la versió abreujada del CB-CIF per a la esquizofrènia.

2. Contextualització i objectius

Per tal que els CB-CIF puguin ser aplicats a la pràctica clínica, cal que siguin validats a través de diferents fonts d'evidència, tal com recomanen els Standards for Educational and Pyschological Testing (AERA, APA i NCME, 2014). La fase II del desenvolupament dels CB-CIF (Figura 8) consisteix en realitzar aquesta validació sobre la primera versió dels CB-CIF per a l'esquizofrènia des de diferents perspectives: la perspectiva del col·lectiu expert, la perspectiva de les persones afectades per esquizofrènia, familiars i/o cuidadors i la perspectiva clínica. La validació des de la perspectiva del col·lectiu expert analitza la validesa de contingut, que avalua el grau en què les evidències garanteixen la rellevància i representativitat dels aspectes que es pretenen valorar per a l'ús proposat de l'instrument (Sireci i Faulkner-Bond, 2014). Un mètode que ha demostrat múltiples avantatges a l'hora de mesurar la validesa de contingut a través de l'opinió de persones expertes en un tema determinat és la metodologia Delphi (Gil-Gómez de Liaño i Pascual-Ezama, 2012). En aquest context, la present tesi pretén portar a terme la validació de contingut dels CB-CIF per a l'esquizofrènia des de la perspectiva del col·lectiu expert a través de la realització de diversos estudis Delphi des de diverses perspectives professionals, com queda reflectit a la Figura 10. Aquesta recerca va ser aprovada pel Comitè d'Ètica de la Universitat de Barcelona (Institutional Review Board, IRB00003099) i s'emmarca dins el projecte PSI2015-67984-R.

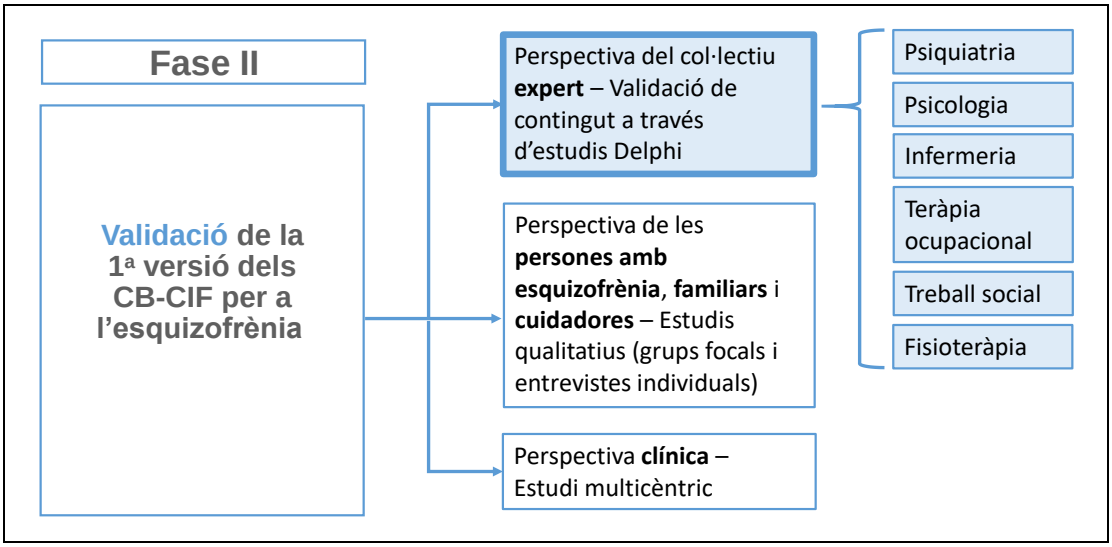

Figura 10. Contextualització dels estudis Delphi en el marc de l'anàlisi global de la validesa dels CB-CIF.

Així doncs, **l'objectiu** de la present tesi és examinar la validesa de contingut dels CB-CIF per a l'esquizofrènia des de la perspectiva del col·lectiu expert en l'atenció i tractament d'aquesta població, i identificar les repercussions potencials d'aquesta condició de salut en el funcionament de les persones diagnosticades d'esquizofrènia.

Aquest objectiu general es concreta en tres objectius específics:

1) Identificar els problemes, característiques i recursos personals, i factors ambientals que són considerats com a més importants per entendre i valorar el funcionament de les persones amb esquizofrènia des de la perspectiva de diferents professionals de la salut;
2) Analitzar si els problemes, característiques i recursos personals i factors ambientals identificats en la fase anterior estan representats dins els CB-CIF per a l'esquizofrènia, des de cada perspectiva;
3) Integrar els resultats obtinguts entre les diferents professions per tal d'arribar a una anàlisi global de la validesa de contingut dels CB-CIF i a una conclusió holística de l'afectació del funcionament en les persones amb esquizofrènia.

Per tal de donar resposta a aquests objectius, la present tesi s'ha estructurat en dues fases. En la fase 1 es dona resposta a l'objectiu 1 i 2. Per a això, es van realitzar sis estudis Delphi, cada un dels quals respon a aquests dos objectius des de la perspectiva d'una àrea professional concreta (i.e. psiquiatria, psicologia, infermeria, teràpia ocupacional, treball social i fisioteràpia). La Fase 2 consisteix en l' anàlisi conjunta dels resultats de la Fase 1 i respon al tercer objectiu plantejat. Així doncs, una vegada obtingudes les dades dels diferents perfils professionals, aquestes es van integrar per concloure la perspectiva del col·lectiu expert i avaluar globalment la validesa de contingut dels CB-CIF. Aquesta seqüència, els objectius i els estudis derivats, queden reflectits a la Figura 11.

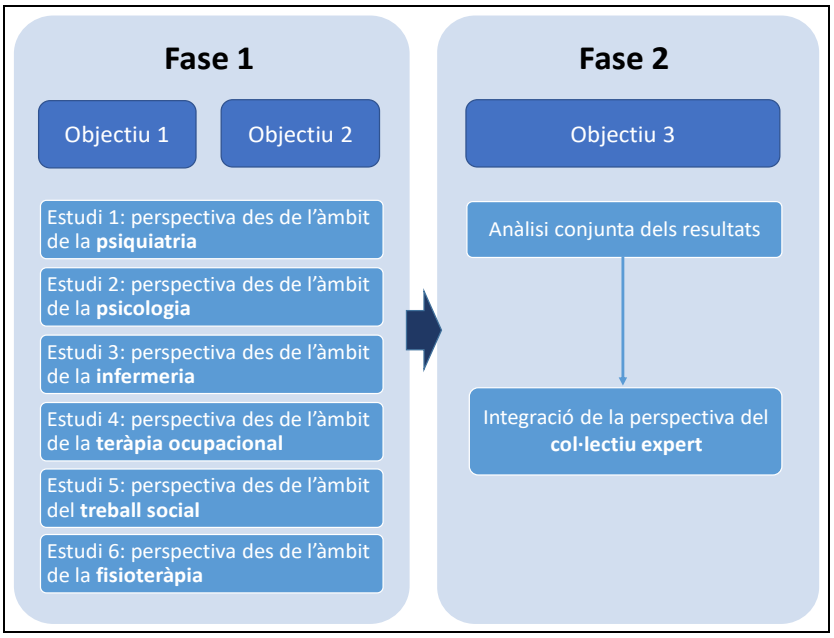

Figura 11. Estructura de la tesis, objectius i estudis derivats.

3. Mètode

3.1. Fase 1: Estudis Delphi

Per a cada una de les professions considerades es va realitzar una enquesta electrònica de tres rondes basada en el mètode de consens Delphi. El propòsit d'aquesta tècnica és assolir el consens d'un conjunt de persones amb coneixement d'un tema d'interès (anomenades d'ara en endavant "persones expertes"). Es tracta d'un procediment multinivell on es realitzen una sèrie de rondes per reunir informació sobre un tema en concret, de manera que cada etapa es construeix sobre els resultats de l'etapa anterior (Hsu i Brian Sandford, 2007; Trevelyan i Robinson, 2015). Aquesta metodologia facilita obtenir l'opinió de nombroses persones expertes de diferents procedències sense que s'hagin de reunir en un mateix lloc. A més, proporciona retroalimentació de manera anònima a cada participant sobre l'opinió de la resta del panel, fet que ofereix l'oportunitat de canviar la resposta a cada ronda tenint en compte la de la resta de participants a la ronda anterior (Yousuf, 2007).

3.1.1. Participants

Es va pretendre obtenir una mostra de persones expertes que reflectís la variabilitat a nivell mundial de diferents variables considerades d'interès: gènere, edat, anys d'experiència i regió demogràfica de procedència. Amb aquesta finalitat, es van reclutar persones expertes d'arreu del món a través de diverses fonts, entre elles contactant associacions internacionals de les professions analitzades, universitats amb programes de pràctiques de professionals de la salut i hospitals. També es van buscar participants potencials a través de diverses cerques bibliogràfiques, contactes del LinkedIn i recomanacions personals de les persones contactades. A totes elles se'ls va fer arribar una carta d'invitació inicial on s'especificava els criteris per poder participar a l'estudi. Concretament, se'ls demanava ser professionals en la professió específica de cada estudi Delphi amb almenys un any d'experiència en el tractament de persones diagnosticades d'esquizofrènia. No es requeria un coneixement específic de la CIF, les respostes havien de basar-se en la pròpia experiència clínica i la selecció de participants es va realitzar sense tenir en compte la seva orientació terapèutica. Aquelles persones que havien participat en fases prèvies del desenvolupament dels CB-CIF per a l'esquizofrènia es van excloure de la llista de persones candidates.

Totes les potencials persones participants van rebre una invitació per formar part de l'estudi amb una descripció detallada dels objectius, el procés Delphi i la cronologia prevista. En aquest primer contacte se'ls demanava la seva informació sociodemogràfica i professional. En total, 1555 professionals de la salut van acceptar participar, i d'aquest conjunt 1304 complien les condicions per participar en els estudis (concretament, 637 psiquiatres, 223 psicòlegs i

psicòlogues, 160 infermers i infermeres, 127 terapeutes ocupacionals, 135 treballadors i treballadores socials i 22 fisioterapeutes).

En la mostra de psiquiatres, malgrat que 637 professionals van acceptar participar, la sobrerepresentació de determinades zones geogràfiques (i.e., Europa i Amèriques) va requerir seleccionar una mostra final de 443 psiquiatres mitjançant un mostreig propositiu. Atès que l'objectiu era assegurar una representació proporcional de les sis regions de l'OMS, totes les persones participants d'Àfrica i del Mediterrani Oriental (les regions amb menys persones expertes localitzades) van ser seleccionades. Seguidament, per la resta de regions, es va seleccionar la mostra de psiquiatres tenint en compte la màxima variància en termes de país de procedència i gènere, així com prioritzant les persones que tenien major experiència clínica. Respecte a la resta de professions, totes les persones que van acceptar participar i eren elegibles van ser convidades a realitzar la primera ronda de l'estudi.

3.1.2. Recollida de dades i procediment Delphi

Els sis estudis Delphi es van dur a terme durant els anys 2016 i 2018. Cada un dels estudis va tenir una durada de dos mesos, des de l'inici de la primera ronda fins la data de finalització de la tercera ronda. Les persones participants disposaven de dues setmanes per respondre cada ronda. Cada participant rebia tres recordatoris per ronda: una setmana abans i dos dies abans del termini per enviar la resposta, i un darrer el mateix dia que coincidia amb la data límit per contestar. Amb l'objectiu d'evitar possibles barreres lingüístiques i fomentar la màxima participació en les diferents regions mundials, tot el material i els qüestionaris es van traduir a cinc idiomes diferents (i.e., xinès, anglès, francès, rus i espanyol). Així, cada participant podia seleccionar en quin idioma preferia respondre. Les traduccions a cada idioma es van realitzar de manera independent per almenys dues persones parlants nadiues. Les respostes per cada ronda del Delphi es van recollir mitjançant un sistema d'enquestes en línia (www.qualtrics.com) que possibilita la realització d'enquestes de fàcil visualització a través d'ordinadors, tabletes i mòbils.

Per la primera ronda, cada participant va rebre un correu electrònic amb un enllaç a la pàgina web de l'enquesta, on se li demanava que enumerés tots els aspectes que considerava rellevants a l'hora de valorar i/o tractar persones amb esquizofrènia. Concretament, es formulaven sis preguntes obertes que cobrien els components de la CIF (*Funcions corporals*, *Estructures corporals*, *Activitats i participació*, *Factors ambientals* i *Factors personals*. El procediment general que es va seguir en cada estudi Delphi i les preguntes concretes que es van formular a la primera ronda poden consultar-se a la figura 12. Tot i que no es limitava l'extensió de les respostes, es va demanar a les persones expertes que fossin breus i concises. El sistema

d'enquestes guardava les respostes de forma que cada participant podia respondre en diferents moments i continuar en el punt on ho havia deixat. El temps previst per complimentar cada ronda era d'uns 15 minuts.

Les respostes a la primera ronda es van vincular a categories de la CIF seguint les regles proposades per Cieza, Fayed, Bickenbach i Prodinger (2019) i Cieza et al., (2005). Del procés de vinculació i selecció de categories descrit a l'apartat *3.1.3. Vinculació dels conceptes a categories d'acord amb les normes de de la CIF* va sorgir un llistat de categories de la CIF i de *Factors Personals*, específic per a cada professió, que va ser presentat al panel expert a la segona i tercera ronda. Si alguna categoria dels CB-CIF per l'esquizofrènia no es trobava en aquest llistat, s'hi va afegir.

A la segona ronda es va demanar a cada participant que jutgés, per a cada categoria, si considerava que la categoria era rellevant des de la seva perspectiva professional per a l'avaluació i/o el tractament de persones amb esquizofrènia. S'indicava que l'objectiu era obtenir una llista de categories que fos prou curta com per ser aplicable a la pràctica clínica i prou comprensiva com per cobrir les necessitats més importants de les persones amb esquizofrènia.

Finalment, a la tercera ronda es va demanar a cada participant que avalués de nou la mateixa llista de categories, aquesta vegada tenint en compte la retroalimentació que se li donava sobre les respostes del conjunt del grup expert i les seves pròpies a la ronda anterior. A la figura 13 es mostra un exemple de com es presentava la informació a la tercera ronda a la plataforma d'enquestes en dos dels cinc idiomes en els que es podia participar. La figura realitza una simulació del feedback que es donava per cada categoria i la possibilitat de cada participant de mantenir la resposta o canviar-la, així com de canviar d'un idioma a un altre amb facilitat sense variar l'estructura de l'enquesta.

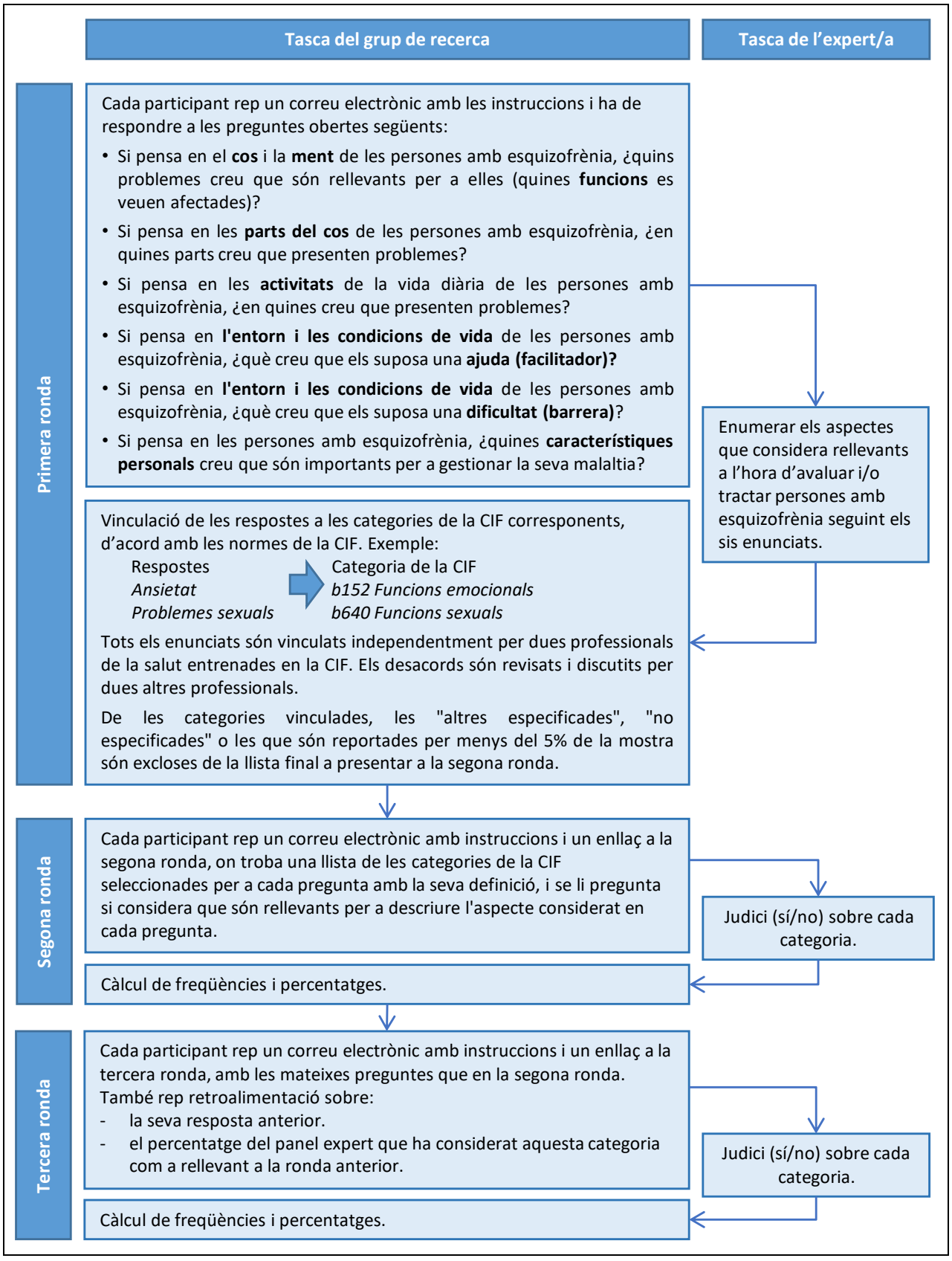

Figura 12. Descripció del procediment seguit durant els estudis Delphi.

Figura 13. Visualització del qüestionari de la tercera ronda mitjançant l'aplicació de Qualtrics, en anglès (A) i en xinès (B). Esquerra versió web, dreta versió mòbil.

3.1.3. Vinculació dels conceptes a categories d'acord amb les normes de la CIF

Totes les respostes de la primera ronda Delphi es van vincular a les corresponents categories de la CIF d'acord amb les regles de vinculació establertes (Cieza et al., 2019, 2005). Si una resposta contenia més d'un concepte, aquesta es podia associar a diverses categories de la CIF. Aquest procediment va ser realitzat de manera independent per dues professionals de la salut formades en l'ús de la CIF i amb experiència en l'atenció de persones amb esquizofrènia. Si no s'arribava a acord entre les dues professionals que realitzaven la vinculació, aquest desacord era revisat per unes altres dues professionals de la salut, amb l'objectiu d'assolir finalment un consens. Per exemple, si el problema reportat com a resposta a la primera ronda era *"percebre coses que no hi són"*, s'extreia el concepte "al·lucinacions" i s'assignava a la categoria de la CIF *b156 Funcions de la percepció*. Aquesta categoria és definida per la CIF com a "funcions mentals específiques relacionades amb el reconeixement i interpretació d'estímuls sensorials, incloent funcions de percepció auditiva, visual, olfactiva, gustativa, tàctil i visuoespacial, com ara les al·lucinacions o les il·lusions". La definició de cada categoria de la CIF, juntament amb exemples d'inclusió i d'exclusió, es pot consultar al manual de la CIF (World Health Organization, 2001). Totes les categories presents als CB-CIF per a l'esquizofrènia corresponen al segon nivell. Per aquest motiu, amb la intenció de facilitar la comparació dels resultats dels estudis Delphi amb els CB-CIF per a l'esquizofrènia, les categories de la CIF de tercer i quart nivell resultants del procés de vinculació es van agregar a les seves corresponents categories de segon nivell.

Els enunciats que impliquen conceptes que no formen part del rang d'aspectes que categoritza la CIF (per exemple, el suïcidi) es van etiquetar com a "*No inclosos*". Els conceptes que eren massa generals per ser concretats amb una categoria de la CIF (per exemple, "símptomes negatius") es van codificar com a "*No definibles"*. També es van codificar els conceptes referents a condicions de salut (per exemple, diabetis). Tots aquests conceptes no corresponen a categories de la CIF i per tant no es van incloure en el llistat de categories presentats a la segona i tercera ronda.

Els *Factors personals* no estan actualment classificats en la CIF, per la qual cosa no formen part dels CB-CIF per a l'esquizofrènia. No obstant això, com que són rellevants per a la planificació de l'avaluació i la intervenció en aquesta població, els conceptes relacionats amb els *Factors personals* es van organitzar i codificar en una llista de categories que van ser considerades en la segona i tercera ronda de l'estudi Delphi. Els *Factors personals* es van definir com els antecedents particulars de la vida d'una persona i la seva situació vital, com per exemple la seva edat (Grotkamp, Cibis, Nüchtern, von Mittelstaedt i Seger, 2012). La proposta de

categorització d'aquest component es va desenvolupar per consens entre tres psicòlogues (LN, MB, GG) a partir de teories de factors personals com ara la teoria dels cinc gran trets de personalitat (Five Factor Model; McCrae i Costa Jr., 2008), altres propostes de categorització dels *Factors personals* (Geyh et al., 2011; Grotkamp et al., 2012) i a partir de les respostes del grup expert a la pregunta sobre factors personals.

Per establir el llistat final de categories a presentar a la segona i tercera ronda, es van excloure totes aquelles categories que, d'acord amb les regles de vinculació de la CIF, eren considerades com a categories "altres especificades" o "no especificades", així com les reportades per menys d'un 5% de les persones participants. Les categories restants es van presentar al grup expert.

3.1.4. Anàlisi de dades

Es va realitzar una anàlisi descriptiva de les característiques sociodemogràfiques de les persones participants i es va calcular la freqüència de les categories reportades a la segona i tercera ronda. Si una categoria era anomenada en diverses ocasions per una mateixa persona, es comptabilitzava una sola vegada per evitar biaixos cap a una categoria específica. Es van calcular els coeficients Kappa i els intervals de confiança per avaluar la fiabilitat entre codificadores.

Es va calcular el percentatge de participants que van seleccionar com a rellevant cada categoria considerada a la segona i tercera ronda de cada estudi Delphi. A falta d'una definició universalment acceptada de consens (Diamond et al., 2014), i tenint en compte l'experiència d'estudis anteriors (Awad i Alghadir, 2013; Kaech Moll, Escorpizo, Bergamaschi i Finger, 2016), es va considerar suficientment alt un acord entre participants d'almenys el 75% a la tercera ronda per considerar que la categoria havia assolit consens (o el 70% en el cas dels fisioterapeutes, atès que eren 10 participants).

Totes les dades de les variables es van codificar en Excel (2016) i es van analitzar mitjançant el Paquet Estadístic de Ciències Socials (SPSS, versió 24) (IBM Corp., 2016).

3.2. Fase 2: Integració de la perspectiva del col·lectiu expert

3.2.1. Participants

La fase 2 inclou el conjunt de participants dels sis estudis Delphi prèviament descrits. En total, 1.555 professionals de la salut experts en el tractament de persones per esquizofrènia van acceptar participar. D'aquets professionals, 1110 (443 psiquiatres, 223 psicòlegs i psicòlogues, 160 infermers i infermeres, 127 terapeutes ocupacionals, 135 treballadors i treballadores socials

i 22 fisioterapeutes) van ser convidats a participar a la primera ronda del corresponent estudi Delphi.

A la primera ronda dels estudis Delphi van participar 790 persones expertes (el 71,2% dels que se'ls va enviar la invitació per participar a la primera ronda), provinents de 85 països diferents i que abastaven les 6 regions de la OMS. Les persones d'aquesta mostra dedicaven el seu temps laboral principalment a la pràctica clínica (de mitjana el 45,4% de la seva jornada laboral), la investigació (23,0%), i la docència (20,0%), així com també dedicaven una part del seu temps a la gestió (10,2%) i a altres tasques no especificades (1,3%). A la Taula 2 es mostren més detalls sobre les seves característiques sociodemogràfiques i professionals. Un total de 638 participants (80,8% respecte la primera ronda) van finalitzar la tercera ronda.

3.2.2. Procediment

Els sis estudis Delphi es van portar a terme durant els anys 2016 i 2018. A tots els estudis es va seguir el mateix disseny per tal d'assegurar un alt nivell de comparabilitat entre els resultats de cada un d'ells. Aquest procediment es descriu amb detall a l'apartat *3.1.2. Recollida de dades i procediment Delphi*.

A l'hora de realitzar l'anàlisi conjunta dels resultats, es van considerar totes les categories que havien arribat a consens des de la perspectiva d'almenys una professió, i es va analitzar des de quantes i quines professions arribava a consens cada categoria. Per arribar a una conclusió sobre les categories més rellevants des de la perspectiva del col·lectiu expert i poder comparar-les amb els CB-CIF per a l'esquizofrènia, es va definir com a "consens expert" l'acord sobre la rellevància d'una categoria de més de la meitat de les perspectives professionals considerades (és a dir, consens per part de 4 o més perspectives professionals respecte a aquella categoria).

Amb la finalitat d'avaluar el grau d'universalitat a nivell mundial dels resultats obtinguts es va estudiar el grau d'acord sobre la rellevància de les categories de la CIF que arribaven a consens segons la regió de procedència de cada participant. Aquesta mateixa anàlisi es va dur a terme per les categories proposades pel component *Factors personals.*

Així mateix, de cara a avaluar el grau d'uniformitat entre les respostes dels diferents col·lectius professionals, es va avaluar el grau d'acord entre les diferents perspectives professionals, d'una banda per les categories de la CIF i d'altra banda per la llista de categories proposades pel component *Factors personals*.

Taula 2. Característiques sociodemogràfiques i professionals de la mostra total de participants als estudis Delphi.

Àmbit professional	**Ronda 1** n	**Dones n (%)**	**Edat** Mitjana (Rang)	**Anys experiència** Mitjana (Rang)	**Regió OMS**						**Països** n	**Població tractada[g]**				**Ronda 3** n (%)[h]
					Àfrica[a] n (%)	Amèriques[b] n (%)	Àsia Sud-oriental[c] n (%)	Europa[d] n (%)	Mediterrani Oriental[e] n (%)	Pacífic Occidental[f] n (%)		Aguda n (%)	Crònica n (%)	Rural n (%)	Urbana n (%)	
Psiquiatria	352	99 (28,1)	47,6 (29-81)	19,5 (4-55)	26 (7,4)	72 (20,4)	77 (21,9)	82 (23,3)	17 (4,8)	78 (22,2)	63	325 (92,3)	315 (89,5)	207 (58,8)	303 (86,1)	303 (86,1)
Psicologia	175	110 (62,9)	41,8 (24-67)	11,7 (1-42)	11 (6,3)	47 (26,9)	20 (11,4)	63 (36,0)	21 (12,0)	13 (7,4)	46	92 (52,6)	149 (85,1)	60 (34,3)	130 (74,3)	137 (78,3)
Infermeria	101	64 (63,3)	45,8 (24-74)	20,7 (2-54)	5 (4,9)	25 (24,7)	13 (12,7)	31 (30,6)	9 (8,9)	18 (17,8)	30	82 (81,2)	89 (88,2)	45 (44,6)	69 (68,3)	79 (78,2)
Teràpia ocupacional	92	76 (82,6)	37,7 (23-67)	9,9 (1-44)	13 (14,1)	16 (17,4)	5 (5,4)	42 (45,7)	7 (7,6)	9 (9,8)	29	49 (53,3)	79 (85,9)	31 (33,7)	60 (65,2)	73 (79,3)
Treball social	57	39 (68,4)	45,1 (26-72)	10,3 (1-27)	2 (3,5)	17 (29,8)	11 (19,3)	13 (22,8)	1 (1,8)	13 (22,8)	20	28 (49,1)	53 (93,0)	24 (42,1)	43 (75,4)	36 (63,2)
Fisioteràpia	13	7 (53,8)	43,2 (32-62)	10,5 (1-30)	0	2 (15,4)	1 (7,7)	7 (53,8)	0	3 (23,1)	8	7 (53,8)	12 (92,3)	3 (23,1)	7 (53,8)	10 (76,9)
Total	790	307 (48,1)	45,5 (23-81)	15,8 (1-55)	57 (7,2)	179 (22,6)	127 (16,1)	238 (30,1)	55 (7,0)	134 (17,0)	85	583 (73,8)	697 (88,2)	370 (46,8)	612 (77,5)	638 (80,8)

[a] Països participants de la regió de l'Àfrica: Algèria, Botswana, Etiòpia, Ghana, Kenia, Moçambic, Nigèria, Sud-Àfrica, Uganda, Zimbabwe.
[b] Països participants de la regió de les Amèriques: Argentina, Brasil, Canadà, Xile, Colòmbia, Costa Rica, Cuba, Equador, Estats Units d'Amèrica, Mèxic, Uruguai, Veneçuela.
[c] Països participants de la regió de l'Àsia Sud-oriental: Bangladesh, Índia, Indonèsia, Nepal, Sri Lanka, Tailàndia.
[d] Països participants de la regió d'Europa: Alemanya, Armènia, Bèlgica, Bòsnia i Hercegovina, Bulgària, Croàcia, Dinamarca, Eslovàquia, Eslovènia, Espanya, Finlàndia, França, Geòrgia, Grècia, Hongria, Irlanda, Islàndia, Israel, Itàlia, Letònia, Lituània, Macedònia, Noruega, Països Baixos, Polònia, Portugal, Regne Unit, República Txeca, Romania, Rússia, Sèrbia, Suècia, Suïssa, Turquia, Ucraïna, Xipre.
[e] Països participants de la regió del Mediterrani Oriental: Aràbia Saudita, Egipte, Emirats Àrabs Units, Iran, Iraq, Jordània, Kuwait, Líban, Líbia, Marroc, Pakistan.
[f] Països participants de la regió del Pacífic Occidental: Austràlia, Cambodja, Filipines, Japó, Corea del Sud, Malàisia, Nova Zelanda, Singapur, Taiwan, Xina.
[g] Era possible escollir més d'una opció.
[h] Respecte a ronda 1.

3.2.3. Anàlisi de dades

Es va realitzar una anàlisi descriptiva de la mostra total de participants del conjunt dels sis estudis Delphi.

Es va calcular el nombre de perspectives professionals des de les que cada categoria arribava a consens i es van detectar aquelles categories que arribaven a consens expert. D'altra banda, en aquelles categories que van arribar a consens expert, es va valorar la intensitat de l'acord a través del càlcul de la mitjana d'acord entre aquelles perspectives professionals des de les que la categoria havia arribat a consens.

Per avaluar el grau d'universalitat dels resultats, es va considerar la mostra total, es va separar en subgrups segons la regió de la OMS de procedència de cada participant, i es va calcular el percentatge d'acord respecte a si una categoria era rellevant o no des de la perspectiva dels professionals de cada regió, comparant les regions per parelles i considerant totes aquelles categories que havien arribat a consens des de la perspectiva d'almenys una professió. La mateixa anàlisi es va dur a terme considerant les categories de *Factors personals* que havien arribat a consens des d'almenys una perspectiva professional. Així mateix, es va estudiar el nombre de regions a les que arribava a consens cada una de les categories que formen part del CB-CIF per a l'esquizofrènia i els *Factors personals* que havien arribat a consens expert.

Per la uniformitat respecte a les perspectives professionals, es van calcular els percentatges d'acord respecte a si una categoria era rellevant o no des de les diferents perspectives professionals, comparant-les de dues en dues i considerant totes aquelles categories que havien arribat a consens des de la perspectiva d'almenys una professió. La mateixa anàlisi es va dur a terme considerant les categories de *Factors personals* que havien arribat a consens des d'almenys una perspectiva professional.

Totes les dades de les variables es van codificar en Excel (2016) i es van analitzar mitjançant el Paquet Estadístic de Ciències Socials (SPSS, versió 24) (IBM Corp., 2016). L'anàlisi gràfica es va realitzar mitjançant Excel (2016).

4. Resultats

4.1. Fase 1: Estudis Delphi

Com s'ha indicat, la fase 1 d'aquesta tesi consisteix en la realització de sis estudis Delphi per respondre a l'objectiu 1 i 2 des de diferents perspectives professionals. Així, cada estudi identifica, des d'una perspectiva professional concreta (i.e, psiquiatria, psicologia, infermeria, teràpia ocupacional, treball social i fisioteràpia), les dificultats en el funcionament que experimenten les persones amb esquizofrènia, i examina la validesa de contingut dels CB-CIF per a l'esquizofrènia contrastant-la amb els resultats obtinguts.

Aquests sis estudis Delphi han derivat en l'elaboració de sis manuscripts, que es presenten a continuació. Els tres primers han estat publicats a revistes d'alt impacte i els tres últims estan actualment en segona revisió amb canvis menors en revistes de Q1. Tots els estudis es presenten en un mateix format per tal d'aconseguir una major uniformitat i respectar els drets de propietat intel·lectual de les revistes on han estat enviats per la seva publicació. Els manuscripts ja publicats es presenten en la seva versió acceptada prèvia a la maquetació de la revista (postprint), mentre que la resta de manuscripts es presenten en la versió que està actualment en procés de revisió per la revista (preprint).

4.1.1. Estudi 1: Perspectiva des de l'àmbit de la psiquiatria

Journal of Psychiatric Research 103 (2018) 134–141

Contents lists available at ScienceDirect

Journal of Psychiatric Research

journal homepage: www.elsevier.com/locate/jpsychires

Validation of the ICF Core Sets for schizophrenia from the perspective of psychiatrists: An international Delphi study

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- Títol: Validation of the ICF Core Sets for schizophrenia from the perspective of psychiatrists: An international Delphi study.
- Autoria: L. Nuño, M. Barrios, E. Rojo, J. Gómez-Benito, G. Guilera
- Revista: Journal of Psychiatric Research
    - Classificació segons el *Journal Citation Report (2018):*
        - Factor d'impacte: 3,917
        - Rank: 26/142 - Quartil 1 - Categoria: Psychiatry - SSCI
- La versió postprint de l'article es presenta a continuació. El material suplementari pot consultar-se a l'Annex 1.

ESTUDI 1

Validation of the ICF Core Set for schizophrenia from the perspective of psychiatrists: An international Delphi study

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ABSTRACT

Schizophrenia is a chronic mental illness associated with several functional impairments. The International Classification of Functioning, Disability and Health (ICF) Core Sets for schizophrenia are shortlists of ICF categories that are relevant for describing the functioning and disability of people suffering from schizophrenia. The aims of this study were to explore the content validity of these Core Sets from the perspective of psychiatrists and to identify — from this perspective and using the ICF framework – the most common problems of patients with schizophrenia. In a three-round survey using the Delphi technique, psychiatrists experienced in schizophrenia treatment were asked about the problems they commonly encounter in these patients. A total of 352 psychiatrists from 63 countries representing all six WHO regions responded to the first-round questionnaire, and 303 completed all three rounds (86% response rate). From the first-round responses, 7133 concepts were extracted and linked to 387 ICF categories and 35 personal factors. Of these, consensus (≥75% agreement) was reached for 91 ICF categories and 31 personal factors. Eighty-seven of the 97 ICF categories that form the Comprehensive ICF Core Set for schizophrenia were represented in this list. Only four of the categories for which consensus was reached do not feature in the Comprehensive Core Set. From the perspective of psychiatrists the content validity of the ICF Core Sets for schizophrenia was largely supported. This suggests that these Core Sets offer an effective framework for describing functioning and disability in individuals with schizophrenia.

Keywords: schizophrenia, functioning, ICF, validation, Delphi

1. INTRODUCTION

Schizophrenia is a chronic, disabling mental disorder involving symptoms such as delusions, hallucinations, disorganization of thought and neuropsychological impairment (American Psychiatric Association, 2013; World Health Organization, 2016). It is also associated with significant deficits in personal, social and occupational functioning (Kalin et al., 2015; Penadés et al., 2010; Tandberg et al., 2013). In fact, several studies have suggested that cognitive functioning and negative symptoms are the best predictors of functional outcomes, such as work skills, community activities and interpersonal functioning (Bowie and Harvey, 2006; Lepage et al., 2014; Ventura et al., 2015). Impairments in these areas vary widely from individual to individual, as well as in a given individual over the course of the disease (Karpouzian et al., 2016), and they are mediated by environmental and personal factors (Fett et al., 2011; Schennach et al., 2012). These impairments are strongly associated with limited performance of activities of daily living, restricted participation in social activities, and reduced quality of life (Hunter and Barry, 2012). Thus, the main long-term therapeutic goals in schizophrenia should go beyond symptoms and include improving patients' psychosocial functioning (Brissos et al., 2011; McGurk et al., 2007). Addressing all these aspects requires a multidisciplinary approach and a proper understanding of the patient's functioning and health status.

The International Classification of Functioning, Disability and Health (ICF; World Health Organization, 2001), and the integrated biopsychosocial model on which it is based, represent a comprehensive and universally accepted framework for describing functioning, disability and health in persons with all kinds of health conditions. According to the ICF, the problems associated with a disease may concern *Body functions* and *Body structures*, as well as *Activities and participation* in a person's life situation. All these problems are also modified by contextual factors such as *Environmental factors* and *Personal factors* (see Figure 1). There is also a bidirectional and dynamic interaction between these components. In contrast to profession-specific guides, the common language of the ICF can be used by different professions and healthcare disciplines.

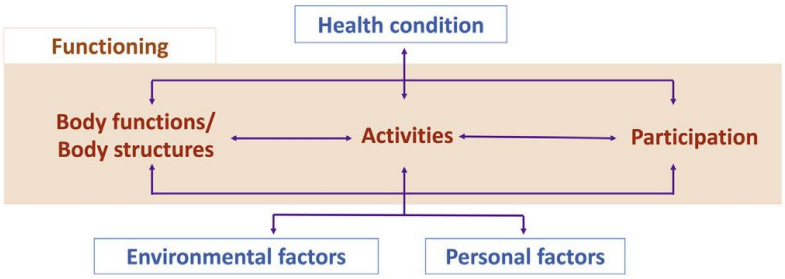

Figure 1. Integrative biopsychosocial model of functioning and disability.

The ICF framework has given rise to different instruments for assessing functionality, notably the World Health Organization Disability Assessment Scale 2.0. (WHODAS 2.0; World Health Organization, 2010). The WHODAS 2.0 has been shown to be more informative than the Global Assessment of Functioning Scale (GAF) (Aas, 2010) when assessing functionality in people with mental disorder, and it is now used in conjunction with DSM-5. However, when applied to individuals suffering from schizophrenia, studies have shown that there are strong floor effects

on several sub-scales of the WHODAS 2.0 (Guilera et al., 2012). These authors found that on sub-scales such as Self-care, more than 60% of patients obtained the best possible score (i.e., 0), and hence there is a restricted range. A more precise assessment of functionality in patients with schizophrenia therefore requires the use of measures specific to this health condition and which are able to discriminate between all levels of disability.

The whole ICF classification includes more than 1400 categories, making its implementation a major challenge for clinical practice. To facilitate its application, ICF Core Sets for several health conditions have been developed. An ICF Core Set (ICF-CS) is a selection of categories from the ICF that are considered essential for describing the functioning of a person living with a specific health condition. The Comprehensive ICF-CS for schizophrenia includes 97 categories covering the typical spectrum of problems in functioning of patients with schizophrenia (Gómez-Benito et al., 2017). The Brief ICF-CS for schizophrenia is a selection of 25 of these 97 categories, those regarded as the most important for the assessment and treatment of people with schizophrenia. These ICF-CSs for schizophrenia (https://www.icf-research-branch.org/icf-core-sets-projects2/mental-health/icf-core-set-for-schizophrenia) were developed following the methodology endorsed by the World Health Organization (WHO; Selb et al., 2015). Application of the ICF-CS for schizophrenia takes 30-45 minutes for the Comprehensive version and 10-15 minutes for the Brief version; the time needed depends ultimately on factors such as the professional's familiarity with the ICF and his/her knowledge of the history and state of the patient. However, a prerequisite for ICF-CS implementation in clinical practice is their validation from different perspectives. The objective of this study was therefore to examine the content validity of the ICF-CSs for schizophrenia from the perspective of psychiatrists, a key group of healthcare professionals in the treatment of patients with this health condition. More specifically, the aims were: 1) to gather the views of psychiatrists regarding the kinds of problems, personal characteristics/resources and features of the environment they commonly encounter when treating persons with schizophrenia; and 2) to analyze the extent to which these aspects are represented in the ICF-CSs for schizophrenia.

2. METHOD

A three-round, worldwide electronic-mail survey, based on a consensus-building Delphi method, was conducted. The Delphi method is a multistage process in which each stage builds on the results of the previous one, and where a series of rounds are used to both gather and provide information about a particular subject (Hasson et al., 2000). Its purpose is to gain consensus from a panel of individuals with knowledge of the topic being investigated (hereinafter, experts).

2.1. Recruitment of participants

Experts were defined as psychiatrists with at least two years' experience in the direct treatment of individuals with schizophrenia. No knowledge about the ICF was required to participate in the Delphi process. Experts who had already participated in an earlier stage of the development of the ICF-CS for schizophrenia were excluded.

Several strategies were used to recruit experts from around the world. International associations of psychiatrists, universities with healthcare professional training programs and hospitals were

contacted. Literature searches, LinkedIn contacts and personal recommendations were also used. In order to avoid language barriers and to increase the representativeness and participation of experts from around the world, participation was possible in five languages: Chinese, English, French, Russian and Spanish. All the survey materials were translated and supervised by at least two independent native speakers.

The initial contact included an invitation to take part and a detailed description of the project targets, the Delphi process and the timeline. Demographic and professional data were also requested. A total of 7616 potential participants were initially contacted. Of these, 1002 (13.2%) agreed to participate, and 637 of them were psychiatrists eligible for this Delphi study. A final sample of 443 psychiatrists was selected using a purposeful sampling approach. In order to ensure proportional representation across the six WHO regions (i.e., Africa, the Americas, Eastern Mediterranean, Europe, South-East Asia and Western Pacific): first, all participants from Africa and Eastern Mediterranean were selected, and second, for the remaining WHO regions, psychiatrists were randomly selected considering maximum variation in terms of country and sex, and prioritizing those with more clinical experience.

2.2. Delphi process

The Delphi process and survey questions are shown in Figure 2. Data collection lasted from April to June 2016, with participants being given two weeks to respond in each round. Three reminders were sent, one week before and two days before the deadline, and on the deadline day itself.

Responses in the first round of the Delphi process were collected through an online survey system (www.qualtrics.com). The selected experts received an e-mail with a link to the survey homepage and instructions, their task being to list all the aspects they considered to be relevant when assessing and/or treating individuals with schizophrenia. To facilitate this, they were asked six open-ended questions which covered all the ICF-CS components. The environmental factors component was divided into supportive and hindering factors (see Figure 2). Responses were not limited in terms of word length. However, respondents were instructed to be brief and concise, and to avoid using abbreviations and vague technical terms. The experts were able to answer parts of the survey at different times, and the expected completion time for each survey round was about 15 minutes.

All the responses collected in the first round were then linked to ICF categories, and those reported by at least 5% of the experts were selected for inclusion in the second Delphi round. The ICF categories labelled ‘other specified’ and ‘unspecified’ were not included.

In the second Delphi round the experts who had responded in the first round received a list of the selected ICF categories linked to the responses of all the participants, as well as a summary of statements assigned as *Personal factors*. All the categories contained in the ICF-CSs for schizophrenia were presented, along with their respective definitions. Participants were asked to judge, for each category, whether they thought the category was relevant from the perspective of psychiatrists to the assessment and/or treatment of individuals with schizophrenia, taking into account that the final list should be as short as possible to be practical but as comprehensive as necessary to capture the most relevant needs of this population. In the

third round, participants were once again asked to judge the list of categories, this time in light of the feedback they were sent regarding the responses of the expert panel as a whole and their own previous responses.

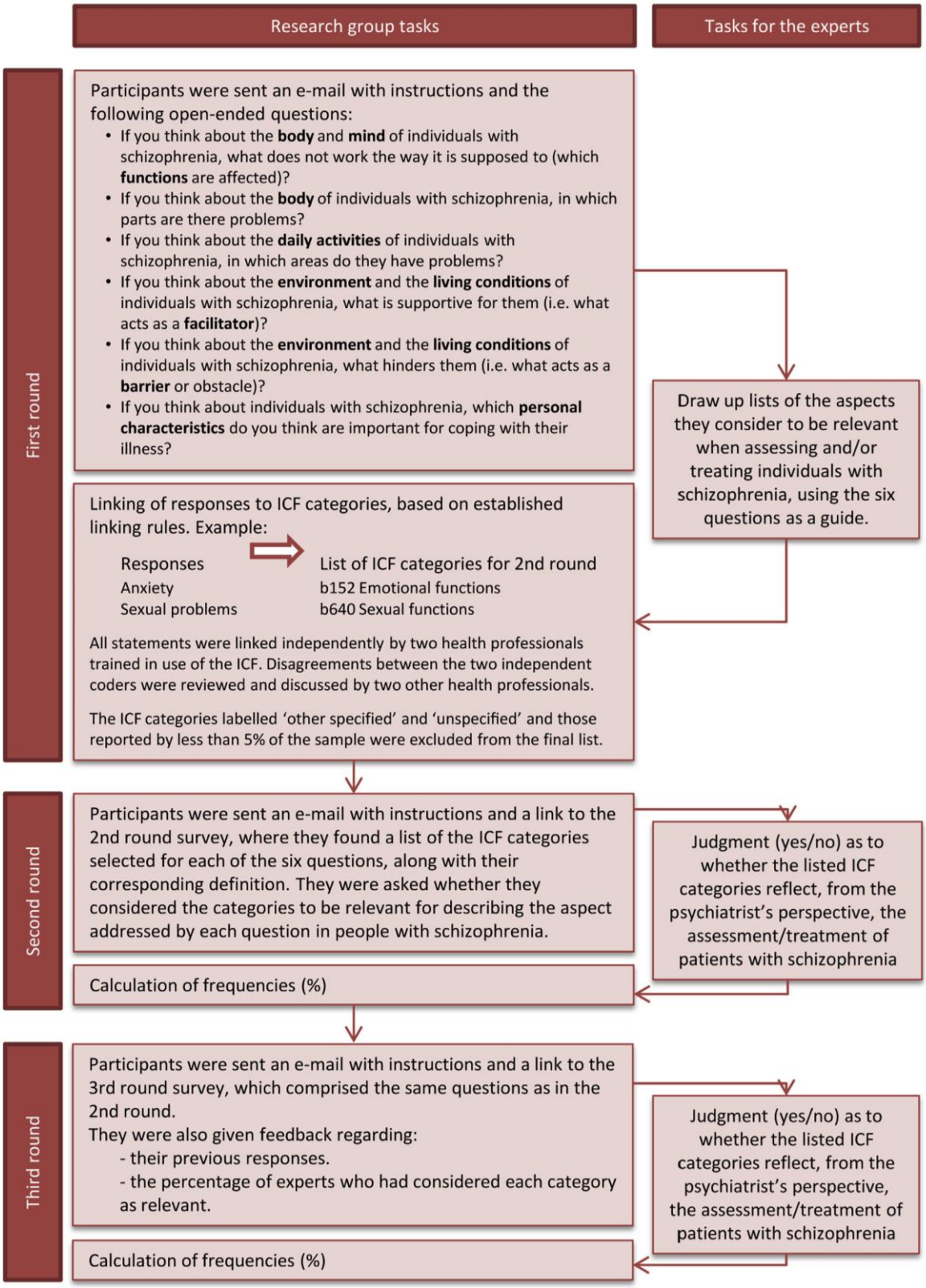

Figure 2. The Delphi process.

2.3. Linking

Each component of the ICF, except for *Personal factors*, contains an exhaustive hierarchically organized list of categories (see Figure 3). Third- and fourth-level ICF categories are more detailed than are second-level categories. A third- or fourth-level category shares the attributes of the second-level category of which it is a member, and therefore the use of a third- or fourth-level category implies that the corresponding second-level category is applicable.

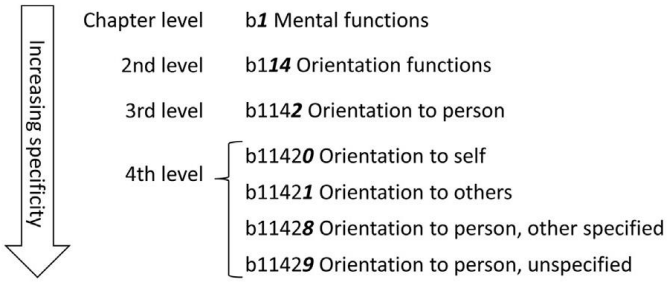

Figure 3. Structure of ICF categories, exemplified by the category 'b114 Orientation functions'.

All responses from the first Delphi round were linked independently to the corresponding ICF categories by two health professionals trained in use of the ICF and with experience of providing care to individuals with schizophrenia. This was done in accordance with established linking rules (Cieza et al., 2005, 2016). If a response contained more than one concept, several ICF categories could be linked. By way of an example, if the reported problem was 'hallucinations,' the concept 'hallucinations' was extracted and assigned to the ICF category *b156 Perceptual functions*. This category (*b156 Perceptual functions*) is defined by the ICF as referring to "*specific mental functions of recognizing and interpreting sensory stimuli, including functions of auditory, visual, olfactory, gustatory, tactile and visuospatial perception, such as in hallucination or illusion*". The definition of each ICF category, along with inclusion/exclusion examples, can be consulted at the ICF browser (http://apps.who.int/classifications/icfbrowser/); the information is available in the five languages (Chinese, English, French, Russian and Spanish) that were offered for participation in the present study. Statements that were not captured by the ICF (e.g., suicide) were labelled *Not covered*. Statements that were too general to be specified by an ICF category (e.g., 'negative symptoms') were coded as *Not definable*. *Personal factors* were defined as the particular background of an individual's life and living situation (e.g., age; Grotkamp et al., 2012). Statements referring to health conditions (e.g., diabetes) were also coded.

Disagreements between the two independent coders were reviewed and discussed by two other health professionals with the aim of achieving consensus. *Personal factors* are not yet categorized in the current ICF and they are not included in the ICF-CS for schizophrenia. However, as they are relevant to assessment and intervention planning, concepts related to *Personal factors* were summarized and considered in further rounds. The proposed categorization of this component was carried out by consensus among three psychologists, based on theories of personal factors such as the Big Five personality traits (Five Factor Model) (McCrae and Costa Jr., 2008), on other previous proposed categorizations (Geyh et al., 2011; Grotkamp et al., 2012) and on the experts' responses to the question about personal characteristics. For example, when concepts referred to personality traits we used the Big Five

model to classify them. In these cases, the five factors and their facets, with their corresponding definitions, were used as a category system. Thus, if the reported answer was directly one of the five factors or its facets, it was assigned directly to it. If the reported answer was a feature of personality that was not directly defined in the five factors, we looked at the statement made by the expert and, by consensus among three psychologists, linked it to one of the five factors.

2.4. Data analysis

Descriptive statistics were used to describe the sociodemographic characteristics of participants and the frequencies of ICF categories, based on the experts' responses. If several responses from the same participant were assigned to the same ICF category, they were counted only once to avoid bias towards a specific category. All the categories represented in the ICF-CSs for schizophrenia correspond to the second level. Therefore, in order to compare the findings of this study with the ICF-CSs, third- and fourth-level ICF categories were aggregated to their corresponding second-level categories.

The percentage of participants who agreed with respect to each category considered in the second and third Delphi rounds was calculated. In the absence of a universally accepted definition of 'consensus' (Hasson et al., 2000), and based on the experience of previous studies (Awad and Alghadir, 2013; Cieza et al., 2004), an agreement of at least 75% among participants was considered sufficiently high. Kappa coefficients and confidence intervals were calculated in order to assess inter-coder reliability.

3. RESULTS

3.1. Delphi process

A total of 352 psychiatrists from 63 countries representing all six WHO regions completed the first-round questionnaire (79.4% of the 443 who were sent the material). Their professional role primarily involved clinical practice (mean 45.7% of their time); other activities they took part in were research (mean 24.9% of their time), teaching and training (19.2%), management (9.5%) and other tasks (0.7%). The demographic and professional characteristics of participants are shown in Table 1. A total of 321 psychiatrists responded to the second round of the survey, and 303 completed round three. The response rate across rounds one to three was 86%.

3.2. Linking responses to the ICF

In the first Delphi round, 7133 meaningful concepts were extracted from the experts' responses. A total of 387 ICF categories were linked to these concepts. Of these categories, 219 were second-level, 162 third-level and 6 fourth-level. Thirty-eight categories were proposed for the *Personal factors* detected. A total of 517 concepts were classified as *Not definable* and 66 as *Not covered.* Forty-six responses did not contain any concept and were classified as *No concept*. Fourteen *Health conditions* were mentioned. The Kappa coefficient for the linking process was .69, with a 95% bootstrapped confidence interval of .71 - .67.

Linked third- and fourth-level ICF categories were aggregated to their corresponding second-level category. All these second-level categories had already been listed based on the experts' responses, resulting in a list of 219 second-level categories. Of these, 79 categories were

excluded from the second round because they were reported by less than 5% of the sample, while a further 28 were excluded as they were classified as 'other specified' or 'unspecified'. Thus, 112 second-level ICF categories and 35 *Personal factors* were presented to participants in round two. In the third round, consensus (i.e., agreement of at least 75%) was reached for 91 ICF categories and 31 *Personal factors*.

Table 1. Distribution of participants across the three Delphi rounds and demographic and professional data obtained from participants in the first round.

WHO region	Round 1 n (%)	Round 2 n (%)	Round 3 n (%)	Female n (%)	Age Mean (Min-Max)	Experience in schizophrenia [years] Mean (Min-Max)	Self-rating of schizophrenia expertise[a] Mean (Min-Max)	Population treated[b]			
								Acute n (%[a])	Chronic n (%[a])	Rural n (%[a])	Urban n (%[a])
Africa[c]	26 (7.4)	22 (6.9)	20 (6.6)	7 (26.9)	46.0 (38-63)	17.2 (8-34)	4.0 (2-5)	25 (96.2)	24 (92.3)	21 (80.8)	23 (88.5)
The Americas[d]	72 (20.4)	66 (20.5)	62 (20.5)	15 (20.8)	52.0 (30-81)	22.7 (4-55)	4.5 (3-5)	65 (90.3)	66 (91.7)	25 (34.7)	67 (93.1)
Europe[e]	82 (23.3)	78 (24.3)	74 (24.4)	48 (58.5)	48.1 (31-72)	20.2 (4-45)	4.4 (1-5)	73 (89)	73 (89)	42 (51.2)	65 (79.3)
Eastern Mediterranean[f]	17 (4.8)	15 (4.7)	14 (4.6)	6 (35.3)	43.4 (34-65)	14.5 (5-36)	4.0 (3-5)	17 (100)	13 (76.5)	13 (76.5)	13 (76.5)
South-East Asia[g]	77 (21.9)	69 (21.5)	67 (22.1)	12 (15.6)	43.9 (29-76)	16.6 (4-51)	4.0 (1-5)	72 (93.5)	72 (93.5)	68 (88.3)	72 (93.5)
Western Pacific[h]	78 (22.2)	71 (22.1)	66 (21.8)	11 (14.1)	48.1 (32-74)	20.4 (4-48)	4.4 (1-5)	73 (93.6)	67 (85.9)	38 (48.7)	63 (80.8)
Total	352	321	303	99 (28.1)	47.6 (29-81)	19.5 (4-55)	4.3 (1-5)	325 (92.3)	315 (89.5)	207 (58.8)	303 (86.1)

[a] 1 limited expertise, 5 extensive expertise.
[b] It was possible to select more than one option.
[c] Ethiopia, Nigeria, South Africa and Uganda.
[d] Argentina, Brazil, Canada, Chile, Cuba, Mexico, United States of America and Venezuela.
[e] Armenia, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Georgia, Germany, Greece, Hungary, Israel, Italy, Latvia, Lithuania, Macedonia, Norway, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.
[f] Egypt, Iran, Kuwait, Morocco, Pakistan and Saudi Arabia.
[g] Bangladesh, India, Indonesia, Nepal, Sri Lanka and Thailand.
[h] Australia, Cambodia, China, Japan, South Korea, Malaysia, New Zealand, Philippines and Taiwan.

3.3. Correspondence between the psychiatrists' responses and the content of the Comprehensive ICF Core Set for schizophrenia

A summary of the results is shown in Table 2. For detailed information on the percentage of agreement between participants for each category, see supplementary material S1-S4. Regarding the Brief ICF-CS for schizophrenia, agreement above 80% was reached for all the categories it contains. The following comparative analysis therefore refers solely to the Comprehensive ICF-CS for schizophrenia.

Regarding the *Body functions* component, consensus was reached for 17 categories, only one of which (*b126 Temperament and personality functions*) does not feature in the ICF-CS for schizophrenia. Only one of the 17 categories that are included in the ICF-CS for schizophrenia (*b114 Orientation functions*) did not yield consensus in the Delphi study. Detailed information is presented in S1.

Table 2. Summary of second-level categories for which consensus was reached and comparison with the categories included in the Comprehensive ICF-CS for schizophrenia.

ICF component	Body functions	Body structures	Activities and participation	Environmental factors	Total
No. of categories presented to experts in the second and third rounds	20	8	49	35	112
No. of categories for which consensus was reached	17	1	39	34	91
No. of categories in the ICF-CS for schizophrenia	17	0	48	32	97
No. of categories from the ICF-CS for which consensus was reached	16	0	39	32	87

The ICF-CS for schizophrenia does not contain any category from the *Body structures* component, although one such category (*s110 Structure of brain;* see S2) did yield consensus in the Delphi study. Regarding the *Activities and participation* component, all 39 categories that yielded consensus are included in the ICF-CS for schizophrenia. Agreement was not reached for the remaining nine categories that form part of this component in the ICF-CS for schizophrenia (see S3).

Of the 34 categories from the *Environmental factors* component for which consensus was reached, 32 are included in the ICF-CS for schizophrenia. All the categories from this component that feature in the ICF-CS for schizophrenia yielded agreement in the Delphi study (see S4).

In summary, only 4 of the 91 categories for which consensus was reached do not feature in the Comprehensive ICF-CS for schizophrenia. Ten categories that are included in the ICF-CS did not yield consensus in the Delphi study (see Table 3 for the categories that did not match in the two sets of data). Thirty-five concepts were linked to the not-yet-developed ICF component *Personal factors*, of which 31 yielded consensus (see S5).

Table 3. Categories that did not match in the two sets of data.

	ICF Component	Category
Categories for which consensus was reached but that do not feature in the Comprehensive CS	Body functions	b126. Temperament and personality functions
	Body structures	s110. Structure of brain
	Environmental factors	e135. Products and technology for employment e140. Products and technology for culture, recreation and sport
Categories from the Comprehensive CS for which consensus was not reached	Body functions	b114. Orientation functions
	Activities and participation	d166. Reading d210. Undertaking a single task d330. Speaking d470. Using transportation d475. Driving d510. Washing oneself d540. Dressing d860. Basic economic transactions d930. Religion and spirituality

4. DISCUSSION

The results provide strong support for the worldwide content validity of the Comprehensive ICF Core Set for schizophrenia as they were derived from a large sample of psychiatrists covering the six WHO regions. Of the ICF categories that were selected by at least 75% of participants in the Delphi study, 96% feature in the Comprehensive ICF-CS for schizophrenia. Consensus was reached for 90% of the ICF categories included in the Comprehensive ICF-CS, and 100% of those in the Brief ICF-CS.

The analysis highlights the main issues related to functioning that psychiatrists encounter in their work with individuals with schizophrenia. Regarding the *Body functions* component, 13 of the 17 categories that yielded consensus belong to chapter *b1 Mental functions*. The most frequently mentioned categories from this chapter concern classical symptoms in schizophrenia, such as delusions and hallucinations (e.g., *b156 Perceptual functions* and *b160 Thought functions*), negative symptoms (*b130 Energy and drive functions* and *b152 Emotional functions*), and other typical alterations such as cognitive deficits (*b140 Attention functions* and *b164 Higher-level cognitive functions*) and psychosocial functions (*b122 Global psychosocial functions*), all of which are key therapeutic targets for psychiatrists (Ahmed et al., 2018; Dragioti et al., 2017). Only one category from this component that yielded consensus in the Delphi study (*b126 Temperament and personality functions*) is not included in the ICF-CS for schizophrenia.

The ICF-CS for schizophrenia does not include any *Body structures* category. However, 97% of participants agreed that brain structure was something that was altered in patients with schizophrenia and which was treated by psychiatrists. This is supported by the literature, where brain is suggested to be the main altered structure in this illness and other dysfunctions such as neuropsychological impairment are related to its malfunctioning (Koychev et al., 2012). Thus, from the perspective of psychiatrists, inclusion of this category (*s110 Structure of brain*) in the ICF-CS for schizophrenia should be considered. Brain alterations are treated not only through drug prescription (Kani et al., 2017), but also by neurocognitive and social cognitive interventions that aim to improve cerebral functioning (Cella et al., 2017; Kurtz and Richardson, 2012; Roder et al., 2011). Improvement of this kind leads, in turn, to improved neurocognition, social cognition and negative symptoms (Lindenmayer et al., 2013; Mueller et al., 2015; Pinkham and Harvey, 2013).

Activities and participation was the component with the largest number of categories yielding consensus. These categories covered all its chapters and focused especially on self-care (e.g., *d570 Looking after one's health*), domestic life (e.g., *d640 Doing housework)*, interpersonal interactions (e.g., *d720 Complex interpersonal interactions*) and major life areas such as education (e.g., *d825 Vocational training*) and employment (e.g., *d845 Acquiring, keeping and terminating a job*). All the categories of this component for which consensus was reached are included in the ICF-CS for schizophrenia. This reflects the fact that schizophrenia has major implications for everyday functioning in all these areas, and illustrates why the main long-term therapeutic goals in the psychiatric treatment of individuals with schizophrenia go beyond specific symptoms and focus on improving patients' psychosocial functioning and enabling their participation in different areas of life (Brissos et al., 2011).

The component with the second highest number of categories yielding consensus was *Environmental factors*. The agreed upon categories covered almost all its chapters and especially concerned support and relationships (such as support of immediate family: *e310 Immediate family*), attitudes (*e420 Individual attitudes of friends*) and the accessibility of health services (*e580 Health services, systems and policies*). These results highlight the importance that psychiatrists ascribe to the impact of environmental factors on the functioning of a person with schizophrenia (Demjaha et al., 2012; Niendam et al., 2018). Of the 34 categories from this component that yielded consensus in the Delphi study, only two are not included in the ICF-CS for schizophrenia (*e135 Products and technology for employment* and *e140 Products and technology for culture, recreation and sport*), both of which belong to the chapter *e1 Products and Technology*. It is worth noting here that the ICF-CS for schizophrenia already contains four categories pertaining to this chapter (i.e., *e110 Products or substances for personal consumption, e125 Products and technology for communication, e130 Products and technology for education* and *e165 Assets*). Since an ICF-CS should be as short as possible, this domain might already be sufficiently covered by these four categories.

A large number of participants' responses were coded as *Personal factors*. Consequently, a list of 36 identified personal factors was proposed, 31 of which yielded consensus in the third round. These results support the relevance of personal factors in the assessment and treatment of individuals with schizophrenia. In the literature, personal factors such as age at onset (O'Donoghue et al., 2015), premorbid intelligence (Leeson et al., 2011) and premorbid functioning (Brill et al., 2009) have all been considered to influence how people with schizophrenia cope with their illness. It would be useful, therefore, if the ICF also included a classification of this component so as to enable the systematic identification of all personal factors that influence functioning and health.

Ten categories that form part of the ICF-CS for schizophrenia did not yield consensus in the Delphi study, and nine of them correspond to the *Activities and participation* component. This likely reflects the multidisciplinary approach that was followed in developing the ICF-CS, which aims to cover the main intervention targets of all health professionals (not merely psychiatrists) involved in the treatment of individuals with schizophrenia (World Health Organization, 2001). In practice, therefore, an ICF-CS is unlikely to mention all the specific goals that might be addressed by a given professional discipline, and likewise it may include some categories that are not especially relevant for some professionals.

In conclusion, the content validity of the ICF-CS for schizophrenia is largely supported from the perspective of psychiatrists, suggesting that it may be a highly useful tool in clinical psychiatry. Especially in multidisciplinary clinical settings, the ICF-CS for schizophrenia could provide a comprehensive framework for organizing information according to the biopsychosocial perspective of the ICF, and may also serve to enhance communication within multi-professional teams and to guide the management and treatment of patients by different health professionals.

The present study has several strengths. To our knowledge, this is the first time that an ICF-CS validation study has been carried out in such a large and diverse sample. Our initial panel of experts comprised 352 psychiatrists, covering the six WHO regions and representing 63

countries. Moreover, the sample was formed by highly-qualified experts with extensive experience in the treatment of patients with schizophrenia, both acute and chronic and from both rural and urban settings. In addition to their clinical practice, the psychiatrists also had experience in research, educational and administrative settings. The possibility of participating in any one of five languages is another strength of the present study and is likely to have been a key factor in our achieving such a multicultural and multinational representation. Also noteworthy is that the response rate across rounds one to three was 86%, a very high figure considering that the mean response rate reported in the literature is 50% from round to round (Race and Planek, 1992). The main limitation of the study is that despite the worldwide participation, external validity might be limited by the under-representation of psychiatrists from the African and Eastern Mediterranean WHO regions. There may be several reasons for this, for example, more limited internet access and lower numbers of psychiatrists in these regions. In addition, it should be borne in mind that this study refers strictly to the content validity and considers only the perspective of psychiatrists. Further validation studies from the perspective of other professionals (for example, nursing, occupational therapy, social work or psychology) and the perspective of families and patients, as well as studies that examine other aspects of validity and reliability, are now needed in order to complement the present findings and to move towards a definitive version of the ICF Core Set for schizophrenia. In sum, this Delphi study has documented the areas and aspects that psychiatrists consider to be important in relation to the assessment and treatment of individuals with schizophrenia, and the results largely validate the ICF Core Sets for schizophrenia.

ACKNOWLEDGMENTS: The authors would like to thank all the participating experts for their commitment and the time spent, without which the study would not have been possible. Further information about the experts who formed part of this study is available as supplementary data (S6).

CONFLICT OF INTEREST: The authors declare no conflict of interest.

FUNDING: This work was supported by Spain's Ministry of Economy and Competitiveness [grant PSI2015-67984-R], and by Agency for the Management of University and Research Grants of the Government of Catalonia [Grant 2017SGR1681].

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4.1.2. Estudi 2: Perspectiva des de l'àmbit de la psicologia

PLOS ONE

RESEARCH ARTICLE

Functioning in schizophrenia from the perspective of psychologists: A worldwide study

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- Títol: Functioning in schizophrenia from the perspective of psychologists: A worldwide study
- Autoria: Laura Nuño, Georgina Guilera, Michaela Coenen, Emilio Rojo, Juana Gómez-Benito, Maite Barrios
- Revista: PLOS ONE
    - Classificació segons el *Journal Citation Report (2018):*
        - Factor d'impacte: 2,776
        - Rank: 24/69 - Quartil 2 - Categoria: Multidisciplinary Sciences -SCIE
- La versió postprint de l'article es presenta a continuació. El material suplementari pot consultar-se a l'Annex 2.

ESTUDI 2

Functioning in Schizophrenia from the Perspective of Psychologists: A Worldwide Study

Running head: Functioning in Schizophrenia from the Perspective of Psychologists

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ABSTRACT

Schizophrenia is a severe mental disorder associated with impairment in functioning. A multidisciplinary approach is essential to help individuals with this health condition, and psychological interventions are considered a priority. The International Classification of Functioning, Disability and Health (ICF) offers a theoretical framework for assessing functioning and disability. The ICF Core Sets for schizophrenia are a list of ICF categories describing the most common problems in functioning of persons affected by this health condition. This study aimed to explore the content validity of these ICF Core Sets and to identify the most common problems in people with schizophrenia from the perspective of psychologists. Psychologists with experience of schizophrenia treatment were recruited for a three-round Delphi study in order to gather their views regarding the problems commonly presented by these patients. A total of 175 psychologists from 46 countries covering the six WHO regions answered the first-round questionnaire, and 137 completed all three rounds. The 7,526 concepts extracted from first-round responses were linked to 412 ICF categories and 53 personal factors. Consensus (≥75% agreement) was reached for 76 ICF categories and 28 personal factors. Seventy-three of the 97 ICF categories that form the Comprehensive ICF Core Set for schizophrenia achieved consensus, and only three categories that yielded consensus do not feature in this Core Set. These results support the content validity of these ICF Core Sets from the perspective of psychologists. This provides further evidence of the suitability of the ICF framework for describing functioning and disability in persons with schizophrenia.

Keywords: schizophrenia, functioning, ICF, validation, Delphi

INTRODUCTION

Schizophrenia is a severe mental disorder that afflicts more than 21 million people worldwide [1]. It has a multifactorial etiology, with numerous individual variables interacting with several environmental factors [2]. Its lifetime prevalence is estimated at between 0.3% and 0.7%. The disorder is characterized by the presence of delusions, hallucinations, disorganized thinking, abnormal motor behavior (including catatonia), and negative symptoms[3]. Although this wide range of symptoms can be present in different combinations[4], patients across the schizophrenia spectrum commonly experience impairments, limitations, and restrictions in major areas of functioning (such as education, work, interpersonal relations, or self-care). Better and more targeted treatment of these areas would help to decrease the stigma that surrounds this illness and empower patients to improve their quality of life [5].

A multidisciplinary approach to both assessment and clinical intervention is essential to support individuals with this health condition. Worldwide clinical guidelines consider psychological interventions to be one of the mainstays of treatment and emphasize the importance of cognitive-behavioral therapy, cognitive remediation, and family intervention [6–8]. The goals of these interventions are manifold, with key targets being to improve psychological wellbeing and quality of life, neurocognition, and family communication. Other main objectives include training in social skills and problem solving, reducing positive and negative symptoms, and modifying contextual factors to facilitate recovery [9]. Psychological assessment focuses on the same areas and encompasses both neuropsychological testing and the evaluation of psychosocial functioning [10].

Achieving these therapeutic goals requires a proper understanding of each patient's functioning and health status. At the 54th World Health Assembly on 22 May 2001 the International Classification of Functioning, Disability and Health (ICF) was officially endorsed (resolution WHA 54.21) by all 191 member states of the World Health Organization (WHO) as the international standard to describe and measure health and disability [11]. The ICF is based on a multidimensional, biopsychosocial approach (see Fig 1) and considers a patient's functioning as a dynamic interaction between the underlying health condition and specific personal and environmental contextual factors. Its worldwide acceptance and applicability to all health conditions is one of its main contributions in comparison with other evaluation systems. Another key strength is its multidisciplinary approach, insofar as it provides a common language that can be used by all the professionals and healthcare disciplines involved in a person's care. A comprehensive framework employing a universal language that is understood by all actors could improve the implementation of care plans, leading to a common understanding and shared goals between all health professionals. The ICF provides just such a framework.

The ICF as a whole includes more than 1400 categories and hence is not suited to application in everyday clinical practice. Consequently, the WHO has established a protocol to develop ICF Core Sets (ICF-CSs) for specific health conditions. Each ICF-CS comprises a selection of ICF categories that are considered essential for describing the functioning of a person living with the corresponding health condition. Following the methodology endorsed by the WHO [12], the ICF-CSs for schizophrenia have already been developed through a formal decision-making consensus process, integrating evidence from four preparatory studies and expert opinion [13]. The

Comprehensive ICF-CS for schizophrenia consists of 97 categories covering the characteristic spectrum of problems in functioning and health that are experienced by individuals with this disorder; it also includes environmental factors. The Brief ICF-CS for schizophrenia includes just 25 of these categories, the ones considered most important for the purposes of assessment and treatment. The two ICF-CSs for schizophrenia are available for free download at: https://www.icf-research-branch.org/icf-core-sets-projects2/mental-health/icf-core-set-for-schizophrenia.

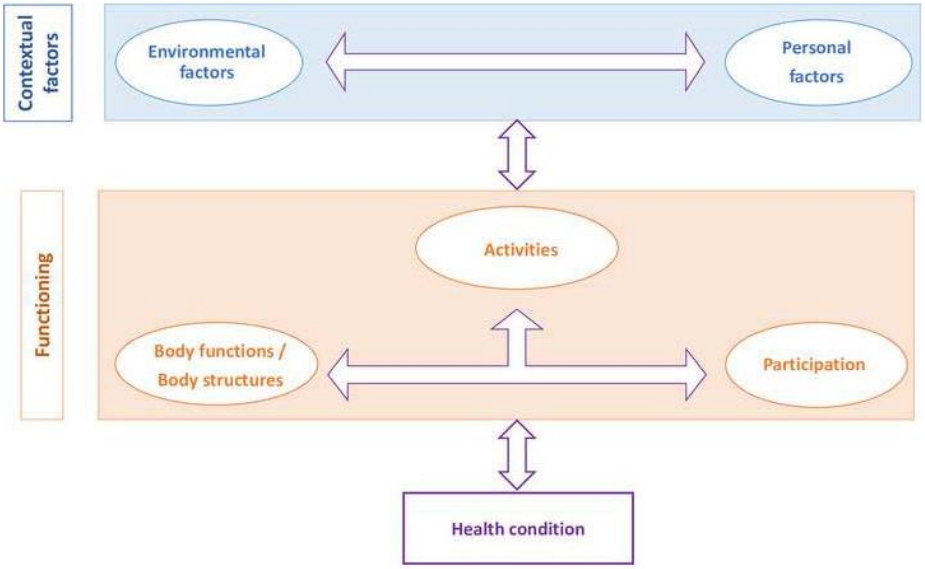

Fig 1. Integrative biopsychosocial model of functioning and disability.

A basic requirement for the implementation of these ICF-CSs in clinical practice is their validation from different perspectives. The content validity of the ICF-CSs for schizophrenia has already been examined and supported from the perspective of psychiatrists [14]. The goal of the present study was to build on this by exploring content validity from the perspective of psychologists, another group of health professionals closely involved in the care of individuals with schizophrenia. Specifically, our two objectives were: 1) to identify the problems, personal characteristics/resources, and aspects of the environment that psychologists regard as most important for understanding functioning in people with schizophrenia; and 2) to analyze the extent to which the problems and aspects identified are represented in the ICF-CSs for schizophrenia.

METHOD

We conducted a three-round worldwide Delphi study by means of an e-mail survey. This is a multistage process in which each stage or round builds on the results of the previous one in order to gather and provide information about a particular subject [15]. The purpose is to achieve consensus from a panel of individuals with knowledge of the topic of interest (hereinafter, experts). The study was approved by the corresponding Institutional Review Boards. The study procedure was the same as that used in the validation study of the ICF-CS for schizophrenia from the perspective of psychiatrists, and hence further details can be consulted in Nuño et al. (2018) [14].

Recruitment of Participants

Expert psychologists from around the world were recruited by contacting international associations of psychologists, universities with health professional training programs, and hospitals. We also made use of literature searches, LinkedIn contacts, and personal recommendations. To ensure that study participants were all "informed individuals" with regard to the treatment of individuals with schizophrenia, the initial invitation letter specified that they should be "psychologists experienced in the treatment of schizophrenia". In addition, it was made clear that they should have at least one year experience of treating adults with schizophrenia.

Our aim was to recruit a panel of experts as broad and heterogeneous as possible and to achieve consensus and common opinion despite and across this variability. Indeed, we sought to obtain a sample of experts that, as far as possible, reflected worldwide variety in all the variables considered (e.g., gender, age, years of experience, and region). Furthermore, experts did not need to have specific knowledge about the ICF, and they were selected without taking into account their therapeutic orientation or training background. It was made clear that they should base their answers on their clinical experience. Those psychologists who had participated in any earlier stage of developing the ICF-CS for schizophrenia were not eligible for the present study.

All potential participants received an invitation with basic information about the study and what would be required of them. They were also asked to provide demographic and professional data. Of the 1,555 health professionals who agreed to take part and who provided demographic and professional data, 223 were psychologists who met the eligibility criteria and who were therefore invited to begin round one of this study.

A total of 175 psychologists from 46 countries covering the six WHO regions answered the first-round survey (78.5% of the 223 who were sent the survey material). They primarily worked in clinical practice (mean 46.3% of their time), followed by research (28.1%), teaching and training (16.9%), management (7.8%), and other tasks (0.9%). Table 1 shows participants' demographic and professional characteristics. The second-round survey was answered by 151 psychologists, and 137 completed the third round, with a response rate across rounds one to three of 78.3%.

There were no statistically significant differences in age, gender, or population treated (urban, rural, acute, and chronic) between psychologists who responded in the first round and those were invited to take part but did not do so. However, there was a significant difference between these two groups in years of experience ($p < .01$), since the invited experts who did not respond were less experienced than those who did take part. Specifically, 52% of invited experts who did not respond had less than five years' experience in the treatment of individuals with schizophrenia, while this was the case for only 20% of the experts who did take part in the first round.

There were no significant differences in age, gender, or years of experience in treating individuals with schizophrenia between the groups that responded across rounds 1 to 3.

Table 1. Distribution of participants across the three Delphi rounds and demographic and professional data obtained from participants in the first round.

WHO region	Round 1 n (%)	Female n (%)	Age Mean (range)	Experience in schizophrenia [years] Mean (range)	Expertise[a] Mean (range)	Population treated[b]				Participation based on Round 1	
						Acute n (%)	Chronic n (%)	Rural n (%)	Urban n (%)	Round 2 n (%)	Round 3 n (%)
Africa[c]	11 (6.3)	8 (72.7)	39.45 (31-50)	7 (2-18)	3.3 (2-5)	8 (72.7)	8 (72.7)	5 (45.5)	10 (90.9)	9 (81.8)	9 (81.8)
Americas[d]	47 (26.9)	28 (59.6)	45.0 (28-67)	14.1 (1-42)	3.9 (1-5)	25 (53.2)	44 (93.6)	14 (29.8)	32 (68.1)	41 (87.2)	37 (78.7)
Eastern Mediterranean[e]	21 (12.0)	14 (66.7)	37.3 (24-56)	7.43 (1-23)	3.1 (1-5)	12 (57.1)	15 (71.4)	9 (42.9)	16 (76.2)	12 (57.1)	10 (47.6)
Europe[f]	63 (36.0)	38 (60.3)	43.06 (28-66)	12.8 (2-37)	3.6 (1-5)	30 (47.6)	53 (84.1)	15 (23.8)	49 (77.8)	59 (95.0)	55 (87.3)
South-East Asia[g]	20 (11.4)	13 (65.0)	34.4 (25-51)	7.6 (1-18)	3.3 (2-5)	8 (40.0)	17 (85.0)	12 (60.0)	13 (65.0)	19 (95.0)	15 (75.0)
Western Pacific[h]	13 (7.4)	9 (69.2)	44.7 (32-64)	14.7 (5-30)	4.2 (3-5)	9 (69.2)	12 (92.3)	5 (38.5)	10 (76.9)	11 (84.6)	11 (84.6)
Total	175	110 (62.9)	41.8 (24-67)	11.7 (1-42)	3.6 (1-5)	92 (52.6)	149 (85.1)	60 (34.3)	130 (74.3)	151 (86.3)	137 (78.3)

[a] Self-rating of schizophrenia expertise: 1 = limited expertise to 5 = extensive expertise.
[b] It was possible to select more than one option.
[c] Algeria, Kenya, Mozambique, South Africa, and Zimbabwe.
[d] Argentina, Brazil, Canada, Chile, Colombia, Cuba, Ecuador, Mexico, and United States of America.
[e] Egypt, Iran, Jordan, Libya, Pakistan, Saudi Arabia, and United Arab Emirates.
[f] Cyprus, Czech Republic, Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Macedonia, Netherlands, Norway, Poland, Russia, Spain, Sweden, Turkey, and United Kingdom.
[g] Bangladesh, India, and Indonesia.
[h] Australia, China, Japan, and Singapore.

Material and Data Collection

With the aim of avoiding language barriers and encouraging participation by experts from different world regions, the study was conducted in five languages (Chinese, English, French, Russian, and Spanish). The survey materials were independently translated and supervised by at least two native speakers. The Delphi process is shown in Fig 2. Data were collected between March and June 2017, with participants being allowed two weeks to respond in each round.

Responses in the first Delphi round were logged using an online survey system (www.qualtrics.com). Participants were sent an e-mail with a link to the survey homepage and instructions (i.e., to list all the aspects they considered to be relevant when assessing and/or treating individuals with schizophrenia). To help them with this survey they were asked to consider six open-ended questions that covered all four components of the ICF-CS; the *Environmental factors* component was divided into supportive and hindering factors (survey questions can be consulted in S1 Text). The expected completion time for each survey round was about 15 minutes.

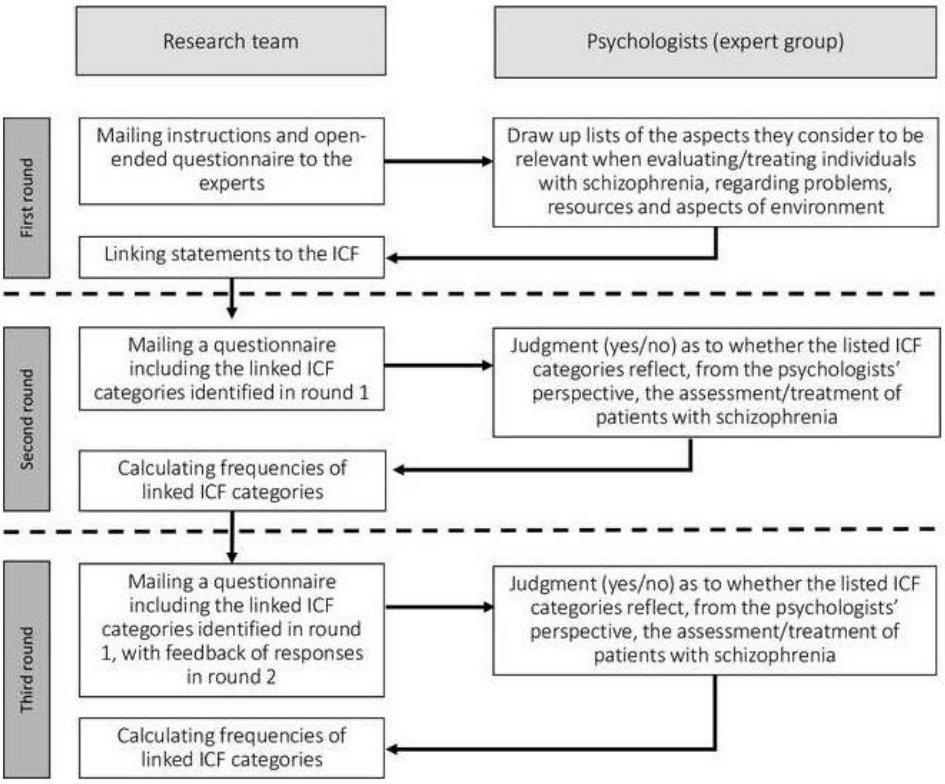

Fig 2. The Delphi process.

The responses gathered in the first round were then linked to ICF categories using established ICF linking rules [16,17]. All categories reported by at least 5% of the experts were listed and presented to the panel in the second Delphi round. Specifically, all the panelists who had responded in the first round were sent a list of the selected ICF categories linked to the responses of all participants, as well as a list of the categories proposed for *Personal factors,* along with their respective definitions. The categories included in the ICF-CSs for schizophrenia were also listed. For each category, they were asked to indicate whether it was relevant from their perspective as a psychologist to the assessment and/or treatment of individuals with schizophrenia. They were reminded that the aim was to obtain a final list that was both short enough to be applicable in clinical practice and sufficiently comprehensive to cover the most important needs of people with schizophrenia. Participants in the third round were asked to evaluate the same list of categories again, this time taking into account the feedback they were sent concerning the responses of the panel and their own previous responses.

Linking

All components of the ICF, except *Personal factors*, are organized hierarchically in an exhaustive list of categories (see Fig 3). Third- and fourth-level categories are more specific than second-level categories, and they share the attributes of the second-level category with which they are associated. Therefore, their use implies that the corresponding second-level category is applicable.

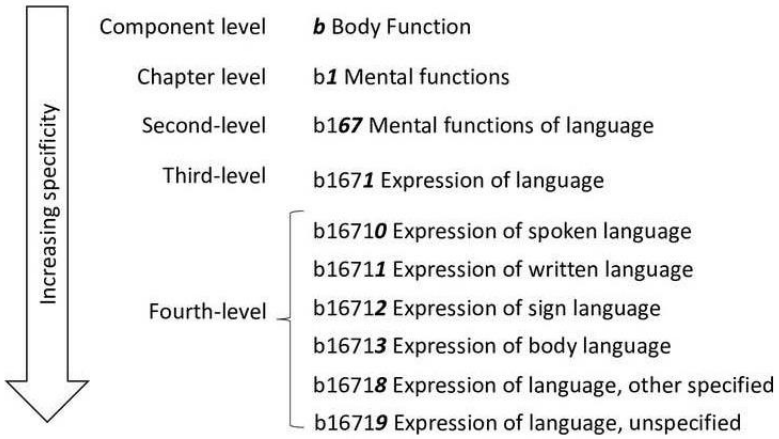

Fig 3. Hierarchical structure of the ICF, exemplified by category 'b1671 Expression of language'.

Two health professionals with experience of treating persons with schizophrenia and trained in the use of the ICF independently linked all responses from the first Delphi round to the corresponding ICF categories. For instance, if the reported problem was 'executive dysfunction', the concept 'executive function' was extracted and assigned to the ICF category *b164 Higher-level cognitive functions*. Any disagreements between the two independent coders were reviewed and discussed by two other health professionals with the aim of achieving consensus.

Personal factors were defined as the particular background of an individual's life and living situation (e.g., age) [18]. Personal traits that constitute a premorbid predisposition of individuals and which affect how they cope with their illness were considered as *Personal factors,* whereas personality traits that are altered due to the illness were coded under category *b126* of *Body functions*. As *Personal factors* are not currently categorized in the ICF, they do not feature in the ICF-CS for schizophrenia. However, as they are relevant to assessment and intervention planning, concepts related to *Personal factors* were summarized and considered in rounds two and three of the Delphi study. The proposed categorization of *Personal factors* was developed by consensus among three psychologists (L.N., M.B., G.G.) based on previously proposed categorizations of personal factors [14,18,19] and on the experts' responses to the question about personal factors.

Data Analysis

We calculated descriptive statistics for the sociodemographic characteristics of participants and the frequencies of ICF categories. In order to be able to compare our findings with the ICF-CSs for schizophrenia, which comprise solely second-level categories, all third- and fourth-level categories identified in the Delphi process were aggregated to their corresponding second-level category.

Based on previous studies [14,20], consensus was defined as agreement among at least 75% of participants. Inter-coder reliability was assessed by calculating the delta statistic and 95% confidence intervals (95% CI) [21]. In order to facilitate comparison with previous studies that use the kappa index, we also calculated this statistic and its 95% CI [22].

The categories for which there was agreement in the third round were compared with the categories included in both the Brief and Comprehensive ICF-CSs.

RESULTS

Linking Process

From the experts' answers in round one, a total of 7,526 concepts were extracted and linked to 412 ICF categories (219 second-level, 189 third-level, and 4 fourth-level). Fifty-three categories were proposed for the *Personal factors* identified. Aggregation of third- and fourth-level categories to their corresponding second-level category yielded a list of 223 second-level ICF categories. Those ICF categories and *Personal factors* that were reported by less than 5% of the experts (98 ICF categories and 20 personal factors) were excluded from the second round; ICF categories coded as 'other specified' or 'unspecified' at the second-level (*n* = 11 ICF categories) were also excluded. This meant that in round two, the panel had to consider a list of 114 second-level ICF categories and 33 *Personal factors*. In the third round, consensus (i.e., agreement of at least 75%) was reached for 76 ICF categories and 28 *Personal factors*. Data regarding the categories presented to experts in rounds two and three and the degree of consensus reached are shown in the first two rows of Table 2. Applying the delta statistic method, a general index of .90 [95% CI: .89 - .91] was obtained, indicating that 90% of agreements were not due to chance. The kappa coefficient for the linking process was .90 [95% CI: .88 - .92].

Table 2. Absolute frequencies of second-level ICF categories for which consensus was reached and comparison with the categories included in the Comprehensive ICF-CS for schizophrenia.

	ICF components				
Number of categories	Body functions	Body structures	Activities and Participation	Environmental factors	Total
No. of categories presented to experts in the second and third rounds (n)	19	7	51	37	114
No. of categories for which consensus was reached (n)	14	1	32	29	76
No. of categories in the ICF-CS for schizophrenia (n)	17	0	48	32	97
No. of categories from the ICF-CS for which consensus was reached (n)	13	0	32	28	73

Correspondence Between Panel Responses and the ICF Core Sets for Schizophrenia

Agreement of 75% or higher was reached for 75.3% of the categories included in the Comprehensive ICF-CS for schizophrenia and for all the categories in the Brief version. Therefore, the following analysis refers solely to the Comprehensive ICF-CS. A summary of the results is shown in the third and fourth row of Table 2. More detail regarding the categories listed by the experts and the corresponding percentage analyses is provided in S1-S5 Tables. Table 3 lists the categories that did not match in the two sets of data (the set of categories included in the ICF-CS for schizophrenia and the set of categories that reached consensus).

With respect to the *Body functions* component, an agreement of 75% or higher was achieved for 14 categories. Of these, only one (*b126 Temperament and personality functions*) does not feature in the ICF-CS for schizophrenia. Four of the 17 categories that are included in the ICF-CS for schizophrenia (*b330 Fluency and rhythm of speech functions, b530 Weight maintenance functions, b640 Sexual functions*, *and b765 Involuntary movement functions*) did not achieve consensus in the Delphi study (see S1 Table for more details).

Regarding the *Body structures* component*,* the ICF-CS for schizophrenia does not contain any category from this component. However, one of its categories (*s110 Structure of brain*) reached an agreement of 90% in the Delphi study (for more details, see S2 Table). With respect to the *Activities and Participation* component, all the categories that reached consensus (*n* = 32) form part of the ICF-CS for schizophrenia. Sixteen categories from this component that are included in the ICF-CS for schizophrenia did not yield consensus (see S3 Table for more information).

Table 3. Categories that did not match in the two sets of data.

	ICF Component	ICF category	Percentage of agreement (%)[a]
Categories for which consensus was reached but that do not feature in the Comprehensive ICF-CS	Body functions	b126 Temperament and personality functions	77
	Body structures	s110 Structure of brain	90
	Environmental factors	e135 Products and technology for employment	76
Categories from the Comprehensive ICF-CS for which consensus was not reached	Body functions	b330 Fluency and rhythm of speech functions	66
		b530 Weight maintenance functions	57
		b765 Involuntary movement functions	55
		b640 Sexual functions	52
	Activities and Participation	d855 Non-remunerative employment	74
		d630 Preparing meals	73
		d640 Doing housework	72
		d660 Assisting others	72
		d840 Apprenticeship (work preparation)	72
		d650 Caring for household objects	66
		d950 Political life and citizenship	64
		d475 Driving	51
		d510 Washing oneself	47
		d540 Dressing	47
		d166 Reading	42
		d470 Using transportation	42
		d210 Undertaking a single task	40
		d330 Speaking	39
		d930 Religion and spirituality	39
		d860 Basic economic transactions	38
	Environmental factors	e130 Products and technology for education	74
		e330 People in positions of authority	74
		e555 Associations and organizational services, systems, and policies	74
		e545 Civil protection services, systems, and policies	72

[a] Percentage of participants who considered the respective ICF category as relevant in the third round.

Twenty-nine categories from the *Environmental factors* component yielded agreement of at least 75%, and only one of them (*e135 Products and technology for employment*) is not included in the ICF-CS for schizophrenia. Four categories from this component that do feature in the ICF-CS for schizophrenia did not reach consensus in the Delphi study (see S4 Table).

In summary, only three of the 76 categories that yielded an agreement of at least 75% do not feature in the Comprehensive ICF-CS for schizophrenia. Twenty-four categories that form part of the ICF-CS did not achieve consensus among the experts. Regarding *Personal factors*, which are not classified in the ICF, 33 concepts were presented to the experts, and 28 of these yielded consensus (see S5 Table).

DISCUSSION

This validation study highlights the functioning-related issues that psychologists encounter in their work with individuals with schizophrenia and considers the extent to which these aspects are covered by the ICF Core Sets for schizophrenia. All categories included in the Brief ICF-CS for schizophrenia were selected by 75% or more of participating experts, thus supporting the relevance of the categories that form this ICF-CS. We will therefore focus on comparing our results with the categories featured in the Comprehensive ICF-CS for schizophrenia. As many of the categories listed in that Core Set were considered important by more than half the experts but did not reach the threshold for consensus (75% agreement), the results are discussed by considering categories that were clearly excluded (50% or less of agreement), those whose relevance appears to be ambiguous (between 50% and 75% of agreement), and those for which there was consensus (75% or more agreement).

Concerning the *Body functions* component, all the categories that yielded consensus belong to chapter *b1 Mental functions*. Some of the categories that achieved higher consensus refer to cognitive functions, such as *b164 Higher-level cognitive functions*. This area is one of the main targets of psychological interventions such as cognitive remediation therapy (CRT), which aims to improve neurocognition and other functional outcomes in individuals with schizophrenia [23]. Psychological interventions also address other categories that were associated with high agreement, namely psychosocial functions (*b122 Global psychosocial functions* [24]), functions affected by negative symptoms (e.g., *b130 Energy and drive functions* and *b152 Emotional functions* [25,26]), and classical symptoms in schizophrenia such as delusions and hallucinations (e.g. *b156 Perceptual functions* [27]). These results differ slightly from those obtained from the perspective of psychiatrists [14]. Although psychiatrists highlighted the importance of many categories from chapter *b1 Mental functions*, they also emphasized other categories from the *Body functions* component, such as *b530 Weight maintenance functions* or *b765 Involuntary movement functions.* This is consistent with the more biomedical perspective of psychiatrists.

Only one of the categories from the *Body functions* component (*b126 Temperament and personality functions*) that reached an agreement of at least 75% is not included in the ICF-CS for schizophrenia. As this category also reached consensus in the validation study from the perspective of psychiatrists it clearly reflects a problem area for these patients [28,29], and therefore its exclusion from the ICF-CS for schizophrenia should be reconsidered. Four categories from the *Body functions* component of the ICF-CS (i.e., *b330 Fluency and rhythm of*

speech functions, b530 Weight maintenance functions, b640 Sexual functions, and *b765 Involuntary movement functions*) did not achieve consensus in the Delphi study but were considered important by more than half the experts. This suggests that these categories are relevant to the assessment of and intervention with persons with schizophrenia, but that they may not be the most common target of psychologists' interventions, which focus primarily on mental rather than other body functions [23]. In fact, these functions are mainly assessed by other professionals, such as endocrinologists (weight maintenance) or physiotherapists (movement abnormalities).

Although no category from the *Body structures* component is currently included in the ICF-CS for schizophrenia, 90% of the psychologists agreed that brain structure (*s110 Structure of brain*) is an essential aspect to consider when treating individuals with schizophrenia. The relevance of this category was likewise noted in the Delphi study from the perspective of psychiatrists [14], where agreement was even higher (97%). The literature also supports the idea that the brain is the main altered structure in this illness and it is considered to be the basis of other dysfunctions such as neuropsychological impairment [30]. There is also evidence that psychological interventions produce changes in brain structure and its functioning [31], with this being the goal of interventions such as cognitive remediation. Thus, from the perspective of psychologists, inclusion of this category in the ICF-CS for schizophrenia should be considered.

The component with the largest number of categories achieving consensus was *Activities and Participation*. These categories covered all its chapters and focused especially on learning and applying knowledge (e.g., *d160 Focusing attention*), interpersonal interactions (e.g., *d720 Complex interpersonal interactions*), and major life areas such as education (e.g., *d830 Higher education*) and employment (e.g., *d845 Acquiring, keeping and terminating a job*). Once again, these results are consistent with those obtained in the validation of the ICF-CS for schizophrenia from the perspective of psychiatrists. All categories of the *Activities and Participation* component for which consensus was reached are listed in the ICF-CS for schizophrenia. This reflects the fact that schizophrenia has a major impact on everyday functioning in all these areas, and illustrates why the main long-term therapeutic goals in the psychological treatment of these individuals are not limited to specific symptoms, but rather focus on improving patients' psychosocial functioning [32,33]. Sixteen categories that are included in the *Activities and Participation* component of the Comprehensive ICF-CS for schizophrenia were initially referred to by many of our experts but did not reach the threshold for consensus. Of these, the ambiguous categories (i.e., those selected by more than 50% but less than 75% of the expert panel) mainly belong to chapter d6 Domestic life (e.g., *d640 Doing housework*) or are related to employment (e.g., *d855 Non-remunerative employment*). It is worth noting that these categories did yield agreement of 75% or higher in the Delphi study from the perspective of psychiatrists, thus highlighting how different professional views may complement one another. The Comprehensive ICF-CS categories that were selected by fewer than 50% of psychologists mainly referred to simple activities such as *d210 Undertaking a single task* and *d330 Speaking*, whereas consensus was achieved for the equivalent more complex categories (e.g., *d220 Undertaking multiple tasks*). These results offer a more positive view of the abilities of people with

schizophrenia, since it suggests that their difficulties mainly depend on the complexity of the task.

As in the previous study from the perspective of psychiatrists, the component with the second highest number of categories showing agreement of at least 75% was *Environmental factors*. The agreed-upon categories especially concerned support and relationships (e.g., *e320 Friends*), attitudes (*e410 Individual attitudes of immediate family members*), and the accessibility of health services (*e580 Health services, systems, and policies*). These results suggest that psychologists ascribe considerable importance to the impact of environmental factors on the functioning of a person with schizophrenia, a point already made by other authors [34,35]. Of the 29 categories from this component that yielded consensus in the Delphi study, only one (i.e., *e135 Products and technology for employment*) is not included in the ICF-CS for schizophrenia. This category belongs to chapter *e1 Products and Technology*, and it should be noted that the ICF-CS for schizophrenia already contains four categories from the same chapter (i.e., *e110 Products or substances for personal consumption, e125 Products and technology for communication, e130 Products and technology for education* and *e165 Assets*). Given that an ICF-CS needs to be as short as possible, this domain may already be sufficiently covered by these four categories. Four categories from the *Environmental factors* component of the ICF-CS for schizophrenia did not achieve consensus but were selected by more than 50% of the experts surveyed. This suggests that these categories (e.g., *e555 Associations and organizational services, systems, and policies*) may be relevant to the assessment and treatment of individuals with schizophrenia, but that they are not primary targets of psychological intervention. Once again, these categories did yield agreement of at least 75% in the Delphi study from the perspective of psychiatrists, underlining the importance of analyzing functionality from a multidisciplinary point of view.

Concerning the *Personal factors* component, we drew up a proposed list of 33 personal factors, 28 of which achieved consensus in the third Delphi round. This level of agreement supports the relevance of personal factors to the assessment and treatment of individuals with schizophrenia. Personal factors, such as resilience [36,37], premorbid cognitive skills [38], premorbid social skills [39], personal history and biography [40], premorbid drug use and lifestyle [41], and premorbid personality [42] have been considered to influence how people with schizophrenia cope with their illness. Most of the categories that psychologists regarded as important coincide with those identified in the validation study from the perspective of psychiatrists [14], suggesting that the proposed list of *Personal factors* captures the aspects that merit particular consideration in this population. In light of these results, it would be useful if the ICF included comprehensive specifications of 'Personal factors', or at least a list of such factors, so as to enable more systematic reporting of the personal factors that influence functioning and health and to further stimulate research in this important area [43].

Twenty-four categories that feature in the ICF-CS for schizophrenia did not achieve agreement of 75% in the present Delphi study. This is likely due to the multidisciplinary approach that was used to develop this ICF-CS, which aims to cover the main intervention targets not merely of a specific professional group (in this case, psychologists) but of all health professionals involved in the treatment of individuals with schizophrenia [11].

A particular strength of the present study is that the panel of experts comprised 175 psychologists from 46 countries covering all six WHO regions. Such a large sample is not common in this kind of study [44,45]. Furthermore, all the experts surveyed had considerable experience (54.7% with 10 or more years) in the treatment of patients with schizophrenia, both acute and chronic and from both rural and urban settings. Another strength of the study is that participation was possible in any of five languages, and this is likely to have been a key factor in achieving such a multicultural and multinational representation. It should also be noted that the response rate across rounds one to three was 78%, considerably higher than the mean across rounds of 50% that is reported in the literature [46]. The primary limitation of the study concerns the representativeness of the panel of experts. Although psychologists from all over the world took part, the Eastern Mediterranean, Western Pacific, and African WHO regions were under-represented, and this may limit the external validity of our results. Possible reasons for this under-representation include limited internet access and lower numbers of psychologists in these regions.

To conclude, the results of this study provide strong support for the content validity of the Comprehensive ICF-CSs for schizophrenia as they were obtained by surveying psychologists from all six WHO regions. Of the ICF categories that were selected by at least 75% of experts in the Delphi study, 96% feature in the Comprehensive ICF-CS for schizophrenia. Consensus was achieved for 75.3% of the ICF categories included in the Comprehensive ICF-CS, and 100% of those in the Brief ICF-CS. These results are in line with those obtained in the validation study from the perspective of psychiatrists, where all the categories of the Brief ICF-CS and 90% of those in the Comprehensive version yielded consensus. The fact that there are also some differences in emphasis between psychologists and psychiatrists highlights the importance of considering different professional points of view in order to achieve a fuller picture of how functioning is affected in this population. Taken together, these results suggest that the ICF-CSs for schizophrenia provide a clinically relevant framework for organizing information about this health condition. Having a basic set of categories that addresses a particular patient population at different stages of an illness and that helps both to improve communication within multi-professional teams and to guide the management and treatment of patients by different health professionals is important for ensuring optimal care [47]. The ICF-CSs for schizophrenia can be used as a standard set of ICF categories to facilitate the assessment of functioning in real-life clinical practice by using the ICF qualifiers, which are codes used to record the extent of functioning or disability in a domain or category, or the extent to which an environmental factor is a facilitator or barrier. Importantly, improvement and decline in aspects of functioning can be displayed in a functioning profile over the course of treatment or over the life span. The ICF-CSs for schizophrenia may also be used as a framework for analyzing the content of patient-reported outcome measures or to inform instrument developers about what needs to be included in tools designed to assess the functioning of persons with schizophrenia. Further validation studies from the perspective of other professionals (i.e., nursing, occupational therapy, social work, and physiotherapy) are now needed in order to complement the present findings and to move a step closer towards a definitive version of the ICF-CS for schizophrenia.

ACKNOWLEDGMENTS: The authors would like to thank all the participating experts for their commitment and the time spent, without which the study would not have been possible. Further information about the experts who formed part of this study is available as supplementary data (S2 Text).

DATA AVAILABILITY STATEMENT: The data will be held in the University of Barcelona's repository by clicking this link: http://hdl.handle.net/2445/127181

FUNDING: This work was supported by Spain's Ministry of Economy and Competitiveness [grant PSI2015-67984-R], and by Agency for the Management of University and Research Grants of the Government of Catalonia [Grant 2017SGR1681]. J. Gómez-Benito was the author who received the funding. The grants financed the preparation of the materials in the five languages in which it was applied, the Qualtrics platform through which the data were collected, and the linguistic revision of the manuscript. The funders had no role in study design, data collection and analysis, decision to publish or preparation of the manuscript.

CONFLICT OF INTEREST: The authors declare no conflict of interest.

SUPPORTING INFORMATION

S1 Text. Survey questions (round 1).
S1 Table. Body functions component.
S2 Table. Body structures component.
S3 Table. Activities and participation component.
S4 Table. Environmental factors component.
S5 Table. Personal factors component (proposed categories).
S2 Text. Acknowledgments

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4.1.3. Estudi 3: Perspectiva des de l'àmbit de la infermeria

International Journal of Mental Health Nursing (2019) ••, ••–••

doi: 10.1111/inm.12586

ORIGINAL ARTICLE

An international survey of Psychiatric-Mental-Health Nurses on the content validity of the International Classification of Functioning, Disability and Health Core Sets for Schizophrenia

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- Títol: An international survey of Psychiatric-Mental-Health Nurses on the content validity of the International Classification of Functioning, Disability and Health Core Sets for Schizophrenia
- Autoria: Laura Nuño, Maite Barrios, Mary D. Moller, Caterina Calderón, Emilio Rojo, Juana Gómez-Benito, Georgina Guilera
- Revista: International Journal of Mental Health Nursing
    - Classificació segons el *Journal Citation Report (2018):*
        - Factor d'impacte: 2,433
        - Rank: 10/120 - Quartil 1 - Categoria: Nursing - SCIE
- La versió postprint de l'article es presenta a continuació. El material suplementari pot consultar-se a l'Annex 3.

ESTUDI 3

An international survey of Psychiatric-Mental-Health Nurses on the content validity of the International Classification of Functioning, Disability and Health Core Sets for Schizophrenia

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ABSTRACT

The International Classification of Functioning, Disability and Health (ICF) Core Sets for schizophrenia describe the key problems in functioning that are experienced by individuals with this disorder. This study examines the content validity of these Core Sets and aims to identify the most frequent problems faced by people with schizophrenia, considering for this analysis the perspective of Psychiatric-Mental-Health Nurses. The study complied with the COREQ checklist for qualitative studies. A total of 101 nurses from 30 countries covering all six World Health Organization regions participated in a Delphi study. Their responses in Round 1 were linked to ICF categories, retaining those reported by at least 5% of participants. In Round 2, they were asked to rate the relevance of each of these categories to the nursing care of patients with schizophrenia. This process was repeated in Round 3. A total of 2327 concepts were extracted in Round 1 and linked to ICF categories. Following the analysis, 125 categories and 31 personal factors were presented to the experts in rounds 2 and 3. Consensus (defined as agreement ≥75%) was reached for 97 of these categories and 29 personal factors. These categories corresponded to all those (N=25) in the Brief Core Set and 87 of the 97 categories of the Comprehensive Core Set for schizophrenia. Ten new categories emerged. The Delphi process identified the problems in functioning that nurses encounter when treating individuals with schizophrenia, and the results supported the content validity of the Core Sets. We conclude that these Core Sets offer a comprehensive framework for structuring clinical information and guiding the treatment process.

Keywords: Delphi; ICF Core Set; International Classification of Functioning, Disability and Health; Nursing; Psychiatric-Mental-Health Nurses; Schizophrenia; Validation.

INTRODUCTION

Schizophrenia is a severe psychiatric disorder involving positive symptoms (for example, delusions and disorganized thinking), negative symptoms (for example, anhedonia and apathy) and cognitive deficits (American Psychiatric Association, 2013; World Health Organisation, 2016). The severity of these symptoms and deficits is a strong predictor of dysfunction in the personal, social and occupational spheres (Kalin et al., 2015; Kurebayashi & Otaki, 2017). Psychiatric-Mental-Health Nurses (PMHNs) play an important role in several aspects of acute care for individuals with schizophrenia (Eticha et al., 2015). These include interventions aimed at reducing the severity of psychotic symptoms and improving treatment adherence (Tham et al., 2018), as well as the management of adverse effects on health, such as reducing the frequency of acute episodes, relapses and hospitalizations (Leach et al., 2018), and the provision of adequate social support and therapeutic follow-up (Virgolesi et al., 2017). A detailed understanding of a patient's functioning and health status is crucial for addressing all these aspects.

BACKGROUND

The International Classification of Functioning, Disability and Health (ICF; World Health Organization, 2001) is based on a biopsychosocial model and provides a comprehensive framework for describing functioning in persons with any health-related diagnosis, including schizophrenia. The ICF considers that problems associated with a disease can be related to *Body functions*, *Body structures* and *Activities and participation* in community life, which in turn are influenced by *Environmental factors* and *Personal factors* (see Figure 1). Importantly, the ICF provides health professionals with a common language for describing the problems associated with a specific health condition — in the case that concerns us here, PMHNs working with people with schizophrenia.

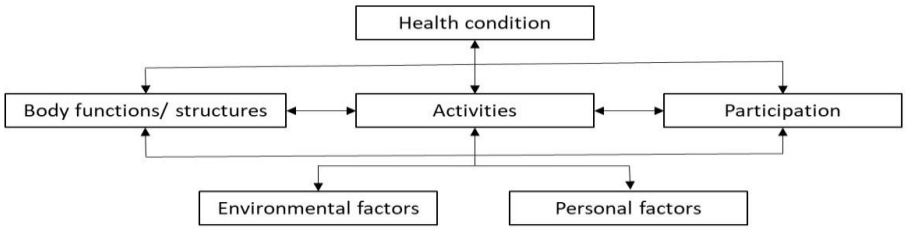

FIG. 1: Biopsychosocial model of functioning and disability of ICF.

Due to the length of the full ICF, several ICF Core Sets (ICF-CSs) for specific health conditions have been developed (Selb et al., 2015) through a rigorous scientific process proposed by the World Health Organization (WHO). This process includes a systematic review of the literature, a multi-centre cross-sectional study, an expert survey, a qualitative study and an international consensus conference. Two ICF-CSs (Comprehensive and Brief) are available for schizophrenia, and full information about how they were developed can be found in Gómez-Benito et al. (2017). The Comprehensive ICF-CS for schizophrenia includes 97 categories that cover a broad spectrum of common problems in functioning experienced by individuals with this illness. The Brief ICF-CS comprises 25 of these 97 categories, those considered essential for assessing and treating

people with schizophrenia. The content of these ICF-CSs and more detailed information about all their categories can be consulted and downloaded free of charge at: https://www.icf-research-branch.org/icf-core-sets-projects2/mental-health/icf-core-set-for-schizophrenia.

A basic requirement for the application of these ICF-CSs in clinical practice is their content validation from the perspective of different professionals who work with people with schizophrenia. This includes validation from the perspective of PMHNs, who play a key role in the care of these individuals.

This study had two main aims: 1) to identify the patient problems, resources and environmental factors that nurses most frequently encounter when treating individuals with schizophrenia; and 2) to examine the content validity of the ICF-CSs for schizophrenia from the perspective of PMHNs.

METHOD

An international three-round Delphi survey was conducted with PMHNs who comprised a subset of 1600 different health care professionals who agreed to participate in the broader research project of which this study forms a part. The Delphi method is a systematic and interactive forecasting method which relies on a panel of experts on a specific topic. The aim is to collect information about the topic of interest, seeking consensus among the experts consulted (Hasson et al., 2000). In the present study, methodological rigor was ensured by applying the COREQ checklist (Booth et al., 2014). The study procedure was the same as that used in the validation study of the ICF-CS for schizophrenia from the perspective of psychiatrists, and further details can therefore be consulted in Nuño et al. (2018).

Recruitment of participants

Potential participants were identified by contacting international nursing associations, universities offering healthcare professional training programmes, and hospitals. We also made use of literature searches, LinkedIn contacts and personal recommendations. With the aim of increasing the representation and participation of experts from around the world, and in order to avoid language barriers, participation was possible in any of the following five languages: English, Spanish, French, Chinese and Russian. To this end, all the study materials were translated and supervised by at least two independent native speakers.

The sole inclusion criterion for participation in the present study was having at least two years' experience of providing professional nursing care to people with schizophrenia. Experts who had already participated in an earlier stage of the development of the ICF-CS for schizophrenia were excluded. A total of 160 PMHNs were eligible for the Delphi study and were invited to take part in Round 1.

Delphi process

Responses were gathered through a web-based survey (http://www.qualtrics.com) between October and December 2017. All eligible PMHNs who agreed to participate were sent an email with a link to this first-round survey. They were subsequently sent three reminders: a week before the deadline, two days before and on the deadline day itself. In order to collect

information from the experts with the minimum possible bias, the first round involved open-ended questions. Experts did not need any specific knowledge about the ICF and were simply required to answer the questions based on their knowledge (acquired through clinical practice) about the functioning of people with schizophrenia.

Figure 2 shows the complete process of the Delphi study. The six open-ended questions that were presented to participants are shown at the top. These questions refer to each of the ICF components, and the task of the experts was to list all the aspects they considered to be important in the assessment and treatment of individuals with schizophrenia. They were also asked to provide demographic and professional information.

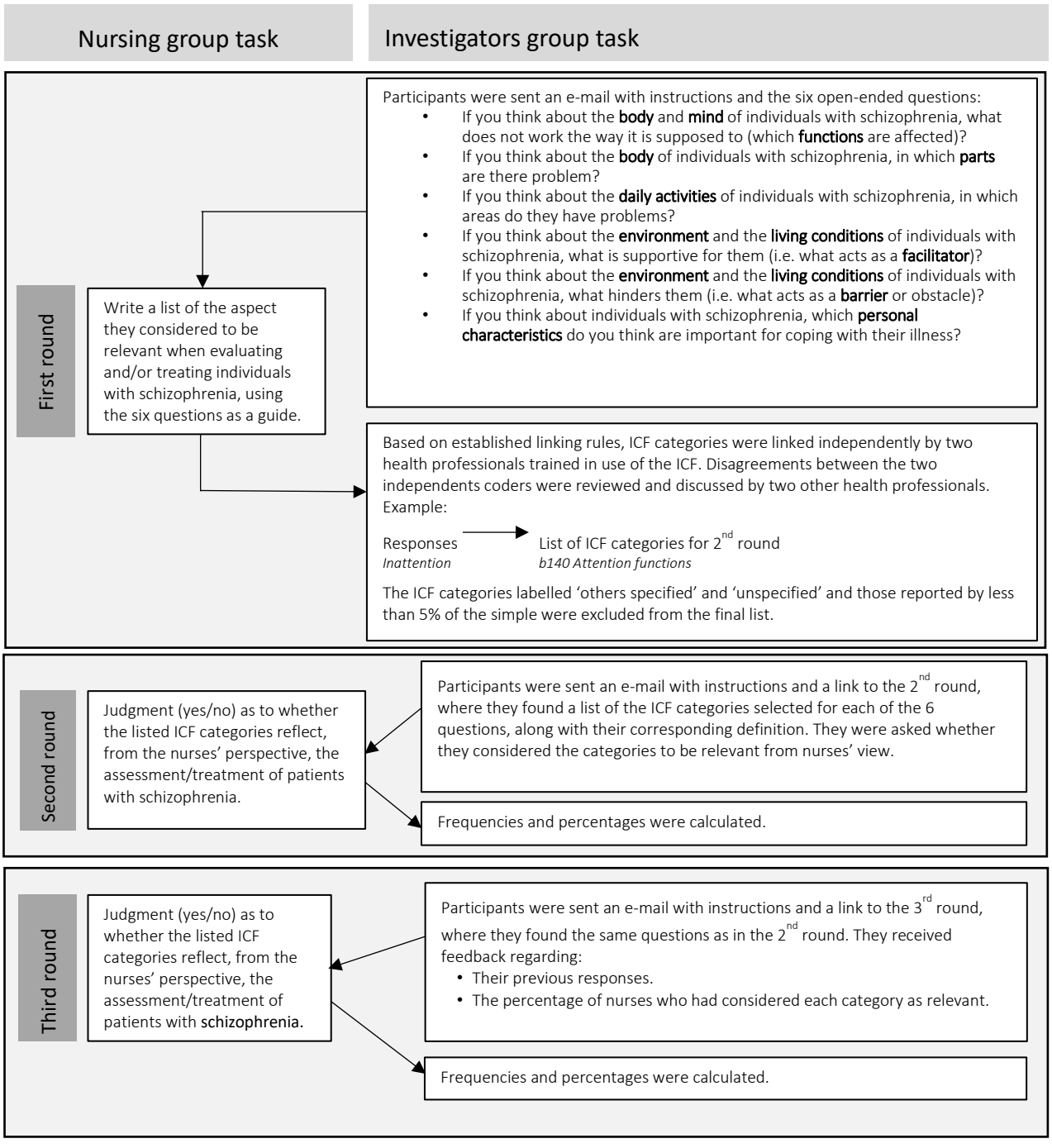

FIG. 2: Description of the tasks for the consecutive rounds.

All the responses collected in Round 1 were linked to ICF categories. Those which were reported by at least 5% of the expert panel were selected for inclusion in Round 2 of the Delphi study. The ICF categories labelled 'other specified' and 'unspecified' were omitted.

In Round 2, all participants were sent an email with a list of the selected ICF categories, along with their respective definitions. The list also included the categories that have been proposed as *Personal factors*. All the categories that form part of the Comprehensive ICF-CSs for schizophrenia were presented. The task for respondents was to indicate for each category whether it was relevant or not (yes/no), from their perspective as a PMHN, to the assessment and treatment of individuals with schizophrenia (see Figure 2). They were told that the final list should be as short as possible to be practical but as comprehensive as necessary to cover the most important needs of individuals with this health condition.

In Round 3 the experts were given feedback on the responses received from the panel as a whole in Round 2, and they were asked to rate the list of categories once more (as before, from their perspective as PMHNs working with people with schizophrenia).

Each component of the ICF, except for *Personal factors* (which has yet to be categorized in the ICF), contains an exhaustive and hierarchical list of categories which are organized into chapters (the top level of the hierarchy). Each chapter comprises second-, third- and fourth-level categories (see Figure 3 for more detail). The third- and fourth-level categories share the attributes of the second-level category with which they are associated, and hence their use implies that the corresponding second level category is applicable. Personal factors are those which are inherent to the individual but are not part of their health condition, for example, age, educational level, attitudes towards health or coping strategies (ICF; World Health Organization, 2001). Although they are not included in the ICF-CS for schizophrenia, *Personal factors* were considered in the present study. The categorization of this component was achieved by consensus among three psychologists, drawing both on previous proposals (Geyh et al., 2011; Grotkamp et al., 2012; Nuño et al., 2017) and on the nurses' responses to the question about personal characteristics.

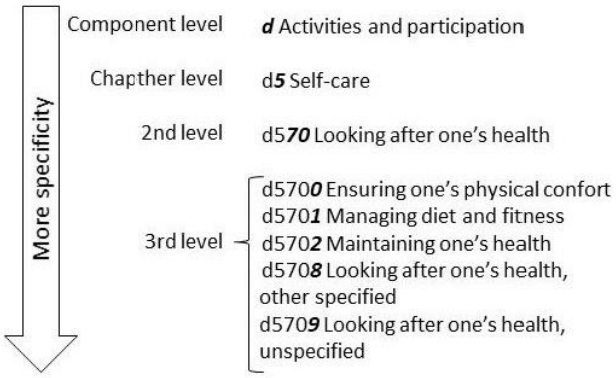

FIG. 3: Structure of ICF categories, exemplified by the category 'd570 Looking after one's health' Note: Third- and fourth-level ICF categories are more detailed and share the attributes of the second-level category of which they are a member.

As regards the linking process, all responses from Round 1 were linked independently to an ICF category by two health professionals, both of whom were trained in use of the ICF and who had

experience of schizophrenia care. Established linking rules (Cieza et al., 2016; Cieza et al., 2005) were used for this process. Any disagreements between the two coders were reviewed and discussed by a further two health professionals in order to reach a consensus.

Data analysis

Descriptive statistics were generated for participants' sociodemographic characteristics and for the frequencies of ICF categories selected in rounds 2 and 3. All the categories featured in the ICF-CSs for schizophrenia correspond to the second level of the ICF classification. In order to enable comparison of our results with the ICF-CSs, the more detailed third- and fourth-level categories were aggregated to their corresponding second-level categories.

The criterion for defining consensus was that a category was considered important by at least 75% of respondents in Round 3 (Hasson et al., 2000). As this strategy has been used in previous studies (for example, Awad and Alghadir, 2013) our results are comparable within the body of ICF research. Inter-coder reliability was assessed by calculating the Kappa coefficient with a bootstrapped 95% confidence interval (CI), using IBM-SPSS 23.0 for Windows (SPSS, INC., Chicago, III).

RESULTS

4.1. Descriptive data

One hundred and one PMHNs from 30 countries covering the six WHO regions answered the first round survey (63.1% of the 160 invited to participate). Participants were between 24 and 74 years old (median 45.8, SD 11.32), had an average of 20.7 years of experience working with schizophrenia patients (SD 11.6, range 2 to 54) and rated their expertise on schizophrenia as 3.9/5 (mean value; SD 1, range 1-5). The mean percentage of time spent on various aspects of their professional role was as follows: clinical practice, 38.2% of their time; research, 19.1%; teaching and training, 28.0%; management, 13.7%; and 1.0%, other tasks. Eighty-two of the 101 PMHNs (81%) responded to Round 2 of the Delphi survey, and 79 (78.2%) completed Round 3. Table 1 shows the demographic and professional characteristics of participants.

4.2. Linking responses to the ICF

A total of 2327 concepts were extracted from the nurses' responses in Round 1, and were subsequently linked to 334 ICF categories (196 second-level, 133 third-level and 5 fourth-level, the latter two levels being aggregated to their corresponding second-level category). Any ICF category that was reported by less than 5% of the expert panel (*n* = 67) or which was coded as 'other specified' or 'unspecified' (n = 4) was excluded from Round 2 of the Delphi survey. Regarding *Personal factors*, 37 categories were initially proposed, although six were reported by less than 5% of the participants and were excluded. Consequently, 125 second-level ICF categories and 31 *Personal factors* were presented to PMHNs in Round 2. The Kappa coefficient for the linking process was .91 (95% bootstrapped CI .89 - .93).

Table 1. Distribution of PMHNs across the three Delphi rounds and demographic and professional data obtained in the first round.

Who Region	Round 1 n (%)	Female n (%)	Percentage of time devoted to each task				Population treated [a]				Participation based on Round 1	
			Clinical % (min-max)	Research % (min-max)	Teaching % (min-max)	Management % (min-max)	Acute n (%)	Chronic n (%)	Rural n (%)	Urban n (%)	Round 2 n (%)	Round 3 n (%)
Africa [b]	5 (4.9)	4 (80.0)	41.6 (20-70)	14.4 (0-33)	23.0 (7-41)	17.0 (6-36)	5 (100.0)	4 (80.0)	4 (80.0)	4 (80.0)	4 (80)	4 (80)
The Americas [c]	25 (24.7)	24 (96.0)	42.3 (0-100)	21.3 (0-75)	26.4 (0-80)	16.1 (0-50)	23 (92.0)	24 (96.0)	13 (52.0)	25 (100.0)	21 (84)	20 (80)
Eastern Mediterranean [d]	9 (8.9)	4 (44.4)	31.0 (0-70)	18.8 (0-40)	35.1 (11-50)	15.0 (0-43)	9 (100.0)	7 (77.8)	3 (33.3)	4 (44.4)	7 (77.8)	7 (77.8)
Europe [e]	31 (30.6)	21 (67.7)	43.0 (0-100)	21.2 (0-100)	22.4 (0-100)	13.1 (0-100)	24 (77.4)	26 (83.9)	8 (25.8)	20 (64.5)	24 (77.4)	22 (71.0)
South-East Asia [f]	13 (12.7)	8 (61.5)	30.0 (0-51)	19.4 (10-33)	22.7 (10-80)	5.5 (0-40)	6 (46.2)	11 (84.6)	5 (38.5)	5 (38.5)	9 (69.2)	9 (69.2)
Western Pacific [g]	18 (17.8)	6 (33.3)	32.5 (0-90)	13.6 (0-41)	26.1 (0-87)	24.3 (0-91)	15 (83.3)	17 (94.4)	10 (55.6)	11 (61.1)	17 (9.4)	17 (9.4)
TOTAL	101	64 (63.3)	36.7 (0-100)	18.1 (0-100)	25.9 (0-100)	15.1 (0-100)	82 (81.2)	89 (88.2)	45 (44.6)	69 (68.3)	82 (81.2)	79 (78.2)

[a] It was possible to select more than one option
[b] Ethiopia, Nigeria, South Africa and Uganda
[c] Argentina, Brazil, Canada, Chile, Cuba, Mexico, United States of America and Venezuela
[d] Egypt, Iran, Kuwait, Morocco, Pakistan and Saudi Arabia
[e] Armenia, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Georgia, Germany, Greece, Hungary, Israel, Italy, Latvia, Lithuania, Macedonia, Norway, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tukey and United Kingdom
[f] Bangladesh, India, Indonesia, Nepal, Sri Lanka and Thailand
[g] Australia, Cambodia, China, Japan, south Korea, Malaysia, New Zealand, Philippines and Taiwan

4.3. Comparison between PMHNs' responses and the ICF-CSs for schizophrenia

Of the 125 ICF categories presented in Round 2, 97 (77.6%) yielded agreement above 75%. Consensus was reached for 87 (89.6%) of the ICF categories included in the Comprehensive ICF-CS for schizophrenia. With respect to the Brief ICF-CS all its 25 categories achieved agreement above 80%. The average agreement reached for the categories of each component was: 96.0% for *Body functions*, 89.0% for *Activities and participation* and 96.7% for *Environmental factors*. In light of these results, the following comparative analysis only considers the Comprehensive ICF-CS for schizophrenia.

Table 2 provides a summary of the results, while Table 3 shows a list of the categories that did not match between the two sets of data (that is, categories in the ICF-CS for schizophrenia and the categories that reached consensus). Additional information about the categories listed by the PMHNs and the percentage agreement achieved can be found in supplementary material S1-S4.

Table 2. Summary of second-level categories for which consensus was reached and comparison with the categories included in the Comprehensive ICF-CS for schizophrenia.

ICF component	Body functions	Body structures	Activities and Participation	Environmental factors	TOTAL
No. of categories presented to experts in the 2nd and 3rd rounds	21	13	51	40	125
No. of categories for which consensus was reached	18	1	39	39	97
No. of categories in the ICF-CS for schizophrenia	17	0	48	32	97
No. of categories from the ICF-CS for which consensus was reached	17	0	38	32	87

Table 3. Categories that did not match in the two sets of data.

	ICF Component	ICF category	Percentage of agreement (%)[a]
Categories for which consensus was reached but that do not feature in the Comprehensive ICF-CS	Body functions	b126 Temperament and personality functions	81
	Body structures	s110 Structure of brain	95
	Activities and participation	d355 Discussion	85
	Environmental factors	e115 Products and technology for personal use in daily living	87
		e540 Transportation services, systems and policies	87
		e135 Products and technology for employment	86
		e535 Communication services, systems and policies	86
		e140 Products and technology for culture, recreation and sport	82
		e120 Products and technology for personal indoor and outdoor mobility and transportation	80
		e520 Open space planning services, systems and policies	76
Categories from the Comprehensive ICF-CS for which consensus was not reached	Activities and participation	d510 Washing oneself	73
		d475 Driving	72
		d660 Assisting others	72
		d330 Speaking	71
		d166 Reading	70
		d335 Producing nonverbal messages	68
		d860 Basic economic transactions	65
		d930 Religion and spirituality	59
		d210 Undertaking a single task	58
		d470 Using transportation	56

[a] Percentage of participants who considered the respective ICF category as relevant in the third round.

With respect to the *Body functions* component, agreement of more than 75% was achieved for 18 categories. Of these, only one (*b126 Temperament and personal functions*) does not feature in the ICF-CS for schizophrenia (see S1). Regarding *Body structures*, the ICF-CS for schizophrenia does not contain any category from this component, although one of its categories (*s110 Structure of brain*) did produce consensus in the present Delphi study (see S2 for more detailed information about the categories in this component). For the *Activities and participation* component, consensus was reached for 38 of the 48 ICF-CS categories (79.1%) presented to the experts (see S3 for more information). One of these categories (*d355 Discussion*) does not appear in the ICF-CS for schizophrenia, and 10 categories that do form part of this ICF-CS did not achieve consensus in Round 3 of the Delphi study. As regards *Environmental factors*, agreement of 75% or higher was achieved for all the categories (n = 32) that are included in the ICF-CS for schizophrenia. A further seven categories that do not feature in this ICF-CS also yielded consensus. For more detailed information about the categories presented for this component, see S4.

In summary, 10 of the 97 ICF categories for which consensus was achieved do not feature in the ICF-CS for schizophrenia. Ten categories that do form part of the ICF-CS did not yield 75% agreement in the Delphi study. Regarding *Personal factors*, a component that has yet to be classified in the ICF, consensus was reached for 29 of the 31 concepts (93.5%) that were presented to the experts (see S5 in supplementary material).

DISCUSSION

This study has analysed the content validity of the ICF-CSs for schizophrenia from the perspective of PMHNs, identifying the patient problems, resources and environmental factors that these health professionals most frequently encounter when treating individuals with this disorder. Participants included PMHNs from the six WHO regions. The results highlight the aspects of functioning that PMHNs consider most important in the care of persons with schizophrenia, and as such they support the international validity of the ICF-CSs for schizophrenia from the perspective of these health professionals. Of the 97 categories present in the Comprehensive ICF-CS, 89.6% yielded consensus. As consensus was reached for all the categories included in the Brief ICF-CS, the following discussion focuses mainly on a comparison of our results with the Comprehensive ICF-CS for schizophrenia.

Body functions

In line with the results obtained in the previous validation study of these ICF-CSs from the perspective of psychiatrists (Nuño et al., 2018), the majority of categories in the *Body functions* component which achieved consensus belong to the chapter *b1 Mental functions*. Specifically, the categories presented to the experts from this chapter yielded an average agreement of 93.8%. These results highlight the relevance of categories referring to classical symptoms of schizophrenia, for example, delusions and hallucinations, and negative symptoms such as affective flattening (*b152 Emotional functions, b156 Perceptual functions* and *b160 Thought functions*). Another function worth mentioning here is the quality and quantity of sleep (*b134 Sleep functions*). In a health condition such as schizophrenia, in which the mental component is

so important, nurses play a key role in identifying alterations in these functions, thus allowing them to assess the patient's mental state, the effectiveness of treatment and/or any side effects of medication (Mahone et al., 2016). Of all the *Body functions* categories that reached consensus in the present study, only one does not form part of the Comprehensive ICF-CS for schizophrenia (*b126 Temperament and personality functions*). Although there are few studies that relate temperament and psychosis directly, many variables in individuals with schizophrenia, such as attention, social performance and behavioural problems, seem to have temperamental correlates (Rettew & McKee, 2005). Collapsing data from current validity studies will help to determine whether this category should be included as part of the Comprehensive ICF-CS for schizophrenia.

Body structures

Concerning the *Body structures* component, 95% of participants considered that the structure of the brain (*s110 Structure of brain)* should be taken into account when working with patients with schizophrenia. Schizophrenia is associated with an alteration in brain structure and function (Naim-Feil et al., 2018), and antipsychotic medication can have a positive impact on both these aspects (Hutcheson et al., 2015). Importantly, ongoing treatment with antipsychotic medication, in combination with psychosocial interventions, has been shown to reduce the risk of relapse and to promote recovery in individuals with schizophrenia (Mahone et al., 2016; Moller & McLoughlin, 2013; Moller & Zauszniewski, 2011). In this respect, nurses play an important role in promoting mediation adherence in patients (Chang et al., 2013), as they may be the first to detect non-adherence and non-attendance at follow-up visits (Morton & Zubek, 2013). From the perspective of PMHNs, therefore, this category (*s110 Structure of brain)* should probably be considered for inclusion in the Comprehensive ICF-CS for schizophrenia.

Activities and Participation

Regarding the *Activities and participation* component*,* the categories that reached consensus concerned learning and applying knowledge (for example, *d163 Thinking*), domestic life (for example, *d610 Acquiring a place to live)*, interpersonal interactions (for example, *d740 Formal relationships*) and major life areas such as personal finances (for example, *d870 Economic self-sufficiency*) and employment (for example, *d850 Remunerative employment*). These results highlight the broad spectrum of care activities in which PMHNs engage with patients with schizophrenia, activities that go beyond the self-care interventions typically associated with nursing (for example, *d520 Caring for body parts)*. This finding also illustrates how the deleterious effects of schizophrenia encompass not merely its characteristic psychotic symptoms but also the impaired ability to carry out normal activities of daily living (Stiekema et al., 2015; Xia et al., 2011). Hence it is important to focus on long-term therapeutic objectives such as improving the psychosocial functioning and quality of life of these patients.

It is also worth noting that three of the categories from this component which yielded the highest consensus (95% agreement) were *d163 Thinking, d220 Undertaking multiple tasks* and *d740 Formal relationships,* none of which features in the Brief ICF-CS for schizophrenia. Future studies from other professional perspectives are necessary to determine whether these

categories are also as relevant for other health disciplines. The Brief version, as a minimum set of categories considered essential for assessment and treatment, cannot contain all the specific therapeutic objectives used for patients with schizophrenia, and this could explain why these categories are not included in it. However, all these categories are present in the Comprehensive version.

Environmental Factors

Most of the categories identified by the experts and linked to the *Environmental Factors* component (for example, physical, social and attitudinal environment) also appear in the Comprehensive ICF-CS for schizophrenia (82%), and all the categories featured in that Core Set yielded agreement higher than 75%. The environmental factors highlighted by the PMHNs ranged from the support provided by others (*e310 Immediate family* or *e320 Friends)* and their attitudes (*e450 Individual attitudes of health professionals* or *e410 Individual attitudes of immediate family members*) to the provision of services and products and technology in daily living (*e570 Social security services, systems and policies* or *e580 Health services, systems and policies*). All these areas may provide nurses with information about how the individual functioning of patients with schizophrenia might be improved by promoting enabling environmental factors and reducing barriers. However, despite the importance of these factors, they are usually ignored in the management of schizophrenia (Gurak & Mamani, 2016). Gold standard studies and rating scales do emphasize this nursing role. For instance, the Therapeutic Adherence in Schizophrenia survey (*Adherencia Terapéutica en la Esquizofrenia*, ADHES) (Emsley et al., 2015) identified the key role that nurses play in the prevention of medication non-adherence. In this context, the Nursing Observed Illness Intensity Scale (NOIIS) can be used by nurses to monitor behavioural improvement and symptom reduction among psychiatric inpatients (Bowers et al., 2011). Importantly, however, it has been found that interventions that take environmental factors into account are more inclusive and less stigmatizing (Macleod et al., 2011). The ICF-CSs can be useful in this respect, as they enable a thorough assessment of the environmental barriers and facilitators that affect the daily functioning of a person with a specific health condition, identifying those aspects of the environment which merit intervention (ICF; World Health Organization, 2001). Indeed, the ICF underlines the importance of actively changing the environment so as to adapt it to the needs of people with schizophrenia.

Personal factors

A number of concepts identified by the PMHNs were linked to the yet-to-be-developed *Personal factors* component of the ICF. A list of 31 categories corresponding to personal factors was presented to the experts, of which 29 achieved consensus in Round 3 of the Delphi study. This highlights the important role played by personal characteristics — including genetic factors (van Erp et al., 2018), premorbid personality (Ohi et al., 2012), social skills (Granholm et al., 2018), resilience (Sumskis et al., 2017) and premorbid drug use and lifestyle (Hjorth et al., 2017) — in a disease such as schizophrenia. These results also show that PMHNs are aware of the relevance of these factors and consider them worthy of consideration when intervening with a person with this mental disorder. In fact, nurses can influence some of these personal factors. For example, psychosocial skills ultimately have an important impact on the functioning of individuals with

schizophrenia, and nurses can help to promote these skills through specific workshops (Lee et al., 2013; Quee et al., 2014). Thus, our results suggest that it would be useful for the ICF to include a list of personal factors that may influence the psychosocial functioning of people with different health conditions. In this respect, the list proposed here constitutes an innovative aspect of our study.

Methodological considerations

The present study has several strengths. To the best of our knowledge, no previous validation study of an ICF-CS has involved such a large and diverse sample of PMHNs with clinical experience of a specific disease. The 101 PMHNs came from 30 countries across the six WHO regions, which coupled with the fact that participation was possible in any among five of the world's most widely spoken languages helped to ensure multicultural and international representation. Furthermore, the PMHNs had extensive experience not only of treating both acute and chronic patients with schizophrenia, in both rural and urban settings, but also of research, education and management. Another strength of our study is the participation achieved across the Delphi study, as maximising response rates across rounds and minimizing attrition rates and the potential for bias is an important objective when using the Delphi method (Gargon et al., 2018). A potentially important limitation of this study is the low number of nurses from the African and Eastern Mediterranean WHO regions, as this could limit the external validity of the study. Potential reasons for this lower representation include fewer nurses working in psychiatric care in these regions, difficulty contacting them and limited internet access. A further point to consider is that although mental health nurses make up the bulk of the mental health workforce, only 160 of the 1600 mental health professionals that initially agreed to participate were nurses. Experts were recruited through many sources, including the scientific literature, international associations and LinkedIn. In many of these sources, nurses are under-represented. This article attempts to be supportive in the sense of giving voice to nurses.

CONCLUSIONS

The present study has identified the patient problems and environmental factors most frequently encountered by PMHNs when treating individuals with schizophrenia. The results obtained support the validity of the ICF-CSs for schizophrenia from the perspective of these health professionals.

Nurses play a vital role in the treatment of individuals with schizophrenia, and an understanding of the structure and functioning of the ICF can help them to plan specific treatment programmes for these patients from a broad biopsychosocial perspective. By providing different specialists with a shared language, the ICF facilitates communication and coordination of care. Moreover, having a basic set of categories that addresses a particular patient population at different stages of an illness is important for ensuring optimal treatment (Yen et al., 2014). Further validation studies from the perspective of a broad range of health professions involved in the treatment of persons with schizophrenia are required to achieve a complete and integrative view of the needs of patients and to produce the definitive ICF-CS for schizophrenia.

RELEVANCE FOR CLINICAL PRACTICE

The results confirm the validity of the ICF-CS for schizophrenia from the perspective of Psychiatric-Mental-Health Nurses. The patient problems, resources and environmental factors that nurses most frequently encounter when treating individuals with schizophrenia have been identified. The ICF-CS for schizophrenia would appear to be a highly useful tool in the context of mental health nursing, and it may facilitate communication and the coordination of care between nurses and other health professionals.

ACKNOWLEDGMENTS: We express our thanks to all PMHNs for their invaluable contribution in the Delphi study and the time they devoted to respond to the questionnaire. Participants that agreed to be named in the present paper were (in alphabetic order): Alyahya, N., Andrés, H., Angus, K., Annapura-Umpathi, B., Arsyad-Subu, M., Asare-Donkoh, F., Asensio-Manzano, M.R., Baker, N., Bakken, T.L., Balamurugan, G., Barde, S., Basiri, S., Brooks, C., Casado, I., Cheng, S.C., Chouhan, D.S., Craven, I., Crawley, L., Cruz-Ortiz, M., De Weijer-Dupuis, M., Downie, J., El-Mallakh, P., Fajardo-Galván, D., Faleti, D., Forest, L., Fuentes, F., Govender, A., Hamaideh, S., Hampton M., Harrison, I., Hazelton M., Hudson, B., Huizing, E., Hurtado-Guevara, M.C., Jackson, J.J., Jackson, A., Jilek, R., Jørgensen, R., Khare, S., Leutwyler, H., Lori-Holtz, L.H., Lysiak, T., Mackay, M., Merrit, M., Miguel-Ruiz, M.D., Mihaly, S., Miyamoto, Y., Moller, M.D., Murata, L., Murphy, N., Na-Oy, M.F., Ozkan, B., Park, S., Pinedo, C. Qezele, S., Rajab, L., Ramos-Pichardo, J.D., Rodriguez-Seoane, E.M., Roldán-Merino, J., Salgado, A., Sanseeha, L., Sanz-Osorio, M.T., Sarmiento, P., Saxton, L., Schepp, K.G., Schroeder, W., Seifert, P., Soar, R., Stergiopoulou, A., Strukovski, J., Teixeira-Velasco, E., Thunyadee, C., Treloar, P., Van Der Wath, A., Vasher, N., Vijayarani, M., Vivo, F., Vongsirimas, N. and Zanetti, A.C..

FUNDING: This work was supported by Spain's Ministry of Economy and Competitiveness [grant PSI2015–67984-R], and by the Agency for the Management of University and Research Grants of the Government of Catalonia [grant 2017SGR1681]. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

AUTHORSHIP STATEMENT: All the authors meet the criteria for authorship according to the International Committee of Medical Journal Editors and all those entitled to authorship are listed as authors. Regarding individual contributions, all the authors participate in the conception and design of the study, Laura Nuño, Maite Barrios and Georgina Guilera collaborate in the acquisition and analysis of data, Laura Nuño and Caterina Calderón draft the article and the rest of authors revised it critically, and all the authors approved the final article.

DISCLOSURE STATEMENT: The authors declare no conflict of interest.

ETHICAL APPROVAL: Institutional Review Board committees approved the Study IRB00003099.

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4.1.4. Estudi 4: Perspectiva des de l'àmbit de la teràpia ocupacional

- Títol: An Occupational therapist perspective of the ICF Core Sets for Schizophrenia
- Autoria: Laura Nuño, Georgina Guilera, Morris Bell, Emilio Rojo, Juana Gómez-Benito, Caterina Calderón, Maite Barrios
- Revista: American Journal of Occupational Therapy
    - Classificació segons el *Journal Citation Report (2018):*
        - Factor d'impacte: 1,952
        - Rank: 12/69 - Quartil 1 - Categoria: Rehabilitation - SSCI
- La versió preprint de l'estudi es presenta a continuació. El material suplementari pot consultar-se a l'Annex 4.

ESTUDI 4

An Occupational therapist perspective of the ICF Core Sets for Schizophrenia

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ABSTRACT

Importance: The International Classification for Functioning, Disability and Health (ICF) Core Sets for schizophrenia are sets of categories of the ICF that are relevant when considering the functioning and disability of individuals with schizophrenia. *Objective:* The objective of this study was to identify the problems occupational therapists commonly encounter when treating individuals with schizophrenia and to validate these Core Sets from their perspective. *Design:* Three-round Delphi study. Participants were asked about the functioning problems they considered most relevant when treating individuals with schizophrenia. *Setting:* Worldwide online survey. **Participant***s:* Occupational therapists experienced in the treatment of individuals with schizophrenia. *Outcomes and Measures:* Responses were linked to the ICF by two trained health professionals; a statistical measure of agreement and kappa coefficient were calculated. *Results:* In total, 92 occupational therapists from 29 countries of the six WHO regions named 2527 meaningful concepts. After the linking process, 121 ICF categories and 31 *Personal factors* were presented to the expert panel and 97 ICF categories and 27 *Personal factors* reached consensus (agreement ≥ 75%). All the categories present in the Brief ICF-CS for schizophrenia and 89 of the 97 categories represented at the Comprehensive version reached consensus. *Conclusion and relevance:* The ICF Core Sets for schizophrenia were validated from the perspective of occupational therapists and may offer a useful tool to be used by them in clinical practice, as they cover a wide variety of problems that occupational therapists deal with in their interventions with persons with schizophrenia.

Keywords: schizophrenia; occupational therapy; validation; ICF; Delphi method

INTRODUCTION

Schizophrenia is a severe psychiatric disorder that occurs with periods of greater stability and phases of symptom exacerbation including positive symptoms (such as hallucinations and thought disorders), negative symptoms (such as listlessness and apathy) and/or cognitive deficits (American Psychiatric Association, 2013; World Health Organization, 2001). Although schizophrenia has a low worldwide prevalence (Baxter, Patton, Scott, Degenhardt, & Whiteford, 2013), it is considered a highly disabling mental illness (Vos et al., 2016) given that people who live with it commonly experience a high degree of deterioration in multiple areas of daily functioning, including personal care, the activities of daily life, education and employment (Cook, Chambers, & Coleman, 2009; Foruzandeh & Parvin, 2013). In this context, occupational therapists play a key role in the mental health team, as their work is aimed at promoting the optimal occupational performance of clients in the activities of daily life regardless of any mental, physical or environmental barrier. Therefore, they facilitate participation in activities and occupations that are significant for the individual and, consequently, promote satisfactory participation in the community (Pettersson, Pettersson, & Frisk, 2012).

The International Classification of Functioning, Disability and Health (World Health Organization, 2001) provides to professionals in rehabilitation disciplines, such as occupational therapists, a common and universal language to describe functioning, disability and health in people with all types of health conditions (Farrell, Anderson, Hewitt, Livingston, & Stewart, 2007), including schizophrenia. The ICF is based on a biopsychosocial model that provides a holistic, multidimensional and interdisciplinary vision to understand health and related health conditions (Pettersson et al., 2012), proposing a dynamic interaction between the underlying health condition, functioning and disability, and personal and contextual factors. Considering this holistic approach, the World Federation of Occupational Therapists (WFOT) has been one of the first associations to recognize the potential of ICF for use in clinical practice, rehabilitation, intensive care and research (Hemmingsson & Jonsson, 2005).

However, in clinical practice it is not viable to use the whole ICF, since it contains more than 1400 categories. To facilitate its application, so-called ICF Core Sets (ICF-CSs) have been developed for different health conditions, including schizophrenia (Gómez-Benito et al., 2018). The Comprehensive ICF-CS for schizophrenia includes 97 categories that cover the typical spectrum of problems in functioning that individuals living with schizophrenia experience. The Brief ICF-CS is a selection of 25 of these 97 categories, those considered essential for the evaluation and treatment of this population.

The next step for the application of the ICF-CSs for schizophrenia in clinical practice is their validation from different perspectives, considering all those health professionals with a key role treating individuals living with schizophrenia. To date, it has been carried out from the perspective of psychiatrists, psychologists and mental health nurses, obtaining results that support their validity (Nuño, Barrios, Rojo, Gómez-Benito, & Guilera, 2018; Nuño, Guilera et al., 2019; Nuño, Barrios et al., 2019). Based on the above, the objectives of this study were twofold: a) to identify the problems, resources and aspects of the environment treated by occupational

therapists in individuals living with schizophrenia; and b) to analyse, through a Delphi study, the content validity of these ICF-CSs from the perspective of occupational therapists.

METHODS

Study design

The study was conducted as a worldwide e-mail survey employing a three-round Delphi method. The Delphi method is a multistage process which aims to obtain consensus from a panel of individuals with knowledge of the topic being investigated ("experts") (Trevelyan & Robinson, 2015), in this case occupational therapists. In the present study, methodological rigor was ensured by applying the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist (Booth et al., 2014).

Recruitment of participants

Professionals with specific training as occupational therapists and experience in the field of schizophrenia were eligible to participate. Initially, international associations of occupational therapists, universities, care units, hospitals and other institutions were identified and contacted worldwide. Participation was allowed in five of the more spoken languages in which the ICF is available (i.e. English, Spanish, French, Chinese and Russian) to avoid language barriers and increase the representativeness and participation of experts from around the world. All the materials were translated and supervised by at least two independent native speakers. Occupational therapists who agreed to participate received an e-mail with study and participation details, and they had to confirm their expertise in schizophrenia treatment and their consent in order to be included in the study. Demographic and professional data were also requested.

The inclusion criterion for the participants was at least one year experience in the treatment of individuals with schizophrenia. No knowledge about the ICF was required. Occupational therapists who had participated in an earlier stage of the development of the ICF-CSs for schizophrenia were excluded. In total, 127 experts were eligible to participate and invited to start the first round of this study. The Institutional Review Board Committee of University of Barcelona (IBR00003099) approved the study.

Delphi process

A web-based survey (www.qualtrics.com) was used to collect the answers of the Delphi study from April 2017 to January 2018. All potential participants received an e-mail with the link to the survey and the corresponding instructions. Three reminders were sent: one week before the deadline; two days before the deadline; and on the deadline day itself.

In the **first Delphi round,** the experts received a questionnaire with six open-ended questions which covered all the ICF components and were asked to list all the aspects they considered to be relevant when assessing or treating individuals with schizophrenia (see Figure 1). Answers were linked to the ICF categories (see 'Linking' below), and those reported by at least 5% of the occupational therapists were selected for inclusion in the second Delphi round.

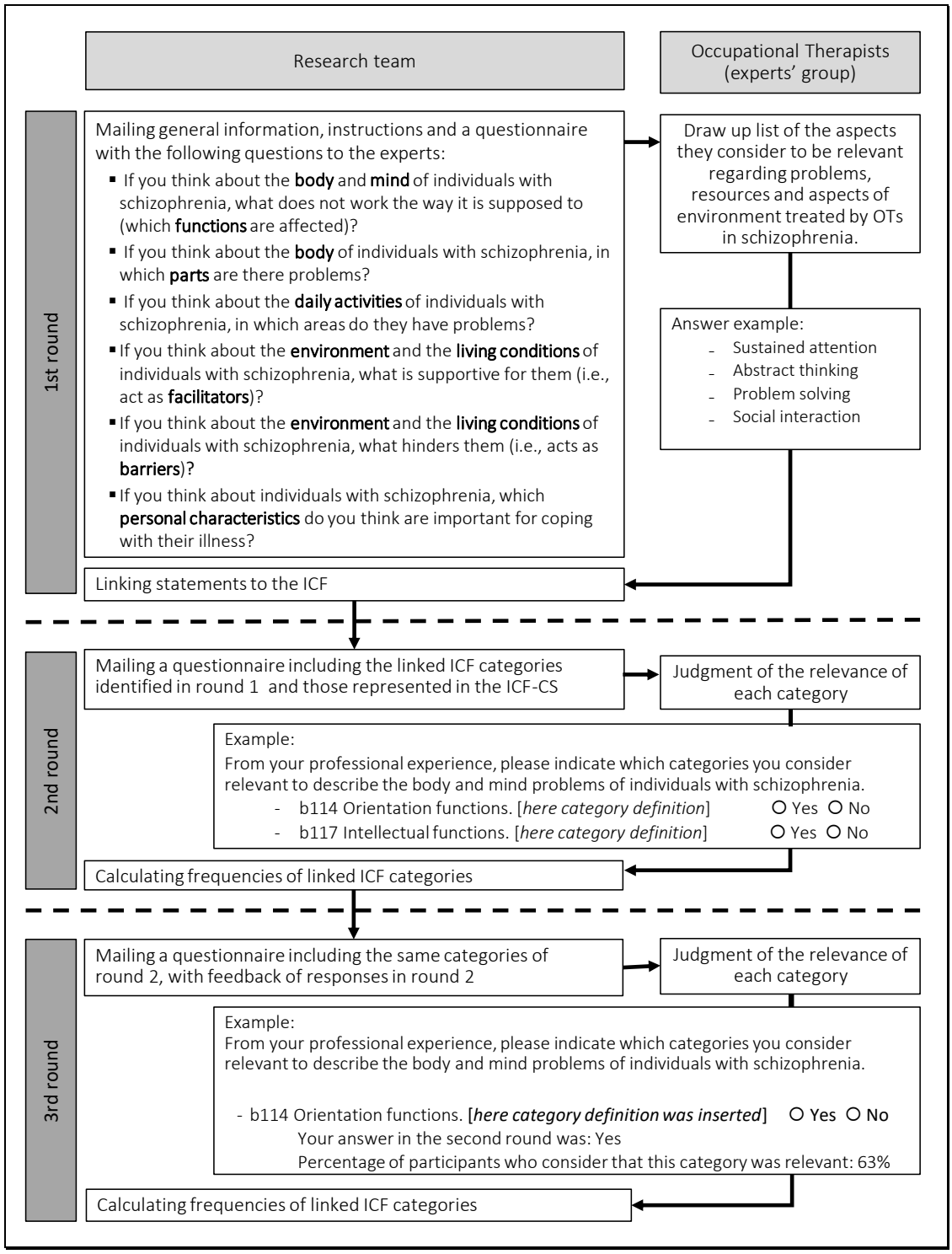

Figure 1. The Delphi process

In the **second round**, all participants received a survey with a list that included the code and definition of the 97 ICF categories from the Comprehensive ICF-CS for schizophrenia and those reported by at least 5% of the occupational therapists. Participants did not know which categories belonged to the ICF-CS for schizophrenia and which did not. They had to decide whether the respective ICF categories do or do not represent (yes/no answer) problems, resources or environmental factors treated by occupational therapists in individuals with schizophrenia, taking into account that the final list should be as short as possible to be practical

but as comprehensive as needed to capture the most relevant needs of individuals with schizophrenia.

In the **third round,** participants received the same selection of ICF categories, this time with feedback on the responses of the expert panel as a whole and their own previous responses, and were asked again to judge the relevance of each category (yes/no answer).

Linking

Each component of the ICF, except for *Personal factors*, contains an exhaustive, hierarchical list of categories. In line with established linking rules (Cieza, Fayed, Bickenbach, & Prodinger, 2019), each response from the first Delphi round was linked to the most precise ICF category by two health professionals trained in the use of the ICF and with experience of providing care to individuals with schizophrenia. Disagreements between the two independent coders were reviewed and discussed by two other health professionals to reach consensus. The definition of each ICF category, along with inclusion/exclusion examples, can be consulted in the ICF manual (World Health Organization, 2001). As *Personal factors* are not classified in the ICF yet, they were categorized by consensus among three psychologists, based on: theories of personal factors such as the Big Five personality traits (Five Factor Model) (McCrae and Costa, 2008); previous proposed categorizations (Grotkamp et al., 2012; Nuño et al., 2018); and the experts' responses.

Data analysis

Descriptive statistics were used to characterize the sample and the frequencies of ICF categories selected in the second and third rounds. Based on the experience of previous studies (Kaech Moll, Escorpizo, Bergamaschi, & Finger, 2016; Nuño et al., 2019), an agreement of at least 75% among the occupational therapists in the third round of the Delphi survey was considered as consensus. A kappa coefficient with bootstrapped confidence intervals was calculated to analyze inter-coder reliability. Statistical analyses were performed using the IBM-SPSS 23.0 statistical software package (SPSS, INC., Chicago, III).

RESULTS

A total of 92 occupational therapists from 29 countries representing all six WHO regions completed the first-round questionnaire (72.4% of the 127 who were invited to participate). Seventy-three of them (79.3%) completed the third round. On average, they had 9.9 years of experience in the treatment of individuals with schizophrenia (the minimum being one year and the maximum 44 years). Their professional roles primarily involved clinical practice (mean 52.5% of their time), followed by teaching and training (18.8%), research (14.7%), management (12.4%) and other tasks (1.6%). Table 1 shows participants' demographic and professional characteristics.

Table 1. Demographic and professional data summary of survey respondents (n= 92) across the three Delphi rounds.

WHO region	Round 1 *n* (%)	Gender Female *n* (%)	Age Mean (min-max)	Years of experience in schizophrenia Mean (min-max)	Population treated[a]				Participation (based on round 1)	
					Acute *n* (%)	Chronic *n* (%)	Rural *n* (%)	Urban *n* (%)	Round 2 *n* (%)	Round 3 *n* (%)
Africa[b]	13 (14.1)	12 (92.3)	35.9 (23-66)	9.9 (1-44)	7 (53.8)	11 (84.6)	3 (2.3)	10 (7.7)	7 (53.8)	5 (38.5)
The Americas[c]	16 (17.4)	14 (87.5)	39.1 (25-65)	11.4 (1-37)	7 (43.8)	15 (93.8)	7 (43.8)	11 (68.8)	15 (93.8)	14 (87.5)
Eastern Mediterranean[d]	7 (7.6)	5 (71.4)	37.9 (30-53)	7.4 (1-28)	4 (57.1)	6 (85.7)	1 (14.3)	2 (28.6)	7 (100.0)	7 (100.0)
Europe[e]	42 (45.7)	33 (78.6)	38.6 (23-67)	10.1 (1-31)	23 (54.8)	37 (88.1)	15 (35.7)	27 (64.3)	39 (50.0)	38 (50.1)
South-East Asia[f]	5 (5.4)	5 (100.0)	31.0 (26-39)	5.2 (1-13)	3 (60.0)	3 (60.0)	3 (60.0)	3 (60.0)	4 (80.0)	3 (60.0)
Western Pacific[g]	9 (9.8)	7 (77.8)	39.2 (24-66)	11.6 (1-22)	5 (55.6)	7 (77.8)	2 (22.2)	7 (77.8)	6 (66.7)	6 (66.7)
Total	92	76 (82.6)	37.7 (23-67)	9.9 (1-44)	49 (53.3)	79 (85.9)	31 (33.7)	60 (65.2)	78 (84.8)	73 (79.3)

[a]It was possible to select more than one option; [b]South Africa and Zimbabwe; [c]Brazil, Canada, Chile and United States of America; [d]Saudi Arabia and United Arab Emirates; [e]Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Netherlands, Portugal, Spain, Sweden and United Kingdom; [f]India; [g]Australia, China, Japan, Singapore and Taiwan.

In the first Delphi round, the experts named 2527 meaningful concepts, which were linked to 209 ICF categories. From these, 88 categories were excluded because of being reported by less than 5%. Regarding *Personal factors*, 38 were named by the experts, and seven were excluded because of being reported by less than 5% of the sample. Thus, 121 ICF categories and 31 *Personal factors* were presented to the experts in the second round. The kappa coefficient and its bootstrapped confidence interval for the linking process was .73 (.71 - .75).

Of the 121 ICF categories analyzed, 97 (80%) reached an agreement of at least 75%. The categories that reached consensus included all the categories of the Brief ICF-CS for schizophrenia, with agreements of 95% or more. The following comparative analysis will therefore focus on the Comprehensive version. As can be seen in Table 2, consensus was reached for 97 categories, 89 of which are represented in the ICF-CS. At the same time, out of the 97 categories that are represented in the ICF-CS for schizophrenia, 89 (92%) reached consensus. Table 3 gives details of the categories that did not match between the two sets of categories.

Table 2. Summary of ICF categories that yielded consensus and comparison with the categories represented in the Comprehensive ICF-CS for schizophrenia.

ICF component	Body functions	Body structures	Activities and participation	Environmental factors	Total
No. of categories presented to experts	23	8	51	39	121
No. of categories that yielded consensus	14	1	46	36	97
No. of categories in the Comprehensive ICF-CS for schizophrenia	17	0	48	32	97
No. of categories from the Comprehensive ICF-CS that yielded consensus	13	0	45	31	89

Table 3. Categories that did not match comparing the ICF-CS for schizophrenia with the categories that reached consensus.

ICF Component	Consensus reached	Categories
Body functions	Yes[a]	b126 Temperament and personality functions
	No[b]	b117 Intellectual functions b330 Fluency and rhythm of speech functions b530 Weight maintenance functions b765 Involuntary movements functions
Body structures	Yes[a]	s110 Structure of brain
Activities and participation	Yes[a]	d810 Informal education
	No[b]	d166 Reading d330 Speaking d335 Producing nonverbal messages
Environmental factors	Yes[a]	e115 Products and technology for personal use in daily living e135 Products and technology for employment e140 Products and technology for culture, recreation and sport e535 Communication services, systems and policies e540 Transportation services, systems and policies
	No[b]	e125 Products and technology for communication

Note: a. Categories for which consensus was reached but that do not feature in the Comprehensive ICF-CS. b. Categories from the Comprehensive ICF-CS for which consensus was not reached.

Regarding the component *Body functions,* 14 of the 23 categories presented to the experts (61%) reached consensus. Of these, 13 were also included in the ICF-CS for schizophrenia (for example, *b140 Attention functions*). The only one that reached consensus but was not represented in the ICF-CS was *b126 Temperament and personality functions*. On the other hand, four categories of the ICF-CS did not reach an agreement of 75%.

Concerning the component *Body structures,* 8 ICF categories were presented to the experts, and only one (*s110 Structure of brain*) reached consensus. In contrast, the ICF-CS for schizophrenia does not contain any category from this component.

From the component A*ctivities and participation,* 46 categories (out of the 51 that were presented to the experts) reached consensus. Only one of these categories (*d810 Informal education*) is not included in the ICF-CS for schizophrenia. Three categories of the ICF-CS did not

reach an agreement of 75% (categories *d166 Reading, d330 Speaking* and *d335 Producing nonverbal messages*).

Of the 39 ICF categories analyzed from the component *Environmental factors,* 36 (92%) reached consensus. Of these, only five categories were not included in the ICF-CS, such as *e135 Products and technology for employment*. Out of the categories of this component included in the ICF-CS for schizophrenia, only one did not reach consensus (i.e. *e125 Products and technology for communication*).

In all, 31 *Personal factors* were presented to the experts. Of them, 27 yielded consensus, eight of which with an agreement of 99% or more.

DISCUSSION

The results of this study show that the content validity of the ICF-CSs for schizophrenia from the perspective of occupational therapists has worldwide support. These results are in agreement with previous studies from the perspective of psychiatrists (Nuño et al., 2018), psychologists (Nuño, Guilera et al., 2019) and nurses (Nuño, Maite et al., 2019), supporting the international validity of the ICF-CSs for schizophrenia. All the categories included in the Brief version of the ICF-CS for schizophrenia reached consensus with a high level of agreement. Of the 97 categories represented in the Comprehensive ICF-CS, 92% of them achieved consensus.

Regarding the component of *Body functions*, most of the ICF categories belong to the chapter *b1 Mental functions* and only one to the chapter *b6 Genitourinary and reproductive functions* (i.e. *b640 Sexual functions*). All the categories that achieved a high level of agreement within chapter *b1* correspond to the typical symptomatic manifestations of schizophrenia. Indeed, schizophrenia is associated with the presence of alterations in perception (e.g., *b156 Perceptual functions*), negative symptoms, such as decreased expression and motivational deficits (e.g., *b130 Energy and drive functions*), alterations in thinking (*b160 Thought functions)* and cognitive deficits (*b164 Higher-level cognitive functions*) (Bailliard & Whigham, 2017). This finding accounts for the relevance of this component and the categories in chapter *b1 Mental functions* to defining functioning in people with schizophrenia from the perspective of occupational therapists. These results coincide with the findings obtained from other professional perspectives (Nuño et al., 2018; Nuño, Barrios et al., 2019; Nuño, Guilera et al., 2019). These also show that occupational therapists acquire a key role, as they can guide the user, the caregivers and the treatment team with respect to multiple factors that influence the recovery or development of functional capacities (Tanaka et al., 2014). In fact, cognitive functioning has been related to occupational engagement and thus to the ability to perform daily occupations in a balanced rhythm (Lexén & Bejerholm, 2018). On the other hand, as in the above-mentioned previous studies, one category that achieved consensus (in fact, it achieved a 95% agreement) is not included in the ICF-CS for schizophrenia: the category *b126 Temperament and personality functions*. This finding shows that professionals involved in the treatment of people with schizophrenia agree on the relevance of addressing aspects of personality in people of this group, as this can expand the understanding of individuals with schizophrenia and their symptoms. Therefore, the inclusion of this category in the ICF-CS for schizophrenia should be considered. Likewise, although over 60% of participants considered the inclusion of four

categories that are part of the ICF-CS as relevant, they did not reach an agreement (i.e. *b117 Intellectual functions*, *b330 Fluency and rhythm of speech functions*, *b530 Weight maintenance functions* and *b765 Involuntary movement functions)*. This may be due to the fact that this set of functions is not usually treated by occupational therapists, who focus mainly on helping people to recover and participate in significant life roles.

In relation to the component *Body structures*, which is not included in the ICF-CS for schizophrenia, the *s110 Structure of brain* category obtained a broad consensus among the participants. This finding also coincides with the results obtained in our previous studies from other professional perspectives. Indeed, schizophrenia is associated with changes in the structure and functioning of several brain systems, considered to underlie the cognitive disorders described in individuals with schizophrenia (Chang et al., 2018). Intervention by occupational therapists has been related to improvements in neurocognitive functioning (Shimada, Nishi, Yoshida, Tanaka, & Kobayashi, 2016) and could therefore also influence these brain structures. The study of these anomalies is a resource to be taken into account to improve the understanding of their causes, their progression and even the effects of treatment on them. Thus, from the perspective of occupational therapists, the inclusion of this category in the ICF-CS for schizophrenia should be considered.

The component *Activities and participation* is the one with the largest number of categories reaching consensus. This is not surprising because being able to carry out day-to-day tasks (such as productive activities, daily life skills and self-care tasks) is a priority work area for occupational therapists (Foruzandeh & Parvin, 2013). Improving functioning and the ability to participate in meaningful activities, the promotion of self-determination, confidence and the possibility of experiencing a satisfactory community life are work objectives for occupational therapists (Morris, Reid, & Spencer, 2018; Tapfumaneyi et al., 2015). In accordance with previous studies, the categories associated with work participation also obtained a high level of consensus, showing that, from the perspective of occupational therapists, addressing employment and involvement in meaningful activities in individuals living with schizophrenia is a current and necessary aspect of intervention (Eklund, Hermansson, & Hakansson, 2012). Three categories from the ICF-CSs were not confirmed in the present study (*d166 Reading, d330 Speaking* and *d335 Producing non-verbal messages*). These categories are usually treated by other health professionals, such as psychologists or neuropsychologists, and this may be the reason why they were not selected. It is worth noting that the category *d810 Informal education*, a category not included in the ICF-CS, reached a high level of agreement. This could be associated with the importance given by occupational therapists to continuous training and learning through informal education (Andersen, 2001).

The present study also shows the importance of *Environmental factors* for occupational therapists, and 31 of the 32 categories present in the ICF-CS reached consensus. Other categories that are not represented in the ICF-CS for schizophrenia also reached consensus, such as various categories from the chapter *e1 Products and technology* and from the chapter *e5 Services, systems and policies*. It must be taken into account that the ICF-CS already include four categories of chapter *e1* and 10 of chapter *e5*. Given that the ICF-CS should be as short as possible, it could be considered that these areas have already been sufficiently covered with the

categories included in the ICF-CS. The emphasis on these two chapters is consistent with the importance that occupational therapists give in their clinical practice to the social resources, products and technologies that people can use in order to facilitate: activities required for daily life (*e115 Products and technology for personal use in daily living*); taking part in leisure and recreation activities (*e140 Products and technology for culture, recreation and sport*); and a greater participation in the labour market (*e135 Products and technology for employment*). In addition, the categories that achieved a high consensus, such as *e310 Immediate family* or *e355 Health professionals*, show the relevance of these agents as possible facilitators or obstacles in the recovery process of people with schizophrenia (Marwaha, Balachandra, & Johnson, 2009).

Personal factors is a component that has not yet been developed by the ICF. In our study, a large number of *Personal factors* were identified by the occupational therapists, with a high level of agreement: 27 reached consensus and 24 of them with an agreement equal to or greater than 90%. Many of the *Personal factors* that reached a high level of agreement coincide with those identified from the perspective of psychiatrists, nurses and psychologists. For example, categories such as *Resilience*, *Personal history and Biography* and *Lifestyle* reached a 100% agreement, reflecting the role these variables have in the recovery and well-being of people with schizophrenia (Mizuno et al., 2016), as well as in the presentation and evolution of the disease (Rajkumar, 2015). These results indicate that a classification of this component in the ICF is necessary so that professionals such as occupational therapists can describe in a detailed and exhaustive manner the relevant personal aspects that impact the health and daily functioning of people with schizophrenia, influencing therefore their work in strengthening participation in meaningful and satisfactory occupations (Doroud, Fossey, & Fortune, 2015).

Strengths and limitations

This study has a number of methodological strengths. First, the Delphi method is a widely recognized appropriate method for the purpose of this study, and it was applied maximizing its possibilities by including a large number of participants and facilitating worldwide participation. Thus, the response rate throughout the study was high and a broad worldwide representation was achieved. Additionally, the sample has highly qualified occupational therapists with extensive experience in the treatment of individuals with schizophrenia, both in acute and chronic situations and in rural and urban settings. However, there are some limitations to be considered. Mainly, it is worth highlighting that, despite the participation achieved worldwide, some WHO regions are underrepresented (i.e. the South-East Asia and Eastern Mediterranean regions). This may be due to a lower presence of this profession or a less frequent intervention with individuals with schizophrenia in these areas, as well as greater difficulties in accessing these professionals (as a result of limitations in the use of the Internet, for example).

Implications for Occupational Therapy Practice

The ICF-CSs for schizophrenia may be a highly useful tool for occupational therapists in their clinical practice. Especially in multidisciplinary clinical settings, they may serve to enhance communication within multi-professional teams and guide the management and treatment of persons with schizophrenia by different health professionals.

The ICF-CSs for schizophrenia could provide a comprehensive framework for organizing information according to the biopsychosocial perspective of the ICF, considering health conditions and its relationship with the daily life of people and their environment.

CONCLUSIONS

The study results support the use of the ICF-CSs for schizophrenia in the clinical practice of occupational therapists. The ICF-CSs for schizophrenia appear as clear and useful guides to describe and classify the functioning, health and rehabilitation in the occupational therapist's intervention when treating people with schizophrenia, using a language and frame of reference shared by other health specialists (Hemmingsson & Jonsson, 2005). Occupational therapists are essential in the rehabilitation of individuals with schizophrenia and their perspective contributes to the development and enrichment of the ICF-CSs for schizophrenia.

WHAT THIS ARTICLE ADDS: ICF-CSs for schizophrenia are useful guides to describe and classify the functioning, health and rehabilitation in the occupational therapist's intervention when treating people with schizophrenia. Occupational therapists are essential in the rehabilitation of individuals with schizophrenia and their perspective contributes to the development and enrichment of the ICF-CSs for schizophrenia.

ACKNOWLEDGMENTS: The authors would like to thank all the participating experts for their commitment and the time spent, without which the study would not have been possible. Further information about the experts who formed part of this study is available as supplementary material S6.

CONFLICT OF INTEREST: The authors have not conflict of interest to declare.

FUNDING: This work was supported by Spain's Ministry of Economy and Competitiveness [grant PSI2015–67984-R], and by the Agency for the Management of University and Research Grants of the Government of Catalonia [grant 2017SGR1681]. The funders had no role in study design, data collection and analysis, decision to publish or preparation of the manuscript.

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4.1.5. Estudi 5: Perspectiva des de l'àmbit del treball social

- Títol: The perspective of social workers on functioning in schizophrenia. A Delphi Study
- Autoria: Laura Nuño, Georgina Guilera, Phyllis Solomon, Emilio Rojo, Juana Gómez-Benito, Maite Barrios
- Revista: en segona revisió (canvis menors) a Journal of the Society for Social Work and Research
    - Classificació segons el *Journal Citation Report (2018):*
        - Factor d'impacte: 1,508
        - Rank: 10/43 - Quartil 1 - Categoria: Social work – SSCI
- La versió preprint de l'estudi es presenta a continuació.

ESTUDI 5

The Perspective of Social Workers on Functioning in Schizophrenia: A Delphi Study

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ABSTRACT

Objective: Schizophrenia is a severe psychiatric condition characterized by functional impairment. Integrated care is essential to help individuals with schizophrenia, and social workers are a key part of the health care workforce serving this population. Using the International Classification of Functioning, Disability and Health Core Sets (ICF-CSs) for schizophrenia as a framework, this study aimed to identify the most relevant problems that social workers commonly encounter when working with individuals with schizophrenia, and to analyze to what extent these problems are represented in the ICF-CSs for schizophrenia. *Method*: Social workers experienced in working with persons with schizophrenia were recruited for a three-round Delphi study. A total of 57 social workers from 20 countries completed the first Delphi round, and 36 completed all three rounds. *Results*: In the third round, consensus was reached for 93 ICF categories (92.5% of which feature in the Comprehensive ICF-CS for schizophrenia) and 20 personal factors. The most represented areas concerned mental functions, major life areas, attitudes, and services, systems, and policies. *Conclusions*: The inclusion of social worker perspective in validating this framework acknowledges the key role social workers play in serving this population and enhances their status within the mental health field. Social workers' perspective largely supported the validity of ICF Core Sets.

Keywords: schizophrenia, functioning, ICF, social workers, validation, Delphi

INTRODUCTION

Schizophrenia is a severe psychiatric condition characterized by the presence of positive (e.g., delusions and hallucinations) and negative symptoms (e.g., anhedonia and apathy), cognitive impairment, and functional deficits that affect not only the patient's general health, but also his or her autonomy, work performance, social relationships, and other significant daily activities (American Psychiatric Association, 2013; World Health Organization, 2016). Addressing all these aspects requires comprehensive and integrated health and social service systems, and new models of mental health care have thus begun to emerge in response to reform initiatives worldwide (de Saxe Zerden, Lombardi, & Guan, 2019; Hendry, Taylor, Mercer, & Knight, 2016; Sandberg et al., 2014). Mental health services now increasingly provide integrative care through interdisciplinary teams comprised of psychiatrists, psychologists, nurses, social workers, and other specialized professionals. Integrated care requires coordination of interdisciplinary practitioners in order to achieve the management and delivery of suitable health services — both preventive and curative — to users, in accordance with their changing needs over time and across various levels of the health care system (World Health Organization, 2008). This model expands the range of clinical activities, programs, and services and it aims to address the full biopsychosocial spectrum of needs commonly presented by patients with mental health disorders, including those of individuals with schizophrenia. Importantly, this holistic approach to care can also enhance clinical outcomes, enabling significant reductions in symptoms, improvement in personal and functional recovery, and increased patient satisfaction with treatment (Butler et al., 2011; Cordeiro, Foroughe, & Mastorakos, 2015; Malm, Ivarsson, Allebeck, & Falloon, 2003).In any integrated mental health care system of this kind, social workers have a key role to play (Bland, Renouf, & Tullgren, 2015; Horevitz & Manoleas, 2013; Poon, Joubert, Mackinnon, & Harvey, 2018), helping to engage community resources on behalf of patients, managing their care plans, and delivering clinical interventions, among other functions (Fraser et al., 2018).

However, achieving integrated care goals requires a common language that can be used by all health professionals and disciplines involved in a person's care, without this it would be difficult for interdisciplinary team members to reach a common understanding of a patient's functioning problems. The International Classification of Functioning, Disability, and Health (ICF) (World Health Organization, 2001) is based on the biopsychosocial model and represents a comprehensive and universally accepted framework for describing functioning and disability of any health condition, including schizophrenia. The ICF is structured hierarchically in chapters and categories, and it describes functioning as an interaction of different components: *Body functions*, *Body structures*, and *Activities and participation* in a person's daily life, which in turn are influenced by *Environmental factors* and *Personal factors* (see Fig. 1).

Clearly, a comprehensive framework employing a universal language that is understood by all actors would likely improve the implementation of care plans, leading to a common acceptance and shared goals among health professionals. Although the ICF provides such a framework, it includes more than 1400 categories, which limits its utility in clinical practice. Hence, the WHO proposed a protocol to develop ICF Core Sets (ICF-CSs) for specific health conditions to facilitate its use in the clinical setting (Selb et al., 2014). Specifically, the ICF-CSs consist of a selection of

ICF categories that are considered essential for describing the functioning of an individual with a particular health condition. Two ICF-CSs for schizophrenia (Comprehensive and Brief) have been developed following the methodology endorsed by the WHO (Gómez-Benito et al., 2017).The Comprehensive ICF-CS for schizophrenia includes 97 categories covering the functioning problems that individuals with schizophrenia commonly experience. The Brief ICF-CS includes only 25 of these 97 categories, those considered essential for assessing and treating people with schizophrenia. Both ICF-CSs for schizophrenia are available for free download at: https://www.icf-research-branch.org/icf-core-sets-projects2/mental-health/icf-core-set-for-schizophrenia.

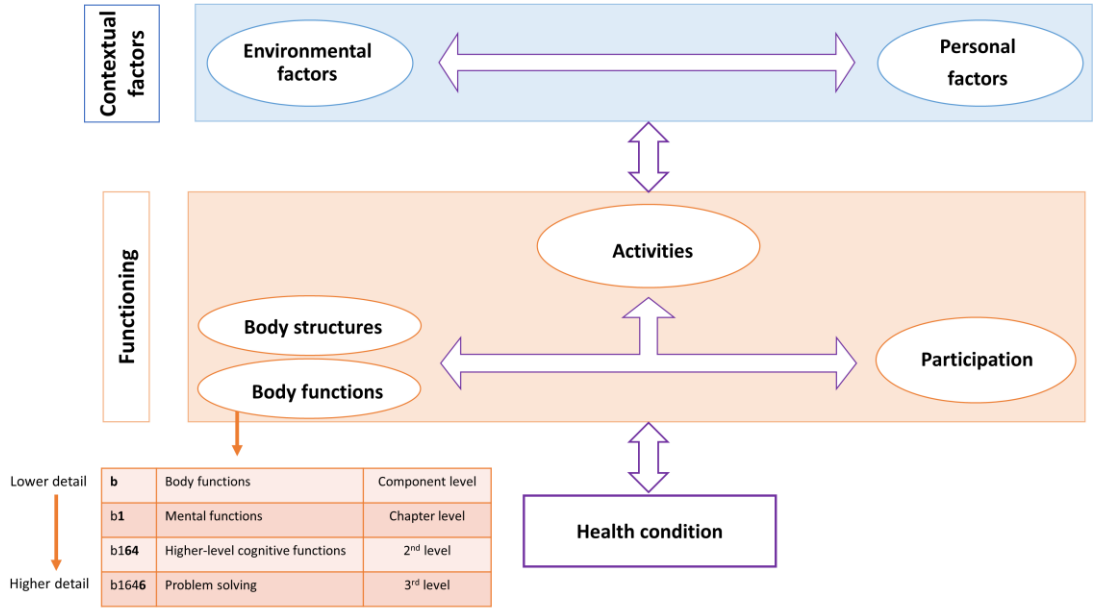

Figure 1. Integrative biopsychosocial model of functioning and disablity.

It is important to note, however, that a basic prerequisite for using these ICF-CSs in clinical settings is their validation from the perspective of professionals who work with individuals with schizophrenia. Hence, the goal of the present study was to examine the validity of the ICF-CSs for schizophrenia from the perspective of social workers, who play a key role in the integrated care of these patients. More specifically, the study aims were, first, to identify the most relevant problems in functioning and personal and environmental factors that social workers commonly encounter when working with individuals with schizophrenia, and second, to analyze to what extent these aspects are represented in the ICF-CSs for schizophrenia.

METHOD

The study used the consensus-building Delphi method to identify problems in functioning and personal and environmental factors that social workers commonly encounter when working with persons with schizophrenia. The Delphi method is a widely accepted research technique that uses multiple rounds of surveys to achieve consensus based on the opinions and feedback of experts in a given profession (Surowiecki, 2004; Yousuf, 2007). Although a number of variants of the Delphi method have been proposed, key features of the technique include anonymity among respondents and a controlled feedback process across a series of rounds (Trevelyan et

al., 2015; Jorm et al., 2015). Anonymity is guaranteed since the process is coordinated by a research team using, in most cases, an online platform or e-mail, thus avoiding any interaction between participants. Typically, in a Delphi study, participants respond to questionnaires in two or more rounds. In round one, the experts give their initial responses, which are then analyzed and summarized by the research team in order to provide feedback to participants for the following round. On the basis of this feedback, participants may choose to revise or maintain their previous responses. It is generally considered that this process results in decreasing the range of divergent responses and the group converges towards a consensus (Hsu & Sandford, 2007).

Expert Panel

Employing a purposive sampling approach, experts were recruited based on their experience of direct clinical work with individuals with schizophrenia (i.e., at least one year of experience). Several strategies were used to identify potential participants from around the world. Specifically, international associations of social workers, universities with health care professional training programs, and hospitals were contacted. Electronic database searches for authors who published in the domain of schizophrenia, as well as LinkedIn contacts and personal recommendations, were also used. Our aim was to recruit a panel of experts as broad and heterogeneous as possible and to achieve consensus and common opinion despite and across cultural and contextual variability. Indeed, we sought to obtain a sample of experts that, as far as possible, reflected worldwide diversity in all the variables considered (e.g., gender, age, years of experience, and region). Experts did not need to have specific knowledge about the ICF, and they were selected without taking into account their therapeutic orientation or training background. It was made clear that they should base their answers on their clinical experience. To enhance participation and worldwide representativeness of experts and avoid language barriers, materials were available in five languages (i.e., Chinese, English, French, Russian, and Spanish). All study materials were independently translated and supervised by at least two native speakers. An invitation letter describing the project targets, the Delphi process, and the timeline was sent by e-mail to all potential participants. Demographic and professional information was requested.

A total of 135 social workers were eligible for the Delphi study and were invited to take part in the first round. Of these, 57 social workers from 20 countries completed the first-round survey, representing all six WHO regions and accounting for 42.2% of invitees. Demographic and professional characteristics of participants who responded to the first round are summarized in Table 1. Their professional role primarily involved clinical practice (mean 41.1% of their time); other activities they took part in were research (mean 18.7% of their time), teaching and training (21.5%), management (12.5%), and other tasks (6.2%). A total of 39 social workers responded to the second round, and 36 completed the third round. The response rate across the three rounds was 63.2%.

TABLE 1. Profile of Delphi respondents.

Variable	Round 1	Round 2	Round 3
n	57	39	36
WHO region *n (%)*			
Africa	2 (3.5)	1 (2.6)	1 (2.8)
Americas	17 (29.8)	10 (25.6)	9 (25.0)
Eastern Mediterranean	1 (1.8)	1 (2.6)	1 (2.8)
Europe	13 (22.8)	11 (28.2)	11 (30.6)
South-East Asia	11 (19.3)	9 (23.1)	8 (22.2)
Western Pacific	13 (22.8)	7 (17.9)	6 (16.7)
Gender *n (%)*			
Male	18 (31.6)	14 (35.9)	13 (36.1)
Female	39 (68.4)	35 (64.1)	23 (63.9)
Age *mean (SD)*	45.1 (11.5)	42.3 (11.5)	42.5 (11.7)
Years of experience in schizophrenia *mean (range)*	10.3 (1 - 27)	10.1 (1-27)	10.0 (1-27)
Expertise *mean (range)*[a]	3.8 (1 - 5)	3.6 (2-5)	3.6 (2-5)
Population treated[b]			
Acute	28 (49.1)	17 (43.6)	14 (38.9)
Chronic	53 (93.0)	35 (89.7)	32 (88.9)
Rural	24 (42.1)	16 (41.0)	16 (44.4)
Urban	43 (75.4)	30 (76.9)	27 (75.0)

[a] Self-rating of schizophrenia expertise: 1 = limited expertise to 5 = extensive expertise

[b] It was possible to select more than one option

Procedure

Data were collected from April 2018 to June 2018 in three rounds using Qualtrics online data collection platform. On average, each round ran for about a month. Participants had two weeks to respond to each round and the research team had two additional weeks to analyze participants' responses. To increase the rate of participation, three reminders were sent (the first and second were sent one week and two days before the deadline, respectively, and the third on the deadline day itself). The Delphi process is summarized in Figure 2.

First Round. The selected participants received an e-mail with a link to the survey homepage and instructions. With the aim of gathering all aspects that social workers considered relevant when working with individuals with schizophrenia, participants were asked six open-ended questions covering all the ICF-CS components, with the *Environmental factors* component being divided into ‘supportive’ and ‘hindering’ factors (the six questions are listed verbatim in Figure 2). Participants were instructed to be brief and concise, and avoid using abbreviations and vague technical terms.

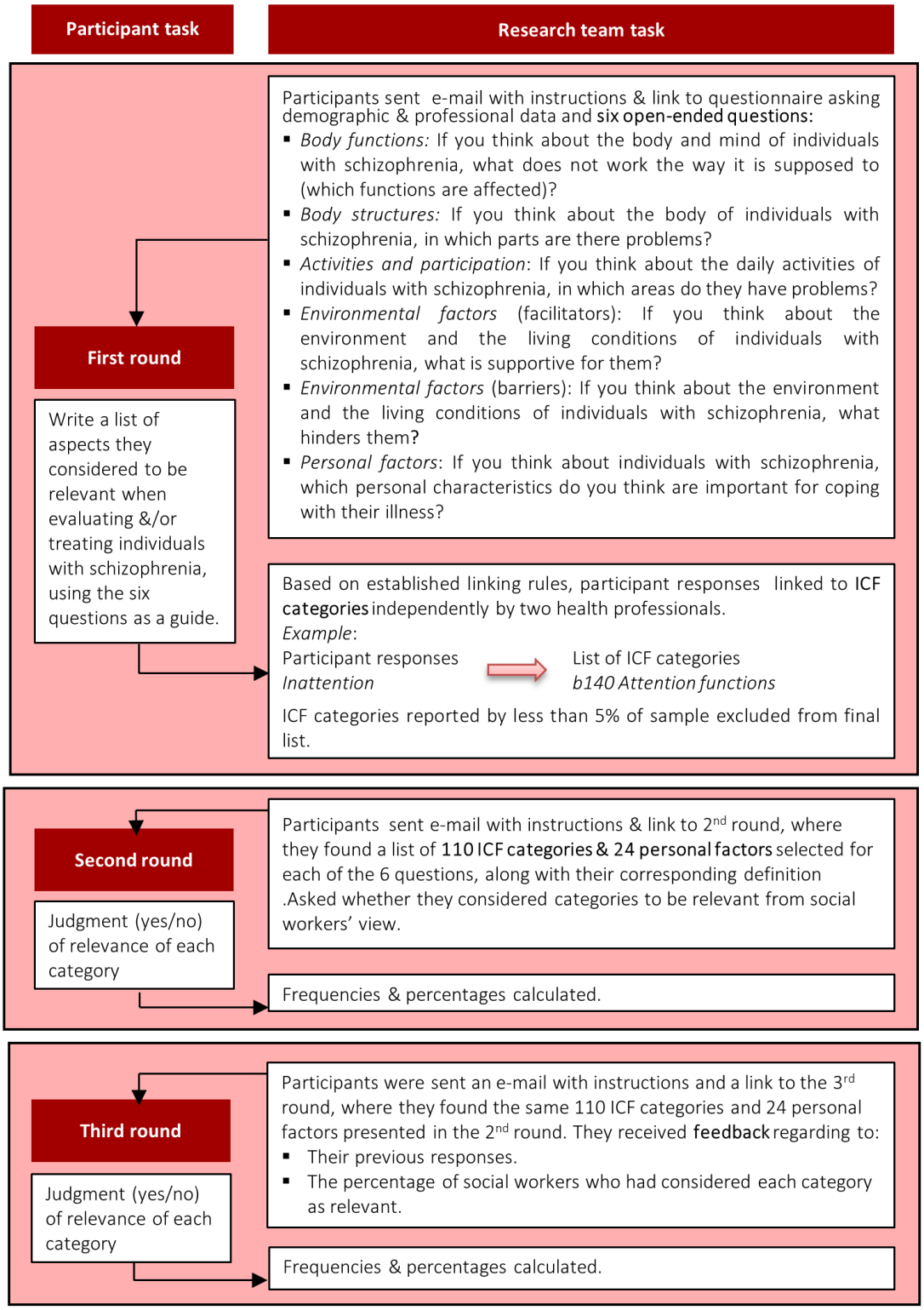

Figure 2. Description of Delphi process.

Each response collected in this first round was independently linked to ICF categories by two health professionals trained in the use of the ICF system and with expertise in treating individuals with schizophrenia. Because of the large number of responses to be linked, we created three coding teams comprised of two professionals. The linking process was carried out following established linking rules (Cieza, Fayed, Bickenbach, & Prodinger, 2019; Cieza et al., 2005). By way of an example, if the reported problem was 'taking a shower', the concept 'showering' was extracted and assigned to the ICF category *d510 Washing oneself*. Similarly, if the reported problem was 'inadequate or lack of access to medical care', the concept 'access to medical care' was extracted and assigned to the ICF category *e580 Health services, systems, and policies*. The definition of each ICF category, along with inclusion/exclusion examples, can be found in the ICF manual (World Health Organization, 2001). Any disagreement between the two independent coders was reviewed and discussed, initially by the research team and, if necessary, by two independent health professionals in order to reach consensus. Since Personal factors are not yet categorized in the current ICF system, a categorization proposed by Nuño, Guilera et al., 2019 was followed. Those ICF categories and personal factors reported by at least 5% of the participants were selected for inclusion in the second Delphi round.

Second Round. All the participants who responded to the first round received an e-mail with instructions and a link to the second-round survey. In this second round, they were presented with a list of the selected ICF categories and personal factors. In addition, and in order to proceed with the content validation of the ICF-CSs, categories contained in the ICF-CSs for schizophrenia but which had not been selected in the first round were also listed. Each ICF category was presented along with its corresponding definition (World Health Organization, 2001), whereas each personal factor was summarized in a brief statement developed by the research group. Participants were asked to judge whether each ICF category and personal factor was relevant or not from their perspective as a social worker working with individuals with schizophrenia; they were reminded that the final list should be as short as possible to be suitable for use in clinical practice but at the same time comprehensive enough to cover the most relevant needs of individuals diagnosed with schizophrenia.

Third Round. Participants who responded to the second round were then sent an e-mail with a link to the third-round survey. Their task in this round was to judge the same list of categories, but this time each category was presented along with information about the panel's response (i.e., the percentage of experts who considered that category as relevant in the second round), as well as a reminder of their own previous response (i.e., whether they had considered the category as relevant or not).

Data Analysis

Descriptive statistics were calculated to describe the demographic and professional characteristics of participants. Frequencies and percentages of ICF categories and personal factors were also calculated. When several responses of a given participant were assigned to the same ICF category or personal factor, they were counted only once in order to avoid overestimation towards a specific category. Inter-coder reliability in the linking process of

participants' responses in the first round was calculated using Kappa coefficients and 95% bootstrapped confidence intervals (95% CI).

Since a definition of consensus has yet to be universally established, we used a commonly accepted threshold of agreement (Diamond et al., 2014), defining consensus as agreement among at least 75% of participants. Statistical analysis was performed using IBM SPSS 23.0 for Windows (SPSS, Inc., Chicago, IL).

RESULTS

In the first round, a total of 941 meaningful concepts were extracted from the social workers' responses and were linked to 130 ICF categories and 43 personal factors. Inter-coder reliability for the linking process was .67 [95% CI: .64, .69]. Those categories that were reported by less than 5% of the participants were not presented in the second round. Seventeen ICF categories from the ICF-CSs were added to the list in order to include all the categories contained in the ICF-CS for schizophrenia. Consequently, a total of 110 ICF categories and 24 personal factors were presented in the second round. In the third round, consensus (i.e., agreement among ≥ 75% of participants) was achieved for 93 ICF categories and 20 personal factors.

Regarding the *Body functions* component, a total of 17 ICF categories achieved consensus, 13 of which (76.5%) belonged to chapter *b1 Mental functions*. The remaining categories pertained to three chapters: *b3 Voice and Speech Functions* (i.e., *b330 Fluency and rhythm of speech functions*), *b6 Genitourinary and reproductive functions* (i.e., *b640 Sexual functions*), and b7 *Neuromusculoskeletal and movement-related functions* (i.e., *b760 Control of voluntary movements functions* and *b765 Involuntary movement functions*). All the categories included in the Brief ICF-CS for schizophrenia yielded agreement above 90% in the third round. However, consensus was not reached for two categories included in the Comprehensive ICF-CS (i.e., *b117 Intellectual functions* and *b530 Weight maintenance functions*). Furthermore, consensus was achieved for two ICF categories not included in the Comprehensive ICF-CS (i.e., *b126 Temperament and personality functions* and *b760 Control of voluntary movement functions*). Table 2 lists the categories considered relevant by social workers and indicates whether or not they yielded consensus.

Although the ICF-CS for schizophrenia does not contain any category from the *Body structures* component, the category *s110 Structure of brain* yielded 100% consensus. Concerning the *Activities and participation* component, consensus was reached for 39 ICF categories in the third round, all of which feature in the Comprehensive ICF-CS for schizophrenia. Although consensus above 75% was achieved for all categories included in the Brief ICF-CS for schizophrenia, nine categories from the Comprehensive ICF-CS failed to yield consensus (e.g., *d166 Reading*, *d930 Religion and spirituality*). Table 3 shows the percentage agreement reached for each ICF category from the *Activities and participation* component in the third Delphi round.

TABLE 2. Body functions component. Categories presented to experts in the second and third rounds, percentage of social workers who considered each category as relevant in the third round (n = 36), whether or not consensus was reached in the Delphi process, and whether or not the category is currently included in the ICF-CSs for schizophrenia.

ICF code	ICF category	Percentage	Consensus	ICF Core Set
Chapter b1 Mental functions				
b114	Orientation functions	92	✓	✓
b117	Intellectual functions	72	✗	✓
b122	Global psychosocial functions	100	✓	✓(B)
b126	*Temperament and personality functions*	*81*	✓	✗
b130	Energy and drive functions	100	✓	✓(B)
b134	Sleep functions	92	✓	✓
b140	Attention functions	92	✓	✓(B)
b144	Memory functions	83	✓	✓
b147	Psychomotor functions	94	✓	✓
b152	Emotional functions	97	✓	✓(B)
b156	Perceptual functions	97	✓	✓(B)
b160	Thought functions	97	✓	✓(B)
b164	Higher-level cognitive functions	100	✓	✓(B)
b180	Experience of self and time functions	92	✓	✓(B)
Chapter b2 Sensory functions and pain				
b280	Sensation of pain	44	✗	✗
Chapter b3 Voice and speech functions				
b330	Fluency and rhythm of speech functions	100	✓	✓
Chapter b5 Functions of the digestive, metabolic, and endocrine systems				
b530	Weight maintenance functions	64	✗	✓
Chapter b6 Genitourinary and reproductive functions				
b640	Sexual functions	78	✓	✓
Chapter b7 Neuromusculoskeletal and movement-related functions				
b760	*Control of voluntary movements functions*	*78*	✓	✗
b765	Involuntary movement functions	86	✓	✓

ICF: International Classification of Functioning, Disability, and Health
(B): Categories included in the Brief ICF-CS for schizophrenia
In italics: Categories for which consensus was reached in the third Delphi round but that do not feature in the ICF-CS for schizophrenia

TABLE 3. Activities and participation component. Categories presented to experts in the second and third rounds, percentage of social workers who considered each ICF category as relevant in the third round (n = 36), whether or not consensus was reached in the Delphi process, and whether or not the category is currently included in the ICF-CSs for schizophrenia.

ICF code	ICF category	Percentage	Consensus	ICF Core Set
Chapter d1 Learning and applying knowledge				
d155	Acquiring skills	75	✓	✓(B)
d160	Focusing attention	75	✓	✓
d163	Thinking	78	✓	✓
d166	Reading	64	×	✓
d175	Solving problems	86	✓	✓ (B)
d177	Making decisions	97	✓	✓
Chapter d2 General tasks and demands				
d210	Undertaking a single task	69	×	✓
d220	Undertaking multiple tasks	97	✓	✓
d230	Carrying out daily routine	92	✓	✓ (B)
d240	Handling stress and other psychological demands	97	✓	✓ (B)
Chapter d3 Communication				
d310	Communicating with – receiving - spoken messages	75	✓	✓
d315	Communicating with - receiving - nonverbal messages	89	✓	✓
d330	Speaking	78	✓	✓
d335	Producing nonverbal messages	83	✓	✓
d350	Conversation	86	✓	✓
Chapter d4 Mobility				
d470	Using transportation	67	×	✓
d475	Driving	72	×	✓
Chapter d5 Self-care				
d510	Washing oneself	78	✓	✓
d520	Caring for body parts	94	✓	✓
d540	Dressing	72	×	✓
d550	Eating	47	×	×
d570	Looking after one's health	92	✓	✓ (B)
Chapter d6 Domestic life				
d610	Acquiring a place to live	78	✓	✓
d620	Acquisition of goods and services	78	✓	✓
d630	Preparing meals	72	×	✓
d640	Doing housework	75	✓	✓
d650	Caring for household objects	86	✓	✓
d660	Assisting others	78	✓	✓
Chapter d7 Interpersonal interactions and relationships				
d710	Basic interpersonal interactions	78	✓	✓ (B)
d720	Complex interpersonal interactions	94	✓	✓ (B)
d730	Relating with strangers	75	✓	✓
d740	Formal relationships	89	✓	✓
d750	Informal social relationships	86	✓	✓

ICF code	ICF category	Percentage	Consensus	ICF Core Set
d760	Family relationships	89	✓	✓ (B)
d770	Intimate relationships	86	✓	✓
Chapter d8 Major life areas				
d820	School education	89	✓	✓
d825	Vocational training	83	✓	✓
d830	Higher education	92	✓	✓
d840	Apprenticeship (work preparation)	81	✓	✓
d845	Acquiring, keeping and terminating a job	97	✓	✓ (B)
d850	Remunerative employment	89	✓	✓
d855	Non-remunerative employment	75	✓	✓
d860	Basic economic transactions	58	×	✓
d865	Complex economic transactions	86	✓	✓
d870	Economic self-sufficiency	92	✓	✓
Chapter d9 Community, social, and civic life				
d910	Community life	83	✓	✓ (B)
d920	Recreation and leisure	86	✓	✓
d930	Religion and spirituality	53	×	✓
d950	Political life and citizenship	67	×	✓

ICF: International Classification of Functioning, Disability and Health
(B): Categories included in the Brief ICF-CS for schizophrenia

Concerning *Environmental factors*, consensus was achieved for 36 ICF categories, including all 32 categories that make up this component in the Comprehensive ICF-CS for schizophrenia. The four additional ICF categories not included in the Comprehensive ICF-CS but which were considered relevant by social workers related to chapter *e1 Products and technology* (i.e., *e115 Products and technology for personal use in daily living*) and chapter *e5 Services, systems, and policies* (i.e., *e535 Communication services, systems, and policies, e540 Transportation services, systems, and policies,* and *e595 Political services, systems, and policies*). Table 4 lists the ICF categories from the *Environmental factors* component that were rated by participants in the third round.

TABLE 4. Environmental factors component. Categories presented to experts in the second and third rounds, percentage of social workers who considered each ICF category as relevant in the third round (n = 36), whether or not consensus was reached in the Delphi process, and whether or not the category is currently included in the ICF-CSs for schizophrenia.

ICF code	ICF category	Percentage	Consensus	ICF Core Set
Chapter e1 Products and technology				
e110	Products or substances for personal consumption	97	✓	✓
e115	*Products and technology for personal use in daily living*	83	✓	×
e125	Products and technology for communication	75	✓	✓
e130	Products and technology for education	75	✓	✓
e135	Products and technology for employment	72	×	×
e140	Products and technology for culture, recreation, and sport	67	×	×

ICF code	ICF category	Percentage	Consensus	ICF Core Set
e165	Assets	94	✓	✓
Chapter e3 Support and relationships				
e310	Immediate family	97	✓	✓ (B)
e315	Extended family	94	✓	✓
e320	Friends	94	✓	✓
e325	Acquaintances, peers, colleagues, neighbors, and community members	97	✓	✓
e330	People in positions of authority	92	✓	✓
e340	Personal care providers and personal assistants	97	✓	✓
e355	Health professionals	100	✓	✓ (B)
e360	Other professionals	94	✓	✓
Chapter e4 Attitudes				
e410	Individual attitudes of immediate family members	97	✓	✓ (B)
e415	Individual attitudes of extended family members	97	✓	✓
e420	Individual attitudes of friends	94	✓	✓
e425	Individual attitudes of acquaintances, peers, colleagues, neighbors, and community members	92	✓	✓
e430	Individual attitudes of people in positions of authority	86	✓	✓
e440	Individual attitudes of personal care providers and personal assistants	94	✓	✓
e450	Individual attitudes of health professionals	100	✓	✓ (B)
e455	Individual attitudes of other professionals	94	✓	✓
e460	Societal attitudes	92	✓	✓ (B)
e465	Social norms, practices and ideologies	97	✓	✓
Chapter e5 Services, systems, and policies				
e525	Housing services, systems, and policies	94	✓	✓
e535	*Communication services, systems, and policies*	89	✓	×
e540	*Transportation services, systems, and policies*	89	✓	×
e545	Civil protection services, systems, and policies	92	✓	✓
e550	Legal services, systems, and policies	89	✓	✓
e555	Associations and organizational services, systems, and policies	94	✓	✓
e560	Media services, systems, and policies	86	✓	✓
e570	Social security services, systems, and policies	100	✓	✓ (B)
e575	General social support services, systems, and policies	97	✓	✓
e580	Health services, systems, and policies	100	✓	✓ (B)
e585	Education and training services, systems, and policies	92	✓	✓
e590	Labor and employment services, systems, and policies	86	✓	✓
e595	*Political services, systems, and policies*	89	✓	×

ICF: International Classification of Functioning, Disability, and Health
(B): Categories included in the Brief ICF-CS for schizophrenia
In italics: Categories for which consensus was reached in the third Delphi round but that do not feature in the ICF-CS for schizophrenia

Finally, social workers identified a set of 24 *Personal factors* as being relevant to the functioning of individuals with schizophrenia, and 20 of these were endorsed by more than 80% of participants. Table 5 shows the personal factors identified by the expert panel and their corresponding percentage agreement in the third round.

TABLE 5. Personal factor component (proposed categories). Categories presented to experts in the second and third rounds and percentage of social workers who considered the respective category as relevant in the third round (n = 36).

Personal factor	Percentage	Consensus
Habits and lifestyle		
Lifestyle	94	✓
Other personal factors		
Age at onset	97	✓
Genetics	92	✓
Personal history and biography	100	✓
Personal skills		
Cognitive skills	94	✓
Coping skills	100	✓
Psychosocial skills	100	✓
Personality and other psychological characteristics		
Attitudes towards health	100	✓
Autonomy	97	✓
Confidence	89	✓
Conscientiousness	72	?
Motivation	94	✓
Optimism	92	✓
Personal attitude	94	✓
Personality	94	✓
Self-awareness	97	✓
Sociodemographic variables		
Age	86	✓
Educational and cultural background	92	✓
Ethnicity	58	?
Gender	64	?
Living situation	97	✓
Marital status	69	?
Occupational status	94	✓
Socioeconomic status	83	✓

Table 6 provides a summary of the results, showing the number of categories in each component for which consensus was achieved, as well as how many of these categories are also featured in the ICF-CS for schizophrenia. As a complement, Table 7 shows the categories that did not match between the two sets of data (i.e., the ICF-CS for schizophrenia and the categories achieving consensus in the present study). Among the 93 ICF categories selected by at least 75% of social workers, 92.5% are included in the Comprehensive ICF-CS for schizophrenia. Consensus was

obtained for 88.7% of the categories included in the Comprehensive ICF-CS for schizophrenia and all those are featured in the corresponding Brief version.

TABLE 6. Summary of the ICF categories for which consensus was achieved and comparison with the ICF-CS for schizophrenia.

	ICF component				
Number of categories…	***Body functions***	***Body structures***	***Activities and participation***	***Environmental factors***	**Total**
… presented to experts in the 2nd and 3rd rounds	20	3	49	38	110
… for which consensus was reached	17	1	39	36	93
… from the ICF-CS for which consensus was reached / …in the ICF-CS for schizophrenia	15 / 17	0 / 0	39 / 48	32 / 32	86 / 97

TABLE 7. Categories that did not match when comparing the ICF-CS for schizophrenia with the categories for which consensus was reached in the Delphi study.

	ICF Component	Category
Categories for which consensus was reached but that do not feature in the Comprehensive ICF-CS	Body functions	b126 Temperament and personality functions b760 Control of voluntary movement functions
	Body structures	s110 Structure of brain
	Environmental factors	e115 Products and technology for personal use in daily living e535 Communication services, systems, and policies e540 Transportation services, systems, and policies e595 Political services, systems and policies
Categories from the Comprehensive ICF-CS for which consensus was not reached	Body functions	b117 Intellectual functions b530 Weight maintenance functions
	Activities and participation	d166 Reading d210 Undertaking a single task d470 Using transportation d475 Driving d540 Dressing d630 Preparing meals d860 Basic economic transactions d930 Religion and spirituality d950 Political life and citizenship

DISCUSSION

The current study highlights the main functioning-related issues that social workers consider when working with individuals with schizophrenia. It also provides strong support for the worldwide content validity of the ICF-CS for schizophrenia, in this case from the perspective of social workers. All the ICF categories selected by at least 75% of social workers are included in the Brief ICF-CS for schizophrenia, and most of them are also featured in the corresponding Comprehensive ICF-CS.

Body Functions

Regarding those aspects that social workers encounter when working with individuals with schizophrenia, it is worth noting that consistent with the results obtained in recent Delphi studies (Nuño, Barrios, Rojo, Gómez-Benito, & Guilera, 2018; Nuño, Guilera et al., 2019; Nuño, Barrios et al., 2019) exploring the perspective of other health professionals (i.e., nurses, psychiatrists, psychologists), most of the ICF categories from the *Body Functions* component that yielded consensus belong to chapter *b1 Mental functions*. Thus, social workers identified the common symptoms and problems with which individuals with schizophrenia have to cope, including positive (e.g., *b160 Perceptual functions*) and negative symptoms (e.g., *b130 Energy and drive functions*), cognitive deficits (e.g., *b164 Higher-level cognitive functions*), and other mental functions (e.g., *b134 Sleep functions*). Furthermore, ICF categories belonging to other chapters (i.e., *b3 Voice and speech functions, b6 Genitourinary and reproductive functions*, and *b7 Neuromusculoskeletal and movement-related functions*) were also identified as relevant to the clinical practice of social workers. This is consistent with the fact that individuals with schizophrenia show a wide spectrum of clinical manifestations and high rates of medical comorbidities (Lambert, Velakoulis, & Pantelis, 2003), making it necessary to deliver integrated health services so as to lessen their impact. For instance, movement-related disturbances and sexual dysfunctions are frequent side effects of drug treatments (Stroup & Gray, 2018), resulting in non-adherence or partial adherence to medication, which can potentially have a negative impact on the course of the illness (Higashi et al., 2013). Language and speech disabilities are also reported by patients with schizophrenia (Joyal, Bonneau, & Fecteau, 2016), and this is another area where additional health services are required. It is worth highlighting that the ability of social workers to identify not only the core symptoms of the disorder but also those additional problems that individuals with schizophrenia frequently encounter is consistent with the biopsychosocial model that guides contemporary social work practice, and it is in this respect that social workers have a key role to play within an integrated care system (Ashcroft, Kourgiantakis, Fearing, Robertson, & Brown, 2019).

Body Structures

All the participants agreed that the structure of the brain needs to be considered as a body structure when working with individuals with schizophrenia. The relevance of this category was also noted in previous Delphi studies conducted from the perspectives of psychiatrists (Nuño et al., 2018), psychologists (Nuño, Guilera et al., 2019), and nurses (Nuño, Barrios et al., 2019). Schizophrenia is known to be associated with abnormal structural and functional connectivity in the brain at both the microscopic and macroscopic levels (van den Heuvel & Fornito, 2014), but they can be partially restored by antipsychotic medication (Hutcheson et al., 2015). Partial or complete non-adherence to pharmacological treatment is associated with several negative consequences in individuals with schizophrenia (Novick et al., 2010). Hence, in order to promote medication adherence, several interventions have been developed, including psychoeducation, support groups, cognitive behavioral therapies, and family education, among others (Zygmunt, Olfson, Boyer, & Mechanic, 2002). Social work professionals are often the primary provider of these psychosocial interventions (Eack, 2012). It is also worth noting that both cognitive behavioral therapy and cognitive remediation have been linked to positive structural and

functional brain changes (Mason, Peters, Dima, Williams, & Kumari, 2016; Penadés et al., 2013) and a reduction in cognitive impairment, which is essential for functional recovery among individuals with schizophrenia (Eack, 2012). In this respect, social workers may help to alleviate psychotic symptoms and improve patients' cognitive outcomes by conducting appropriate assessment and referral (Ashcroft, McMillan, Ambrose-Miller, McKee, & Brown, 2018; Cordeiro et al., 2015).

Activities and participation

As in previous validation studies from the perspective of psychiatrists, psychologists, and nurses, the categories identified by social workers and linked to the *Activities and participation* component covered almost all the chapters of this component (specifically, seven out of eight). This finding illustrates the notable deficits that individuals with schizophrenia display when carrying out normal activities of daily living, including work performance, social relationships, living independently, and participation in community activities. These results also reflect the fact that professional tasks carried out by social workers have major implications in most areas of everyday functioning of this population, illustrating that the scope of social work intervention strategies goes beyond specific symptom remission and seeks to enable the participation of individuals with schizophrenia in a wide range of life domains. Since most individuals with schizophrenia live and participate in the community, social work professionals have a primary role in helping them to achieve functional recovery. Indeed, restoring the psychosocial functioning of individuals with schizophrenia by enhancing their skills and abilities in major domains of daily living (i.e., personal care, independent living, and work performance), social achievement (i.e., social relationships and participation in community activities), and social competence (i.e., their ability to socialize effectively with others) is the cornerstone of functional recovery (Harvey & Bellack, 2009; Slade & Longden, 2015). Achieving functional recovery requires multiple medical and non-medical interventions, and consequently, presents social workers with both opportunities and challenges in regard to their professional roles and responsibilities. Social workers focus not only on supporting the functional recovery of patients but also provide educational and supportive interventions to families and significant caregivers (Fox, Ramon, & Morant, 2015; Poon et al., 2018; Wilson & Kirwan, 2007; Wyder & Bland, 2014). In sum, social workers make important contributions to the identification of challenges that individuals with schizophrenia encounter in daily activities of living and in the implementation of individualized and collaborative intervention plans guided by patients' lifestyle, values and preferences (Ashcroft et al., 2019; Craig et al., 2016).

Environmental Factors

Regarding the *Environmental factors* component, consensus was reached for categories representing four of its five chapters, addressing factors related to attitudes (e.g., *b410 Individual attitudes of immediate family members*) and support provided by others (e.g., *b310 Immediate family*), the accessibility of support needed for daily living (e.g., *e165 Assets*), and the provision of services (e.g., *e570 Social security services, systems, and policies*) through which to obtain benefits and resources essential for optimizing the quality of life of individuals with schizophrenia. In terms of the role that social workers play in interprofessional teams, these

results show that they ascribe considerable importance to environmental factors in the functioning of individuals with schizophrenia. In this respect, the fact that participants identified a wider range of services needed to promote functioning in this population, compared with those identified in previous Delphi studies exploring the perspectives of nurses, psychiatrists, and psychologists (Nuño et al., 2018; Nuño, Barrios et al., 2019; Nuño, Guilera et al., 2019), highlights the biopsychosocial and person-in-environment contextual perspective of social work professionals. It is also worth noting that the individual with schizophrenia is invariably not the sole focus of social work interventions, as they consider the person in context which includes their family and/or caregivers (Tew et al., 2012; Webber & Joubert, 2015). In this regard, a core contribution of social workers in mental health is addressing how the social environment influences the disorder, and how the disorder impacts not only the affected individual but also his or her family and the community (Bland et al., 2015).

Families play a key role in community care as caregivers, and they experience considerable stress and burden as a result (DeTore, Ventura, Subotnik, & Nuechterlein, 2018; Jansen, Gleeson, & Cotton, 2015; Poon et al., 2018). Many adults who are diagnosed with schizophrenia are living with their families, and hence helping family members to understand better what their relative is experiencing may reduce their stress levels and enable them to more effectively support their relative and cope more effectively with the illness. For instance, families may help to ensure adherence to medication, which has been shown to decrease rates of relapse and hospital admissions and to improve functional outcomes (Bird et al., 2010; DeTore et al., 2018).

Personal Factors

Finally, a large number of social workers' responses were coded as *Personal factors*, and hence a list of 24 personal factors was presented to the expert panel in the second round, 20 of which yielded consensus in the third round. This finding highlights the importance of personal characteristics when it comes to assessing social care needs and delivering integrated services that take into account the preferred lifestyle and aspirations of service users, their families, and caregivers (Heller & Gitterman, 2011). In the literature, personal characteristics such as age at onset (O'Donoghue et al., 2015), personal history and biography (Lee, Martin, Tu, Palmer, & Jeste, 2018), and lifestyle (Bhalla, Stefanovics, & Rosenheck, 2018) have all been found to influence how people with schizophrenia cope with their illness. Consequently, it would be useful for the ICF system to incorporate a classification of this component so as to enable the systematic identification of all personal factors that may influence functioning in different health conditions.

Validity of the ICF-CSs for Schizophrenia

With regard to the validity of ICF-CSs for schizophrenia, the present results show that their content validity is largely supported from the perspective of social work professionals. As noted above, all 25 categories from the Brief version were identified as relevant by social workers, and the content of the Comprehensive version was also largely validated. With specific regard to the Comprehensive ICF-CS for schizophrenia, consensus was achieved for all the categories listed in the *Environmental factors* component, and all the categories identified by social work professionals and linked to the *Activities and participation* component are likewise included in

the Comprehensive version. However, consensus was not achieved for nine categories that are currently listed in the *Activities and participation* component (e.g., *d166 Reading*, *d470 Using transportation*), nor for two of the 17 categories included in the *Body functions* component (i.e., *b117 Intellectual functions* and *b530 Weight maintenance functions*), suggesting that social workers did not consider these categories to be sufficiently relevant to their work with individuals with schizophrenia, and that these areas are not among their main targeted goals of their interventions. By contrast, three categories not included in the Comprehensive ICF-CS for schizophrenia were identified as relevant by the expert panel (i.e., *s110 Structure of brain*, *b126 Temperament and personality functions*, and *b760 Control of voluntary movement functions*). The international ICF-CS for schizophrenia workgroup therefore needs to determine whether these categories should subsequently be considered as part of the core set.

STRENGTHS AND LIMITATIONS

This study has a number of strengths. One of which is that the panel of experts was comprised of social workers from 20 countries covering all six WHO regions. A sample of these characteristics is not common in this kind of study (Kirschneck, Sabariego, Singer, & Tschiesner, 2014). Furthermore, all the experts surveyed had considerable experience in working with patients with schizophrenia, both acute and chronic and from both rural and urban settings. Another strength of the study is that participation was possible in any of five languages, and this is likely to have been a key factor in achieving such a multicultural and multinational representation.

However, potential weaknesses that could limit the external validity of the study findings must also be acknowledged. Despite our efforts to recruit a large and representative panel of experienced social workers (i.e., searching for potential participants through several and varied resources and providing survey materials in five different languages), the number who were willing to participate in the Delphi study was small in comparison with the relatively large number of social workers who work in mental health settings. That said, far fewer social workers work specifically with individuals with schizophrenia, and hence the majority would probably not consider themselves experts in schizophrenia. A further limitation is that from the 135 potential participants eligible for the study, only 57 agreed to participate in the first round. This may be because potential participants were informed at the outset of the commitment involved (completing three rounds, etc.), and some may have considered this to be too time consuming. Gargon, Crew, Burnside, and Williamson (2019) analyzed factors that impact response rates in Delphi studies and highlighted both the number of rounds and the number of items included in the second and successive rounds as key factors. They found that response rates ranged widely between 45% and 93% in studies that included three rounds compared with an overall response rate of 80% or higher in studies with just two rounds. In addition, studies with more items to consider in the second round had significantly lower response rates. Furthermore, the coefficient for the number of items in relation to response rate was -0.14, meaning that for every 10 additional items included in the round, the estimated response rate dropped by 1.4 percentage points. In the present study, participants had to consider 134 categories in the second and third rounds. In light of all these factors, a retention rate of 63.2% from the first to the third round can be considered acceptable. A final limitation to consider is that despite the

worldwide participation, some WHO regions (i.e., Africa and Eastern Mediterranean) are under-represented in our sample. There may be various reasons for this, for instance, fewer social workers overall and less involvement in the care of individuals with schizophrenia in these regions, as well as more limited internet access, making it more difficult to contact these professionals.

CONCLUSIONS AND IMPLICATIONS

In sum, the current study has documented the most relevant areas and aspects that social workers consider when working with individuals with schizophrenia. Incorporating their perspective into the validation process of the ICF-CSs for schizophrenia enhances their status and acknowledges the key role of the profession in the delivery of mental health care. In addition, our findings largely confirm the validity of the ICF-CSs for schizophrenia as a framework to be used within social work practice. Accordingly, social work practitioners in the mental health field may use these ICF-CSs as a tool to assess functional status, identify an individual's strengths and weaknesses, and determine appropriate interventions.

Overall, the present results provide further empirical support that the ICF-CSs for schizophrenia may be used as a standard set of ICF categories to facilitate the assessment of functioning in real-life clinical practice. Importantly, improvement and decline in aspects of a patient's functioning can be displayed in a functioning profile over the course of treatment or over the life span. The ICF-CSs for schizophrenia may also be used as a framework for analyzing the content of patient-reported outcome measures or to inform instrument developers about what needs to be included in tools designed to assess the functioning of persons with schizophrenia. Finally, it should be noted that use of the ICF-CS framework may facilitate communication and coordination in integrated care systems involving interdisciplinary teams. Such systems are becoming increasingly common, and social workers are key members of interdisciplinary teams. In this respect, validation of the ICF-CSs for schizophrenia from the perspective of social workers can enhance recognition of the profession within the mental health context, enabling other health professionals and disciplines to understand and see the relevance of factors critical to all levels of social work practice, from direct work with patients to advocating for policy changes. The present results underline the importance of ensuring that health information systems include elements that are relevant to social work.

ACKNOWLEDGMENTS: We express our thanks to all PMHNs for their invaluable contribution in the Delphi study and the time they devoted to respond to the questionnaire. Participants that agreed to be named in the present paper were (in alphabetic order): A. Abd El-Whab, M. C. Almansa Sánchez, S. Aspa, K. J. Bentley, C. Bentura, B. P. Berigai, S. Berthold, A. Bonifacio, K. M.Chan, A. Choolayil, A. de Barrio, S. Fazio, C. A. Fernandez Garcia, K. T. Hay, T. Izutsu, A. Jagannathan, L. Kontoussias, C. Larkin, L. R. Luciene, E. Lukens, M. Martín García, H. McDonald, V. Morel, C. C. Obuene, K. V. Perera, J. Pombo, M. Pousthomis, Y. Pradhan, G. Ragesh, R. K. Rajeev, E. Sanchez Echevarría, K. Shanmugam, P. Solomon, S. Tyagi, D. Vidal and S. Yamaguchi.

CONFLICT OF INTEREST: The authors declare no conflict of interest.

FUNDING: This work was supported by Spain's Ministry of Economy and Competitiveness [grant PSI2015-67984-R], and by Agency for the Management of University and Research Grants of the Government of Catalonia [Grant 2017SGR1681].

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4.1.6. Estudi 6: Perspectiva des de l'àmbit de la fisioteràpia

- Títol: Functioning in schizophrenia: the perspective of physiotherapists
- Autoria: Laura Nuño, Maite Barrios, Davy Vancampfort, Emilio Rojo, Juana Gómez-Benito, Georgina Guilera
- Revista: en segona revisió (canvis menors) a Disability and Rehabilitation
    - Classificació segons el *Journal Citation Report (2018):*
        - Factor d'impacte: 2,054
        - Rank: 11/69 - Quartil 1 - Categoria: Rehabilitation - SSCI
- La versió preprint de l'estudi es presenta a continuació. El material suplementari pot consultar-se a l'Annex 5.

ESTUDI 6

Functioning in schizophrenia: A Delphi study covering the perspective of physiotherapists

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ABSTRACT

Purpose: This qualitative study explores the barriers, personal characteristics/resources and environmental factors that experienced physiotherapists identify as relevant in the assessment and treatment of persons living with schizophrenia, and whether the identified aspects are represented in the International Classification of Functioning, Disability and Health Core Sets for schizophrenia. *Methods:* A three-round Delphi study with physiotherapists was conducted between April and July 2018. In the first round, participants had to list all the aspects they considered to be relevant when assessing and/or treating individuals with schizophrenia, and they were asked six open-ended questions. Their responses were linked to categories. In the second and third rounds, physiotherapists had to judge whether each category/personal factor was relevant for describing functioning in schizophrenia. *Results:* Thirteen of 22 eligible physiotherapists from eight countries responded to the first round, and 10 completed all three rounds. Eighty-two (84.5%) of the 97 categories in the Comprehensive Core Set for schizophrenia and all 25 categories in the Brief Core Set were considered relevant. A total of five categories were additionally identified. *Conclusions:* The barriers, personal characteristics/resources and environmental factors from the physiotherapists' perspective have been identified. The results largely confirm the content validity of the Core Sets for schizophrenia.

Keywords: physiotherapy; schizophrenia; International Classification of Functioning, Disability and Health (ICF); Core Set (CS); content validity

INTRODUCTION

Schizophrenia is a chronic and severe mental disorder involving positive symptoms (e.g. delusions, hallucinations, racing thoughts), negative symptoms (e.g. apathy, lack of emotion, poor or non-existent social functioning) and neuropsychological impairments such as disorganized thoughts and difficulty concentrating and/or following instructions[1,2]. It is among the most disabling disorders [3] and it affects various areas of an individual's daily functioning, including the ability to live independently, productive activities and social relationships [4].

Physiotherapists can play an important role in the care of people with schizophrenia, helping to improve their mental, physical and social quality of life [5,6]. As part of a multidisciplinary team, physiotherapists are ideally placed to promote lifestyle choices and to improve the functional outcomes of individuals with schizophrenia by motivating them towards physical activity, addressing clinical pain, improving body awareness and promoting bone health [7,6]. A detailed and multidisciplinary understanding of a person's functioning and health status is crucial for designing and implementing better interventions [5]. The International Classification of Functioning, Disability and Health (ICF) [8] is based on a bio-psycho-social model and offers a list of indicators (ICF categories) that can be used to comprehensively assess functioning in any health condition. The ICF describes functioning as the interaction of several components, which are defined in box 1.

Box 1. Brief description of each ICF component.

Body functions: defines physiological and psychological functions.

Body structures: describes the anatomical parts of the body.

Activities and Participation: task execution, activities of daily living, interpersonal relationships and community living.

Environmental factors: the physical, social and attitudinal environment in which people live and conduct their lives.

Personal factors: individual features which may influence the functioning of a particular person, for example, gender, age, ethnicity, education or lifestyle.

The ICF system includes more than 1,400 hierarchically organized categories, making its implementation a major challenge for clinical practice. To facilitate its application the World Health Organization (WHO) suggests developing ICF Core Sets (ICF-CSs), consisting of a selection of ICF categories that are considered essential for describing the functioning of a person living with a particular health condition. The ICF-CSs for schizophrenia have already been developed [9], and both comprehensive (97 categories) and brief versions (25 categories) are available. However, a prerequisite for the application of these ICF-CSs in clinical practice is their content validation from the perspective of different professionals who work with people with schizophrenia. This includes physiotherapists. Accordingly, the present study sought to address the following two questions:

(1) What are the barriers, personal characteristics/resources and environmental factors that experienced physiotherapists identify as relevant in the assessment and treatment of persons living with schizophrenia?
(2) To what extent are the identified aspects represented in the International Classification of Functioning, Disability and Health Core Sets (ICF-CSs) for schizophrenia?

METHODS

Design

A three-round worldwide electronic-mail survey based on a consensus-building Delphi method was conducted with physiotherapists with expertise in the treatment of persons with schizophrenia. The Delphi technique is a widely used and accepted method for gathering data from a panel of individuals with knowledge of the topic being investigated. It involves an iterative multistage process in which a series of rounds is used to transform individual opinion into group consensus [10,11].

Participants

Physiotherapists with at least one year of experience in the field of schizophrenia were eligible to participate in the Delphi study. Potential participants were identified via the following: the website of the International Organization of Physical Therapists in Mental Health, the list of contributors to the International Conference of Physical Therapy in Psychiatry and Mental Health, electronic database searches of authors who have published on the topic of schizophrenia, universities with health professional training programs, hospitals, LinkedIn contacts and personal recommendations. In order to maximise the participation rate and worldwide representativeness of experts, participation was possible in any of five languages (Chinese, English, French, Russian or Spanish).

An invitation letter was sent by e-mail to 22 physiotherapists who met the eligibility criteria. The letter included a detailed description of the project aims and the Delphi process and explained that no previous knowledge of the ICF was required to participate. Demographic and professional data were also requested.

Delphi process

The Delphi process followed in the present study has been used in several other previous studies [12–14]. Data from the physiotherapists were collected between April and July 2018 across three rounds, each separated by a two-week interval. In each round, and in order to increase the participation and completion rate, three reminders were sent by e-mail (one week and two days before the response deadline and on the deadline day itself). An online survey system (Qualtrics) was used in all three rounds (www.qualtrics.com).

First round. Participants were sent an e-mail with a link to the survey homepage. The latter included instructions on how to complete the survey (i.e. list all the aspects they considered to be relevant when assessing and/or treating individuals with schizophrenia) and six open-ended questions that covered all components of the ICF (see box 2). The *Environmental*

factors component was divided into supportive and hindering factors.

Box 2. Open-ended questions presented to physiotherapists in the first round of the Delphi process.

1. If you think about the **body** and **mind** of individuals with schizophrenia, what does not work the way it is supposed to (which **functions** are affected)?
2. If you think about the **body** of individuals with schizophrenia, in which parts are there problems?
3. If you think about the **daily activities** of individuals with schizophrenia, in which areas do they have problems?
4. If you think about the **environment** and the **living conditions** of individuals with schizophrenia, what is supportive for them (i.e. what acts as a **facilitator**)?
5. If you think about the **environment** and the **living conditions** of individuals with schizophrenia, what hinders them (i.e. what acts as a **barrier** or obstacle)?
6. If you think about individuals with schizophrenia, which **personal characteristics** do you think are important for coping with their illness?

Between the first and second rounds, physiotherapists' responses were independently linked to the corresponding ICF category by two health professionals, both with experience of treating persons with schizophrenia and trained in the use of the ICF system. This was done in accordance with established linking criteria [15,16]. Personal factors are not yet classified in the ICF system. However, as they are relevant to the assessment and intervention planning, concepts related to *Personal factors* were summarized and considered in rounds two and three of the Delphi study, these being accompanied by a definition created by our research group. The proposed categorization of *Personal factors* and their corresponding definitions were developed by consensus among three psychologists (L.N., M.B., G.G.) based on previously proposed categorizations of personal factors and on the experts' responses to the question about personal factors [12-14]. Disagreements were resolved by consensus involving two other health professionals. All the categories reported by at least 5% of the experts and all the ICF categories that form part of the ICF-CS for schizophrenia were selected for being presented at the second Delphi round. Details of the linking process are reported elsewhere [12].

Second round. Participants who responded in the first round were then sent an e-mail with a link to the second-round survey and instructions on how to complete it. This time they were presented with the selected list of ICF categories and *Personal factors* that resulted from the first round. The task for physiotherapists in this second round was to judge whether each category/personal factor was relevant for describing functioning in schizophrenia. There were two possible response options: yes or no. In order to facilitate their task, each ICF category was accompanied by its corresponding definition. The definition of each ICF category, along with inclusion/exclusion examples, can be consulted in the ICF manual [8].

Third round. Physiotherapists who responded in the second round were then sent an e-mail with a link to the third-round survey and instructions on how to complete it. The survey showed the same list of categories and personal factors as was used in the previous round and once again they were asked to judge the relevance of each (yes/no). However, in contrast to the second round, they were also given feedback regarding their previous responses to each category and were told the percentage of experts who had considered each category/personal

factor as relevant.

Data analysis

Kappa coefficients and 95% bootstrapped confidence intervals (95% CI) were calculated in order to assess inter-coder reliability in the linking process of experts' responses to the first Delphi round. In addition, we computed frequencies of ICF categories and personal factors in the first round. If several responses from the same participant were assigned to the same ICF category or personal factor, they were counted only once to avoid overestimation.

The percentage of third-round participants who agreed with respect to each category considered in the second and third Delphi rounds was then calculated. Since there is no universally accepted definition of consensus [17], and based on previous studies [18], agreement among at least 75% of participants was initially considered. However, as only 10 participants in the present study completed all three rounds, the consensus level was set at 70%.

Finally, the categories for which there was agreement in the third round were compared with the categories included in both the Comprehensive and Brief ICF-CSs, paying special attention to those categories that did not match in the two sets of data.

RESULTS

Participants

A total of 13 physiotherapists from eight countries completed the first round, representing 59.1% of those who were sent the survey material. The main demographic and professional characteristics of the participants from the first round are shown in table 1. Ten of the 13 physiotherapists responded to the second round of the survey and also completed the third. The completion rate across rounds one to three was 76.9%.

Linking process

The Kappa coefficient for the linking process was .72 [95% CI: .64 - .79]. In the first round, physiotherapists' responses yielded 97 concepts that were linked to 43 ICF categories. These categories and those from the ICF-CSs that had not been referred to by the physiotherapists (a further 67 categories) comprised the second-round list. In addition, a total of 14 concepts were classified as *Personal factors* and were also presented in the second round, in a list that also included nine sociodemographic variables that were considered essential. Consequently, 110 ICF categories and 23 personal factors were presented to physiotherapists in the second round. In the third round, consensus (i.e. agreement of at least 70%) was reached for 87 ICF categories and 21 personal factors.

Table 1. Demographic and professional characteristics of participants in the first round and participation rate across the three Delphi rounds.

Variable	Description
Participation rate *n (%)*	
Round 1	13 (59.1)
Round 2	10 (76.9)
Round 3	10 (100)
WHO region *n (%)*	
Americas[a]	2 (15.4)
Europe[b]	7 (53.8)
South-East Asia[c]	1 (7.7)
Western Pacific[d]	3 (23.1)
Gender *n (%)*	
Male	6 (46.2)
Female	7 (53.8)
Age *mean (SD)*	43.23 (10.63)
Years of experience in schizophrenia *mean (range)*	10.46 (1-30)
Expertise *mean (range)* [e]	3.31 (1-5)
Population treated[f]	
Acute	7 (53.8)
Chronic	12 (92.3)
Rural	3 (23.1)
Urban	7 (53.8)

[a] Brazil and Canada
[b] Belgium, Spain and Ukraine
[c] Thailand
[d] Australia and China
[e] Self-rating of schizophrenia expertise: 1 = limited expertise to 5 = extensive expertise
[f] It was possible to select more than one option

What are the problems, personal characteristics/resources and environmental factors that physiotherapists identify as relevant in persons living with schizophrenia?

Table 2 provides a summary of categories for which consensus was reached, as well as a comparison with the categories included in the Comprehensive ICF-CS for schizophrenia. Regarding the *Body functions* component, physiotherapists listed 22 ICF categories. Consensus was reached for 20 of these, with agreement of 100% for seven categories, all pertaining to chapter *b1 Mental functions* (see Supplemental material S1 for more details). In relation to *Body structures*, consensus was reached for two of the six ICF categories identified (i.e. 's110 *Structure of brain*' and 's770 *Additional musculoskeletal structures related to movement*') (see Supplemental material S2). Regarding the *Activities and participation* component, physiotherapists identified 49 ICF categories and reached consensus over 42 (see Supplemental material S3 for more details). Finally, 33 categories from the *Environmental factors* component were identified, 23 of which yielded consensus in terms of their relevance to functioning in schizophrenia (see Supplemental material S4 for more details). In summary, of the 110 ICF categories presented, 87 (79.1%) yielded agreement of at least 70%.

Table 2. Summary of categories for which consensus was reached and comparison with the categories included in the comprehensive ICF-CS for schizophrenia.

	ICF component				
Number of categories…	**Body functions**	**Body structures**	**Activities and participation**	**Environmental factors**	**Total**
… presented to experts in the second and third rounds	22	6	49	33	110
… for which consensus was reached	20	2	42	23	87
… from the ICF-CS for which consensus was reached / …in the ICF-CS for schizophrenia	17 / 17	0 / 0	42 / 48	23 / 32	82 / 97

Regarding *Personal factors*, a component that has yet to be classified in the ICF system, consensus was reached for 21 of the 23 concepts (91.3%) that were presented to the physiotherapists. Supplemental material S5 shows the personal factors listed and their corresponding percentages of agreement in round 3.

To what extent are the aspects identified by physiotherapists represented in the ICF-CSs for schizophrenia?

All 25 categories included in the Brief ICF-CS for schizophrenia were confirmed as relevant by the physiotherapists, with an agreement of at least 70%. Therefore, the following comparative analyses are limited to the Comprehensive ICF-CS for schizophrenia.

Eighty-two of the 97 categories in the Comprehensive ICF-CS for schizophrenia (84.5%) were confirmed by the physiotherapists: all 17 (100%) from the *Body functions* component, 42 out of 48 (87.5%) from the *Activities and participation* component, and 23 out of 32 (71.9%) from the *Environmental factors* component. Results for the comparison between physiotherapists' responses and the content of the Comprehensive ICF-CS for schizophrenia are shown in table 3. Five categories not included in the Comprehensive ICF-CS for schizophrenia were regarded as relevant by at least 70% of the physiotherapists. Three of these categories referred to *Body functions* (i.e. 'b126 *Temperament and personality functions*', 'b735 *Muscle tone functions*' and 'b770 *Gait pattern functions*') and two to *Body structures* (i.e. 's110 *Structure of brain*' and s770 '*Additional musculoskeletal structures related to movement*'). It is important to highlight that the Comprehensive ICF-CS does not currently contain any category from the *Body structures* component. Six of the 48 categories from the *Activities and participation* component and nine of the 32 categories that comprise the *Environmental factors* component in the ICF-CS for schizophrenia did not yield consensus in the present Delphi study.

In summary, five of the 87 ICF categories for which consensus was achieved do not feature in the Comprehensive ICF-CS for schizophrenia. In addition, 15 categories that are represented in the ICF-CS did not yield 70% agreement among physiotherapists. Finally, consensus was reached for 29 of the 31 *Personal factors* (93.5%) that were presented to the expert panel (see Supplemental material S5).

Table 3. Summary of ICF categories for which consensus among physiotherapists was reached and comparison with the categories included in the comprehensive ICF-CS for schizophrenia.

	ICF Component	ICF category	Percentage of agreement (%)[a]
Categories for which consensus was reached but which do not feature in the comprehensive ICF-CS	Body functions	b126 Temperament and personality functions	90
		b735 Muscle tone functions	80
		b770 Gait pattern functions	70
	Body structures	s110 Structure of brain	100
		s770 Additional musculoskeletal structures related to movement	70
Categories from the comprehensive ICF-CS for which consensus was not reached	Activities and participation	d210 Undertaking a single task	60
		d470 Using transportation	40
		d510 Washing oneself	50
		d540 Dressing	50
		d860 Basic economic transactions	40
		d930 Religion and spirituality	60
	Environmental factors	e125 Products and technology for communication	60
		e130 Products and technology for education	60
		e165 Assets	60
		e330 People in positions of authority	60
		e415 Individual attitudes of extended family members	60
		e425 Individual attitudes of acquaintances, peers, colleagues, neighbours and community members	60
		e430 Individual attitudes of people in positions of authority	50
		e525 Housing services, systems and policies	60
		e560 Media services, systems and policies	50

[a] Percentage of participants who considered the respective ICF category as relevant in the third round.

DISCUSSION

This study has identified the main functioning-related issues that physiotherapists encounter when treating individuals with schizophrenia. Consensus was reached regarding 84.5% of the categories included in the Comprehensive ICF-CS for schizophrenia and 100% of those in the brief version, thus supporting their content validity from the perspective of physiotherapists.

Most of the categories from the *Body functions* component of the Comprehensive ICF-CS that yielded consensus corresponded to '*b1 Mental functions*'. The average agreement among physiotherapists of 92.9% is similar to the figure reported in other Delphi studies that have explored the perspective of psychiatrists, nurses and psychologists [12–14]. These categories refer to typical and well-described symptoms in schizophrenia, including positive symptoms such as hallucinations and delusions ('b156 *Perceptual functions*' and 'b160 *Thought functions*', respectively), negative symptoms such as flattening of affect ('b152 *Emotional functions*'), and specific cognitive functions (e.g. 'b140 *Attention functions*') and other mental functions (e.g. 'b134 *Sleep functions*'). There is strong evidence in the literature that physiotherapists have an

important role to play in the multidisciplinary treatment of all these functions. For example, it is known that exercise reduces both negative symptoms [19–22] and positive symptoms [20–22] and it can also improve cognitive functioning [23]. Moreover, the dropout rate from physical activity interventions decreases significantly when exercise is prescribed by physiotherapists [24].

In addition to these mental functions, consensus was reached on several physical health functions, including 'b530 *Weight maintenance functions*', 'b735 *Muscle tone functions*' and 'b770 *Gait pattern functions*'. Most of the physical health issues observed in people with schizophrenia are associated with a sedentary lifestyle and physical inactivity [25–27], and there is strong evidence for the role of physiotherapy in addressing this physical comorbidity.[5,28–30]. It should be noted, however, that although categories 'b735 *Muscle tone functions*' and 'b770 *Gait pattern functions*' yielded consensus in the present study, they do not currently feature in the ICF-CS for schizophrenia.

Regarding the *Body structures* component, 100% of physiotherapists considered the structure of brain as important, which is consistent with the fact that exercise has important neurobiological effects [31]. The category 's110 *Structure of brain*' was also considered important in our previous Delphi studies [12–14] that explored the perspective of other health professionals, and this suggests that it should be considered for inclusion in the Comprehensive ICF-CS for schizophrenia. Physiotherapists also agreed that the category 's770 *Additional musculoskeletal structures related to movement*' was relevant when treating persons with schizophrenia. This category includes musculoskeletal structures such as bones, joints and muscles, all of which can be affected by a sedentary lifestyle or by the person being overweight or obese, a highly prevalent problem among people with schizophrenia [6,32]. Importantly, people with schizophrenia are known to have a significantly increased risk of fractures [33], and hence there is a need to develop preventive strategies to improve their bone health and reduce fracture risk. In this respect, physiotherapists can play an important role within the multidisciplinary team by, for example, implementing fall prevention programmes [33].

Regarding the *Activities and participation* component, consensus was reached for categories from all of the chapters featured in the ICF, which shows that physiotherapists acknowledge that schizophrenia has major implications for a broad spectrum of everyday activities. It also demonstrates that physiotherapists are aware of the scientific evidence supporting the important physical, mental and social benefits which their interventions can have [34]. All categories from this component over which agreement was reached are listed in the ICF-CS for schizophrenia. However, consensus was lacking for a further six categories that also feature in the ICF-CS (e.g. 'd470 *Using transportation*' or 'd510 *Washing oneself*'), suggesting that a significant proportion of the physiotherapists surveyed do not consider them to be highly relevant to the treatment of people with schizophrenia.

All categories of the *Environmental factors* component for which consensus was reached are listed in the ICF-CS for schizophrenia. They cover four of the five chapters included in the ICF and concern factors related to the support provided by others, the accessibility of services and the provision of products in daily living. These results indicate that physiotherapists ascribe considerable importance to the impact of environmental factors on the functioning of a person

with schizophrenia [35–37]. Six categories included in the *Environmental factors* component of the ICF-CS for schizophrenia did not achieve consensus in the present study (e.g. 'e525 *Housing services, systems and policies*'), suggesting that many of the physiotherapists surveyed do not regard them as primary targets of a physiotherapy intervention. Overall, the findings demonstrate that experienced physiotherapists consider the socio-environmental context as important within their clinical practice. This is consistent with the fact that social support is known to play a pivotal role not only in helping people with schizophrenia to start exercising, but also in ensuring their adherence to physical activity programmes [38].

A large number of physiotherapists' responses were coded as *Personal factors* in the first Delphi round, with consensus being reached for 21 of these. This highlights the relevance of considering personal characteristics in the treatment of schizophrenia, as well as the importance ascribed to them by the physiotherapists. A number of recent studies have shown that personal factors, such as premorbid drug use and lifestyle [39], premorbid personality [40] and genetic factors [41] influence how people with schizophrenia cope with their illness. It would therefore be useful for these personal factors to be included within the ICF-CS for schizophrenia so as to enable a more comprehensive assessment of functioning in this mental disorder.

Our data need to be considered in light of an important limitation. Despite our efforts to recruit a large and representative panel of experienced physiotherapists (i.e. searching for potential participants through several and varied resources and providing survey materials in five different languages), the number who were willing to participate in the Delphi study was small in comparison with the relatively large number of physiotherapists who work in mental health settings. A possible explanation for the low participation rate is that although physiotherapists may commonly treat persons with a mental disorder, among other types of patients, they might not consider themselves to be experts in relation to schizophrenia. A compounding factor here is the diversity of curricula among physiotherapy training programmes, many of which do not include a focus on mental health [5,6,42]. Moreover, potential participants were informed at the outset of the commitment involved (completing three rounds, etc.), and some may have considered this to be too time consuming. While acknowledging this limitation, we believe that the present study makes a useful contribution to the validation process of the ICF-CSs for schizophrenia by incorporating the perspective of experienced physiotherapists from different regions of the world, thus reinforcing the role that this profession plays in the field of mental health. The fact that the physiotherapists we surveyed agreed on the importance of certain categories that do not currently form part of the Comprehensive ICF-CS for schizophrenia highlights the need for the international workgroup on the ICF-CS for schizophrenia to consider whether these categories should be included in subsequent revisions of this core set.

In conclusion, our data highlight the more relevant aspects that physiotherapists should consider when treating individuals with schizophrenia, and show that that this professional group considers mental, physical and social aspects of functioning to be relevant to their practice. These results provide useful data for physiotherapists working on the rehabilitation field. The results also largely confirm the validity of the ICF-CS for schizophrenia, suggesting that it could be a useful tool in the context of mental health physiotherapy, not least by facilitating

communication and coordination of care within multidisciplinary teams that include physiotherapists.

ACKNOWLEDGMENTS: The authors would like to thank all the participating experts for their commitment and the time spent, without which the study would not have been possible. Participants who agreed to be acknowledged in the publication are listed in surname alphabetical order: P. Ann, J. Betore Muro, V. Jiménez, L.W.L. Lim, M. Probst, R. Sander, V. Schweitzer, P. Serranos, F. Wendelstein Cano and K. Yuenyongchaiwat.

CONFLICT OF INTEREST: The authors have not conflict of interest to declare.

FUNDING: This work was supported by Spain's Ministry of Economy and Competitiveness [grant PSI2015–67984-R], and by the Agency for the Management of University and Research Grants of the Government of Catalonia [grant 2017SGR1681]. The funders had no role in study design, data collection and analysis, decision to publish or preparation of the manuscript.

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4.2. Fase 2: Integració de la perspectiva del col·lectiu expert

4.2.1. Categories seleccionades per les diferents professions

En la primera ronda es van extreure 20.551 conceptes de les respostes del conjunt de participants, que van vincular-se a categories de la CIF i a *Factors personals*. Com a resultat d'aquest procés, es van presentar diferents conjunts de categories a cada grup professional segons les categories que havien identificat a la primera ronda. Concretament, a la segona i tercera ronda es van presentar entre 110 i 135 categories de la CIF i entre 24 i 35 *Factors personals* a cada grup expert perquè decidissin sobre la seva rellevància a l'hora d'avaluar i tractar persones amb esquizofrènia. En conjunt, 137 categories de la CIF i 37 *Factors personals* es van presentar a la segona i tercera ronda, i d'aquestes un total de 113 categories de la CIF i 31 *Factors personals* van arribar a consens per part d'almenys una perspectiva professional. D'aquestes, 90 categories de la CIF i 28 *Factors personals* van arribar a consens expert (van arribar a consens des de la perspectiva de 4 o més professions). Aquests resultats queden reflectits a la Figura 14.

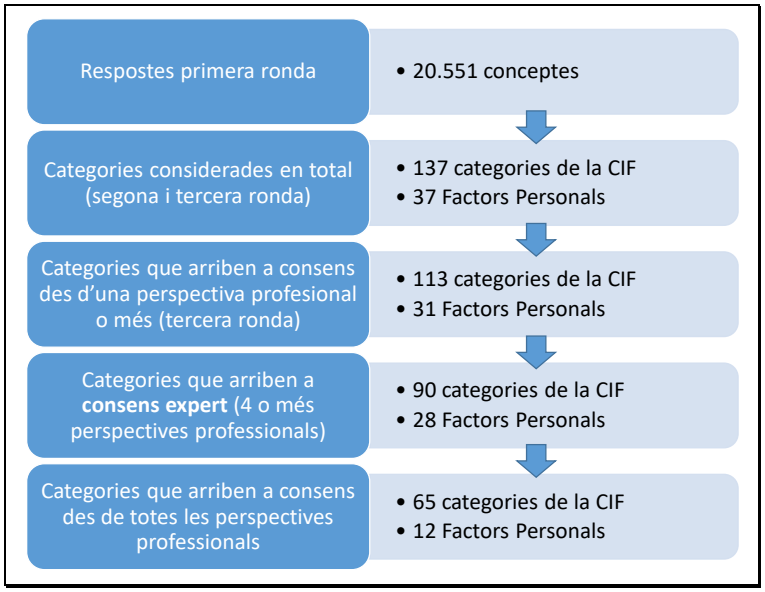

Figura 14. Diagrama de flux de les categories identificades.

La informació detallada sobre les categories considerades, des de quines perspectives professionals van arribar a consens i els percentatges d'acord assolits pot consultar-se als articles presentats als resultats de la Fase 1, així com al material suplementari presentat als Annexos 1 a 5.

4.2.2. Comparació entre el consens expert i el CB-CIF per a l'esquizofrènia

El 100% de les categories de la versió abreujada del CB-CIF per a l'esquizofrènia van arribar a consens des de totes les perspectives professionals considerades. Per tant, al realitzar aquesta comparació ens centrarem principalment en la versió completa del CB-CIF. La figura 15 mostra des de quantes perspectives professionals van ser seleccionades les diferents categories de la versió completa del CB-CIF. Com es pot veure, totes les categories del CB-CIF per a l'esquizofrènia van arribar a consens des de la perspectiva d'almenys un grup professional. D'altra banda, el 89,7% (87 categories) van arribar a consens expert.

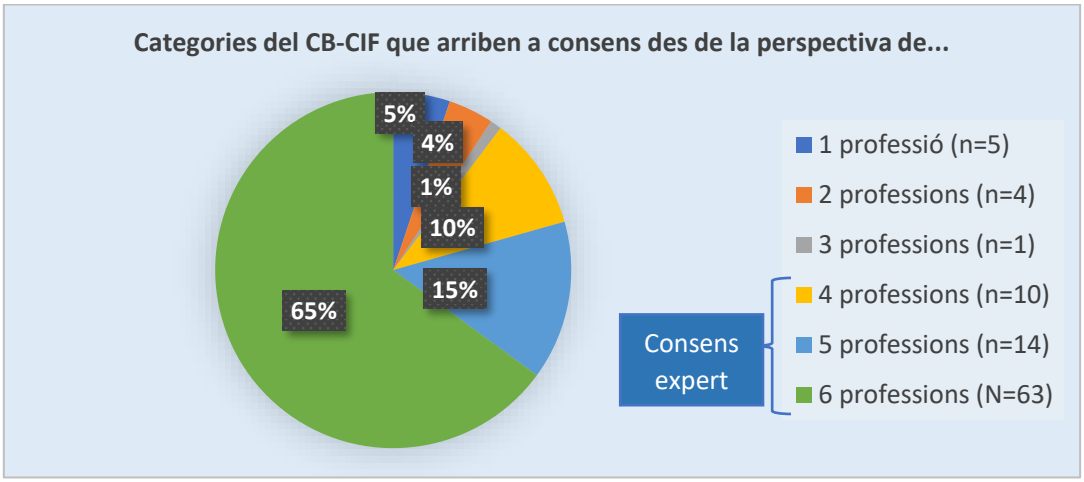

Figura 15. Nombre de perspectives des de les que van arribar a consens les categories del CB-CIF per a l'esquizofrènia.

Una informació més detallada sobre les categories que van arribar a consens expert i la seva correspondència amb les categories presents al CB-CIF per a l'esquizofrènia pot consultar-se a la Taula 3.

D'altra banda, les discrepàncies trobades entre els resultats obtinguts i el CB-CIF per l'esquizofrènia es mostren a la Taula 4, que detalla les categories concretes que no van coincidir entre el conjunt de categories que arriben a consens expert i el conjunt de categories presents en el CB-CIF per a l'esquizofrènia.

Taula 3. Nombre de categories que van arribar a consens expert i comparació amb les categories incloses a la versió completa del CB-CIF per a l'esquizofrènia.

Nombre de categories	Funcions corporals	Estructures corporals	Activitats i participació	Factors ambientals	Total
Categories que arriben a consens per almenys una professió	21	2	50	40	113
Categories presents al CB-CIF per a l'esquizofrènia	17	0	48	32	97
Categories que arriben a consens expert	17	1	39	33	90
Categories del CB-CIF que arriben a consens expert	16	0	39	32	87
Categories del CB-CIF que no arriben a consens expert	1	0	9	0	10
Categories que arriben a consens expert i no estan representades al CB-CIF	1	1	0	1	3

Taula 4. Categories que no coincideixen entre el conjunt de categories de categories que van arribar a consens expert i el CB-CIF per a l'esquizofrènia.

	Component	Categoria	Perspectives consens	Total perspectives
Categories que arriben a consens expert i no apareixen al CB-CIF	Funcions corporals	b126 Funcions del temperament i la personalitat	Totes	6
	Estructures corporals	s110 Estructura del cervell	Totes	6
	Factors ambientals	e135 Productes i serveis per a l'ocupació	PQ, PS, IF, OT	4
Categories del CB-CIF per a l'esquizofrènia que no arriben a consens expert	Funcions corporals	b530 Funcions relacionades amb el manteniment del pes	PQ, IF, FS	3
	Activitats i participació	d330 Parlar	TS, FS	2
		d475 Conducció	OT, FS	2
		d510 Rentar-se	OT, TS	2
		d540 Vestir-se	IF, OT	2
		d166 Llegir	FS	1
		d210 Dur a terme una única tasca	OT	1
		d470 Utilització de mitjans de transport	OT	1
		d860 Transaccions econòmiques bàsiques	OT	1
		d930 Religió i espiritualitat	OT	1

PQ: psiquiatria; PS: psicologia; IF: infermeria; TO: teràpia ocupacional; TS: treball social; FS: fisioteràpia.

Respecte al component *Funcions corporals*, 17 categories van arribar a consens expert, 16 de les quals formen part del CB-CIF per a l'esquizofrènia. Només una d'elles (*b126 Funcions del temperament i la personalitat*), no apareix al CB-CIF. D'altra banda, una categoria del CB-CIF no va arribar a consens expert (*b530 Funcions relacionades amb el manteniment del pes*). Les

categories d'aquest component que van arribar a consens expert, la mitjana d'acord entre les professions a les que va arribar a consens i la seva presència o no a la versió abreujada i la completa del CB-CIF per esquizofrènia poden consultar-se a la Taula 5.

Taula 5. Categories del component *Funcions corporals* que van arribar a consens expert.

Categoria	Perspectiva professional							Mitjana d'acord % (D.E.)	CB-CIF
	PQ	PS	IF	TO	TS	FS	Total		
b114 Funcions de l'orientació	×	✓	✓	✓	✓	✓	5	92,2 (8)	☑
b117 Funcions intel·lectuals	✓	✓	✓	×	×	✓	4	78 (2,9)	☑
b122 Funcions psicosocials globals	✓	✓	✓	✓	✓	✓	6	97,3 (2,2)	☑[b]
b126 Funcions del temperament I la personalitat	✓	✓	✓	✓	✓	✓	6	82,8 (5,8)	
b130 Funcions relacionades amb l'energia i els impulsos	✓	✓	✓	✓	✓	✓	6	98,5 (1,9)	☑[b]
b134 Funcions de la son	✓	✓	✓	✓	✓	✓	6	91 (5,9)	☑
b140 Funcions de l'atenció	✓	✓	✓	✓	✓	✓	6	96,7 (3,3)	☑[b]
b144 Funcions de la memòria	✓	✓	✓	✓	✓	✓	6	83,8 (7)	☑
b147 Funcions psicomotores	✓	✓	✓	✓	✓	✓	6	96 (3,3)	☑
b152 Funcions emocionals	✓	✓	✓	✓	✓	✓	6	98,8 (1,2)	☑[b]
b156 Funcions de la percepció	✓	✓	✓	✓	✓	✓	6	96,7 (3,4)	☑[b]
b160 Funcions del pensament	✓	✓	✓	✓	✓	✓	6	99 (1,3)	☑[b]
b164 Funcions cognitives superiors	✓	✓	✓	✓	✓	✓	6	97 (4,1)	☑[b]
b180 Experiències relacionades amb un mateix i amb el temps	✓	✓	✓	✓	✓	✓	6	87,3 (10,7)	☑[b]
b330 Funcions relacionades amb la fluïdesa i el ritme de la parla	✓	×	✓	×	✓	✓	4	84,8 (10,4)	☑
b640 Funcions sexuals	✓	×	✓	✓	✓	✓	5	78,3 (4,7)	☑
b765 Funcions relacionades amb els moviments involuntaris	✓	×	✓	×	✓	✓	4	80,5 (7,3)	☑

PQ: psiquiatria; PS: psicologia; IF: infermeria; TO: teràpia ocupacional; TS: treball social; FS: fisioteràpia.
D.E.: desviació estàndard.
✓ Categories que arriben a consens (percentatge d'acord igual o major al 75%).
× Categories que no arriben a consens.
☑ Categories presents a la versió completa del CB-CIF per a l'esquizofrènia.
☑[b] Categories presents a la versió completa i l'abreujada del CB-CIF per a l'esquizofrènia.

El CB-CIF per a l'esquizofrènia no conté cap categoria del component *Estructures corporals*. En canvi, la categoria *s110 Estructura del cervell* va assolir un consens igual o major al 90% per part de totes les professions, amb una mitjana d'acord del 96,2% (desviació estàndard 3,8).

Respecte a *Activitats i participació*, les 39 categories que van arribar a consens expert d'aquest component estan representades al CB-CIF per a l'esquizofrènia. Les nou categories restants d'aquest component presents al CB-CIF no van arribar a consens expert (veure Taula 4). Les categories d'aquest component que van arribar a consens expert, la mitjana d'acord entre les professions a les que van arribar a consens i la seva presència o no a la versió abreujada i la completa del CB-CIF per esquizofrènia poden consultar-se a la Taula 6.

Taula 6. Categories del component *Activitats i participació* que van arribar a consens expert.

Categoria	Perspectiva professional							Mitjana d'acord % (D.E.)	CB-CIF
	PQ	PS	IF	TO	TS	FS	Total		
d155 Adquisició d'habilitats	✓	✓	✓	✓	✓	✓	6	85,8 (9)	☑[b]
d160 Centrar l'atenció	✓	✓	✓	✓	✓	✓	6	94,2 (9,7)	☑
d163 Pensar	✓	✓	✓	✓	✓	✓	6	93,8 (8,1)	☑
d175 Resoldre problemes	✓	✓	✓	✓	✓	✓	6	95 (5,5)	☑[b]
d177 Prendre decisions	✓	✓	✓	✓	✓	✓	6	95,7 (3,6)	☑
d220 Dur a terme múltiples tasques	✓	✓	✓	✓	✓	✓	6	96,8 (1,7)	☑
d230 Dur a terme rutines diàries	✓	✓	✓	✓	✓	✓	6	94,3 (5,9)	☑[b]
d240 Maneig de l'estrès i altres demandes psicològiques	✓	✓	✓	✓	✓	✓	6	98,2 (1,6)	☑[b]
d310 Comunicació-recepció de missatges parlats	✓	✓	✓	✓	✓	✓	6	85,8 (9,2)	☑
d315 Comunicació-recepció de missatges no verbals	✓	✓	✓	✓	✓	✓	6	88,7 (4,9)	☑
d335 Producció de missatges no verbals	✓	✓	×	×	✓	✓	4	82,8 (6)	☑
d350 Conversació	✓	✓	✓	✓	✓	✓	6	92,3 (5,3)	☑
d520 Cura de parts del cos	✓	✓	✓	✓	✓	✓	6	87,5 (6)	☑
d570 Cura de la pròpia salut	✓	✓	✓	✓	✓	✓	6	96 (3)	☑[b]
d610 Adquisició d'un lloc per viure	✓	✓	✓	✓	✓	✓	6	92 (7,6)	☑
d620 Adquisició de béns i serveis	✓	✓	✓	✓	✓	✓	6	87 (9)	☑
d630 Preparar dinars	✓	×	✓	✓	×	✓	4	89,3 (12)	☑
d640 Realitzar els quefers de la casa	✓	×	✓	✓	✓	✓	5	84,4 (8,3)	☑
d650 Cura dels objectes de la llar	✓	×	✓	✓	✓	✓	5	85,8 (5,9)	☑
d660 Ajudar els altres	✓	×	×	✓	✓	✓	4	84,3 (6,7)	☑
d710 Interaccions interpersonals bàsiques	✓	✓	✓	✓	✓	✓	6	82,5 (8,8)	☑[b]
d720 Interaccions interpersonals complexes	✓	✓	✓	✓	✓	✓	6	97,3 (2,2)	☑[b]
d730 Relacionar-se amb estranys	✓	✓	✓	✓	✓	✓	6	81,8 (5,6)	☑
d740 Relacions formals	✓	✓	✓	✓	✓	✓	6	86,8 (9,8)	☑
d750 Relacions socials informals	✓	✓	✓	✓	✓	✓	6	85 (8,9)	☑
d760 Relacions familiars	✓	✓	✓	✓	✓	✓	6	91,2 (4,2)	☑[b]
d770 Relacions íntimes	✓	✓	✓	✓	✓	✓	6	87,3 (9,7)	☑
d820 Educació escolar	✓	✓	✓	✓	✓	✓	6	91,5 (5)	☑
d825 Formació professional	✓	✓	✓	✓	✓	✓	6	89,3 (8,3)	☑
d830 Educació superior	✓	✓	✓	✓	✓	✓	6	91 (6,3)	☑
d840 Aprenentatge (preparació per al treball)	✓	×	✓	✓	✓	✓	5	84 (8,9)	☑
d845 Aconseguir, mantenir i finalitzar un treball	✓	✓	✓	✓	✓	✓	6	96,7 (4,1)	☑[b]
d850 Treball remunerat	✓	✓	✓	✓	✓	✓	6	94,2 (5,7)	☑
d855 Treball no remunerat	✓	×	✓	✓	✓	✓	5	83,6 (10,5)	☑
d865 Transaccions econòmiques complexes	✓	✓	✓	✓	✓	✓	6	89 (3)	☑
d870 Autosuficiència econòmica	✓	✓	✓	✓	✓	✓	6	94,5 (4,5)	☑
d910 Vida comunitària	✓	✓	✓	✓	✓	✓	6	89,2 (6,1)	☑[b]
d920 Temps lliure i oci	✓	✓	✓	✓	✓	✓	6	88 (11,3)	☑
d950 Vida política i ciutadania	✓	×	✓	✓	×	✓	4	83,3 (5,7)	☑

PQ: psiquiatria; PS: psicologia; IF: infermeria; TO: teràpia ocupacional; TS: treball social; FS: fisioteràpia.
D.E.: desviació estàndard.
✓ Categories que arriben a consens (percentatge d'acord igual o major al 75%).
× Categories que no arriben a consens.
☑ Categories presents a la versió completa del CB-CIF per a l'esquizofrènia.
☑[b] Categories presents a la versió completa i l'abreujada del CB-CIF per a l'esquizofrènia.

Per últim, totes les categories presents al CB-CIF del component *Factors ambientals* van arribar a consens expert. La categoria *e135 Productes i serveis per a l'ocupació*, no present al CB-CIF, també va assolir consens expert. Les categories d'aquest component que van arribar a consens expert, la mitjana d'acord entre les professions a les que van arribar a consens i la seva presència o no a la versió abreujada i la completa del CB-CIF per esquizofrènia poden consultar-se a la Taula 7.

Taula 7. Categories del component *Factors ambientals* que van arribar a consens expert.

Categoria	Perspectiva professional							Mitjana acord % (D.E.)	CB-CIF
	PQ	PS	IF	TO	TS	FS	Total		
e110 Productes o substàncies per al consum personal	✓	✓	✓	✓	✓	✓	6	91,8 (6)	☑
e125 Productes i tecnologia per a la comunicació	✓	✓	✓	×	✓	×	4	80 (3,9)	☑
e130 Productes i tecnologia per a l'educació	✓	×	✓	✓	✓	×	4	78,8 (3,3)	☑
e135 Productes i tecnologia per a l'ocupació	✓	✓	✓	✓	×	Ø	4	81 (4,8)	
e165 Pertinences	✓	✓	✓	✓	✓	×	5	89,8 (3,3)	☑
e310 Familiars pròxims	✓	✓	✓	✓	✓	✓	6	98,3 (1,5)	☑[b]
e315 Altres familiars	✓	✓	✓	✓	✓	✓	6	89,5 (7,6)	☑
e320 Amics	✓	✓	✓	✓	✓	✓	6	97,7 (2,3)	☑
e325 Coneguts, companys, col·legues, veïns i membres de la comunitat	✓	✓	✓	✓	✓	✓	6	95,7 (2,8)	☑
e330 Persones en càrrecs d'autoritat	✓	×	✓	✓	✓	×	4	87 (7,4)	☑
e340 Cuidadors i personal d'ajuda	✓	✓	✓	✓	✓	✓	6	94,2 (2,9)	☑
e355 Professionals de la salut	✓	✓	✓	✓	✓	✓	6	98,3 (1,9)	☑[b]
e360 Altres professionals	✓	✓	✓	✓	✓	✓	6	88,5 (10,5)	☑
e410 Actituds individuals de membres de la família pròxima	✓	✓	✓	✓	✓	✓	6	94,5 (7,3)	☑[b]
e415 Actituds individuals d'altres familiars	✓	✓	✓	✓	✓	×	5	86 (7,3)	☑
e420 Actituds individuals d'amics	✓	✓	✓	✓	✓	✓	6	92 (6,1)	☑
e425 Actituds individuals de coneguts, companys, col·legues, veïns i membres de la comunitat	✓	✓	✓	✓	✓	×	5	91 (1,6)	☑
e430 Actituds individuals de persones en càrrecs d'autoritat	✓	✓	✓	✓	✓	×	5	84,4 (5,7)	☑
e440 Actituds individuals de cuidadors i personal d'ajuda	✓	✓	✓	✓	✓	✓	6	93,8 (3,5)	☑
e450 Actituds individuals de professionals de la salut	✓	✓	✓	✓	✓	✓	6	96,2 (4,2)	☑[b]
e455 Actituds individuals de professionals relacionats amb la salut	✓	✓	✓	✓	✓	✓	6	87,7 (10,6)	☑
e460 Actituds socials	✓	✓	✓	✓	✓	✓	6	92,7 (2,7)	☑[b]
e465 Normes, costums i ideologies socials	✓	✓	✓	✓	✓	✓	6	95,2 (4,2)	☑
e525 Serveis, sistemes i polítiques d'habitatge	✓	✓	✓	✓	✓	×	5	92,2 (5,1)	☑
e545 Serveis, sistemes i polítiques de protecció civil	✓	×	✓	✓	✓	✓	5	85,8 (10,4)	☑
e550 Serveis, sistemes i polítiques legals	✓	✓	✓	✓	✓	✓	6	85,5 (8,2)	☑
e555 Serveis, sistemes i polítiques d'associació i organització	✓	×	✓	✓	✓	✓	5	88 (6,6)	☑
e560 Serveis, sistemes i polítiques de mitjans de comunicació	✓	✓	✓	✓	✓	×	5	81,8 (4,7)	☑
e570 Serveis, sistemes i polítiques de seguretat social	✓	✓	✓	✓	✓	✓	6	96 (4,9)	☑[b]
e575 Serveis, sistemes i polítiques de suport social general	✓	✓	✓	✓	✓	✓	6	96,7 (2,8)	☑

Categoria	Perspectiva professional							Mitjana acord % (D.E.)	CB-CIF
	PQ	PS	IF	TO	TS	FS	Total		
e580 Serveis, sistemes i polítiques sanitàries	✓	✓	✓	✓	✓	✓	6	98,5 (1,4)	☑[b]
e585 Serveis, sistemes i polítiques d'educació i formació	✓	✓	✓	✓	✓	✓	6	94,5 (3,4)	☑
e590 Serveis, sistemes i polítiques laborals i d'ocupació	✓	✓	✓	✓	✓	✓	6	94 (4,6)	☑

PQ: psiquiatria; PS: psicologia; IF: infermeria; TO: teràpia ocupacional; TS: treball social; FS: fisioteràpia.
D.E.: desviació estàndard.
✓ Categories que arriben a consens (percentatge d'acord igual o major al 75%).
× Categories que no arriben a consens.
Ø Categories que no van ser presentades a aquella professió per no resultar del procés de vinculació de les respostes a la primera ronda.
☑ Categories presents a la versió completa del CB-CIF per a l'esquizofrènia.
☑[b] Categories presents a la versió completa i l'abreujada del CB-CIF per a l'esquizofrènia.

L'Annex 6 ofereix un resum de les categories que van arribar a consens des d'alguna perspectiva professional però no van assolir consens expert i per tant no apareixen a aquestes taules.

4.2.5. Factors personals

De tots els *Factors personals* identificats als estudis Delphi, 28 van arribar a consens expert, i 12 van arribar a consens des de totes les perspectives. Les categories proposades com a *Factors personals* que van arribar a consens expert, amb la informació sobre des de quines perspectives professionals van ser considerades i si van assolir consens o no per cada una d'elles, pot ser consultada a la Taula 8.

Només 3 *Factors personals* que havien arribat a consens des de la perspectiva d'alguna perspectiva professional no van arribar a consens expert (i.e., *Extraversió*, *Espiritualitat i religiositat* i *Funcionament premòrbid*); el detall sobre des de quines perspectives professionals van arribar a consens aquestes categories pot consultar-se a l'Annex 6. Altres *Factors personals* que van ser identificats inicialment (com *Gènere* o *Etnicitat*) no van arribar a consens des de cap perspectiva professional. La informació detallada sobre totes les categories proposades pel component *Factors personals*, des de quines perspectives professionals van arribar a consens i els percentatges d'acord assolits pot consultar-se als articles presentats als resultats de la Fase 1 així com al material suplementari dels articles presentat als Annexos 1-5.

Taula 8. Categories proposades pel component *Factors personals* que van arribar a consens expert.

Factors personals	Perspectiva professional							Mitjana d'acord
	PQ	PS	IF	TO	TS	FS	Total	% (D.E.)
Habilitats personals								
Habilitats cognitives	✓	✓	✓	✓	✓	Ø	5	96,4 (2,1)
Habilitats d'afrontament	✓	✓	✓	✓	✓	Ø	6	98,5 (1,6)
Habilitats psicosocials	✓	✓	✓	✓	✓	✓	6	99,2 (0,8)
Intel·ligència	✓	✓	✓	✓	Ø	Ø	4	85,8 (5,4)
Personalitat i altres característiques psicològiques								
Actitud personal	✓	✓	✓	✓	✓	✓	6	95,7 (2,9)
Actituds vers la salut	✓	✓	✓	✓	✓	✓	6	95,5 (3,3)
Amabilitat	✓	✓	✓	✓	Ø	✓	5	82,4 (2,6)
Apertura a l'experiència	✓	✓	✓	✓	Ø	Ø	4	85,8 (5,5)
Autoestima	✓	✓	✓	✓	Ø	Ø	4	96,8 (1,7)
Autonomia	✓	✓	✓	✓	✓	Ø	5	95,2 (2,5)
Confiança	✓	Ø	✓	✓	✓	✓	5	93 (5,6)
Consciència d'un/a mateix/a	✓	✓	✓	✓	✓	✓	6	95,5 (3,5)
Hàbits i estil de vida	✓	✓	✓	✓	✓	✓	6	96,3 (3,1)
Motivació	✓	✓	✓	✓	✓	Ø	5	95,6 (1,5)
Neuroticisme	✓	✓	Ø	✓	Ø	✓	4	89 (11,3)
Optimisme	✓	✓	✓	✓	✓	Ø	5	88,2 (3,6)
Personalitat	✓	✓	✓	✓	✓	✓	6	94,2 (7,3)
Resiliència	✓	✓	✓	✓	Ø	Ø	4	98,3 (1,5)
Responsabilitat	✓	✓	✓	✓	×	✓	5	84,4 (7,5)
Variables sociodemogràfiques								
Antecedents educatius	✓	✓	✓	✓	✓	✓	6	86,2 (8,5)
Convivència	Ø	✓	✓	✓	✓	✓	5	95,8 (3,6)
Edat	✓	✓	✓	✓	✓	✓	6	83,8 (4,2)
Estat civil	✓	✓	✓	×	×	✓	4	81,3 (10)
Estat laboral	✓	✓	✓	✓	✓	✓	6	92 (6,2)
Estatus socioeconòmic	✓	✓	✓	✓	✓	✓	6	89,5 (4,4)
Altres factors personals								
Edat inici malaltia	✓	✓	✓	✓	✓	✓	6	96,2 (3,1)
Genètica	✓	×	✓	✓	✓	✓	5	87,2 (9,9)
Història personal i biografia	Ø	✓	✓	✓	✓	✓	5	99,4 (0,9)

PQ: psiquiatria; PS: psicologia; IF: infermeria; TO: teràpia ocupacional; TS: treball social; FS: fisioteràpia. D.E.: desviació estàndard.

✓ Categories que arriben a consens (percentatge d'acord igual o major al 75%).

× Categories que no arriben a consens.

Ø Categories que no van ser presentades a aquella professió per no resultar del procés de vinculació de les respostes a la primera ronda.

4.2.3. Acord entre les regions

Considerant les categories de la CIF que van arribar a consens des d'almenys una perspectiva professional (n=113 categories), el grau d'acord entre els participants segons la seva procedència va situar-se entre el 79,4% (Amèriques amb Europa, Àsia Sud-oriental i Pacífic Occidental) i el 88,7% (Àfrica amb Mediterrani Oriental). Els percentatges d'acord de cada comparació poden consultar-se a la Taula 9.

Taula 9. Percentatge d'acord entre regions respecte a les categories de la CIF i concordança amb el CB-CIF.

	AF	AM	AS	EU	MO	PO	CB-CIF (n = 97)
AF	87	80,4%	84,5%	85,6%	88,7%	83,5%	89,7%
AM	19,6%	78	79,4%	79,4%	80,4%	79,4%	80,4%
AS	15,5%	20,6%	83	81,4%	85,6%	80,4%	93,8%
EU	14,4%	20,6%	18,6%	87	88,6%	81,4%	89,7%
MO	11,3%	19,6%	14,4%	11,3%	91	83,5%	85,6%
PO	16,5%	20,6%	19,6%	18,6%	16,5%	81	83,5%

AF: Àfrica; AM: Amèriques; AS: Asia Sud-oriental; EU: Europa; MO: Mediterrani Oriental; PO: Pacífic Occidental.

: Nombre de categories que arriben a consens des de la perspectiva de cada regió.

: Percentatge d'acord entre regions.

: Percentatge de discrepància entre regions.

: Percentatge comú entre les categories que arriben a consens des de la perspectiva de cada regió i les presents a la versió completa del CB-CIF per a l'esquizofrènia.

Si ens centrem en el CB-CIF per a l'esquizofrènia, de les 97 categories que el formen, 75 (el 78%) van arribar a consens des de la perspectiva de totes les regions de la OMS, entre les quals es trobaven totes les categories presents a la versió abreujada del CB-CIF. Només 5 categories de la versió completa no van arribar a consens des de la perspectiva de cap regió de la OMS. Aquestes són les categories *d166 Llegir*, *d210 Dur a terme una única tasca*, *d330 Parlar*, *d470 Utilització de mitjans de transport* i *d860 Transaccions econòmiques bàsiques*. La figura 16 mostra en percentatges a quantes regions van arribar a consens les categories del CB-CIF per a l'esquizofrènia.

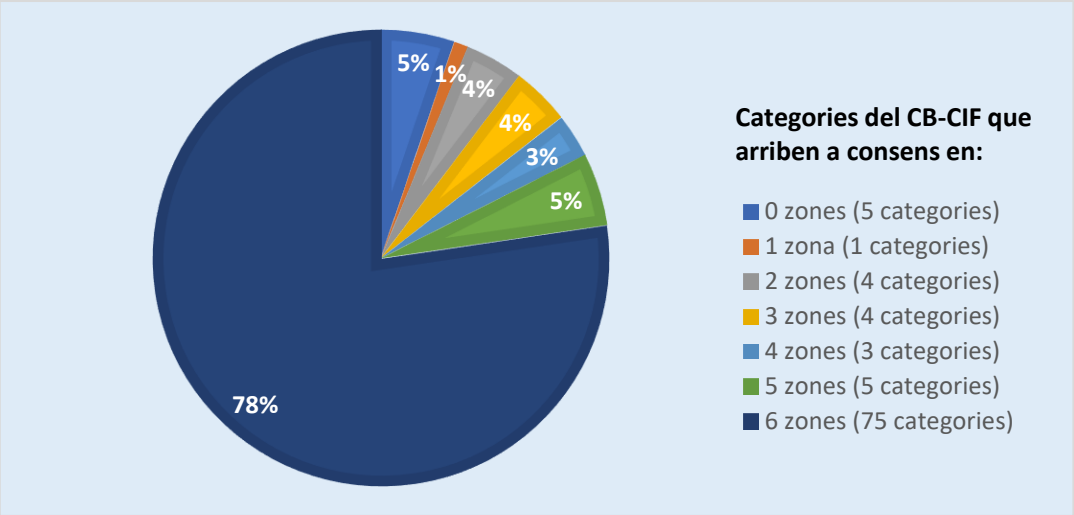

Figura 16. Distribució del nombre de regions en què les categories del CB-CIF arriben a consens.

D'aquelles categories que van assolir consens únicament a algunes regions (n=17), la taula 10 especifica aquestes regions.

Taula 10. Categories del CB-CIF per a l'esquizofrènia que arriben a consens des de la perspectiva d'entre una a cinc regions.

Categoria	Regió de la OMS						
	AF	AM	AS	EU	MO	PO	Total
Funcions corporals							
b117 Funcions intel·lectuals	✓	×	✓	×	✓	×	3
b330 Funcions relacionades amb la fluïdesa i el ritme de la parla	✓	×	✓	×	✓	✓	4
b530 Funcions relacionades amb el manteniment del pes	×	×	×	✓	✓	×	2
b640 Funcions sexuals	×	×	✓	✓	✓	×	3
b765 Funcions relacionades amb els moviments involuntaris	✓	×	✓	×	✓	×	3
Activitats i participació							
d335 Producció de missatges no verbals	✓	✓	✓	×	✓	✓	5
d475 Conducció	×	×	×	✓	✓	×	2
d510 Rentar-se	×	×	×	✓	✓	×	2
d540 Vestir-se	✓	×	×	✓	×	×	2
d630 Preparar dinars	✓	✓	×	✓	✓	✓	5
d640 Realitzar els quefers de la casa	✓	✓	×	✓	✓	✓	5
d650 Cura dels objectes de la llar	✓	×	✓	✓	✓	✓	5
d660 Ajudar els altres	✓	×	✓	✓	✓	×	4
d855 Treball no remunerat	✓	✓	✓	✓	✓	×	5
d930 Religió i espiritualitat	×	×	×	×	✓	×	1
d950 Vida política i ciutadania	✓	×	×	✓	✓	×	3
Factors ambientals							
e125 Productes i tecnologia per a la comunicació	✓	×	×	✓	✓	✓	4

AF: Àfrica; AM: Amèriques; AS: Asia Sud-oriental; EU: Europa; MO: Mediterrani Oriental; PO: Pacífic Occidental.

D'altra banda, les tres categories de la CIF que van arribar a consens expert però no formen part del CB-CIF (i.e., *b126 Funcions del temperament i la personalitat*, *s110 Estructura del cervell* i *e135 Productes i tecnologia per a l'ocupació)* van arribar a consens des de la perspectiva de totes les regions de la OMS.

Respecte a les categories del component *Factors personals* que van arribar a consens des de la perspectiva d'almenys una categoria professional (n= 31 categories), el grau d'acord entre els participants segons la seva procedència va situar-se entre 93,5% i el 100%. Els percentatges d'acord de cada comparació poden consultar-se a la Taula 11.

Taula 11. Percentatge d'acord entre regions respecte a les categories de *Factors personals.*

	AF	AM	AS	EU	MO	PO
AF	31	93,5%	100%	93,5%	100%	93,5%
AM	6,5%	29	93,5%	100%	93,5%	100%
AS	0%	6,5%	31	93,5%	100%	93,5%
EU	6,5%	0%	6,5%	29	93,5%	100%
MO	0%	6,5%	0%	6,5%	31	93,5%
PO	6,5%	0%	6,5%	0%	6,5%	29

AF: Àfrica; AM: Amèriques; AS: Asia Sud-oriental; EU: Europa; MO: Mediterrani Oriental; PO: Pacífic Occidental.
: Nombre de categories que arriben a consens des de la perspectiva de cada regió.
: Percentatge d'acord entre regions.
: Percentatge de discrepància entre regions.

Totes les categories proposades pel component *Factors personals* que van arribar a consens expert van arribar a consens també des de la perspectiva de totes les regions de la OMS, a excepció de la categoria *Responsabilitat*, que no assoleix el consens des de la perspectiva de la regió de Pacífic Occidental. Respecte als 3 *Factors personals* que van arribar a consens des d'almenys una perspectiva professional però no van arribar a consens expert, un d'ells (*Funcionament premòrbid*) va arribar a consens des de la perspectiva de totes les regions de la OMS. Els altres dos (*Extraversió* i *Espiritualitat i religiositat*) només van arribar a consens des de la perspectiva de tres regions (en ambdós casos, Àfrica, Asia Sud-oriental i Mediterrani Oriental).

4.2.4. Acord entre professions

Considerant les categories de la CIF que van arribar a consens des d'almenys una perspectiva professional (n=113 categories), el grau d'acord entre els participants segons la seva professió va situar-se entre el 73,5% (terapeutes ocupacionals i fisioterapeutes) i el 91,2% (psiquiatres i infermeres). Els percentatges d'acord de cada comparació poden consultar-se a la Taula 12.

Taula 12. Percentatge d'acord entre professions respecte a les categories de la CIF i concordança amb el CB-CIF.

	PQ	PS	IF	TO	TS	FS	CB-CIF (n = 97)
PQ	91	85,0%	91,2%	84,1%	87,6%	84,1%	89,6%
PS	15,0%	76	79,6%	76,1%	81,4%	76,1%	75,3%
IF	8,8%	20,4%	97	85,8%	85,8%	77,0%	89,6%
TO	15,9%	23,9%	14,2%	97	84,1%	73,5%	91,7%
TS	12,4%	18,6%	14,2%	15,9%	93	78,8%	88,7%
FS	15,9%	23,9%	23,0%	26,5%	21,2%	87	84,5%

AF: Àfrica; AM: Amèriques; AS: Asia Sud-oriental; EU: Europa; MO: Mediterrani Oriental; PO: Pacífic Occidental.

: Nombre de categories que arriben a consens des de la perspectiva de cada professió.
: Percentatge d'acord entre professions.
: Percentatge de discrepància entre professions.
: Percentatge comú entre les categories que arriben a consens des de la perspectiva de cada professió i les presents a la versió completa del CB-CIF per a l'esquizofrènia.

Respecte a les categories proposades pel component *Factors personals* (n=31 categories), el grau d'acord entre els participants segons la seva professió va situar-se entre 58,1% i el 87,1%. Els percentatges d'acord de cada comparació poden consultar-se a la Taula 13.

Taula 13. Percentatge d'acord entre professions respecte a les categories de Factors Personals.

	PQ	PS	IF	TO	TS	FS
PQ	31	83,9%	83,9%	83,9%	64,5%	61,3%
PS	16,1%	28	80,6%	87,1%	67,7%	64,5%
IF	16,1%	19,4%	29	87,1%	71%	58,1%
TO	16,1%	12,9%	12,9%	27	77,4%	64,5%
TS	35,5%	32,3%	29%	22,6%	20	67,7%
FS	38,7%	35,5%	41,9%	35,5%	32,3%	21

AF: Àfrica; AM: Amèriques; AS: Asia Sud-oriental; EU: Europa; MO: Mediterrani Oriental; PO: Pacífic Occidental.

: Nombre de categories que arriben a consens des de la perspectiva de cada professió.
: Percentatge d'acord entre professions.
: Percentatge de discrepància entre professions.

5. Discussion

Through these studies, we have identified the problems, resources, and environmental factors that health professionals most frequently encounter when treating people with schizophrenia. All the categories that form part of the ICF-CSs for schizophrenia achieved agreement from the perspective of at least one profession, and 89.7% of the categories of the comprehensive version yielded expert consensus (achieved consensus from the perspective of at least four professions). Moreover, 100% of the categories that make up the brief version of the ICF-CS achieved consensus from all of the perspectives considered, and eight of the nine categories that reached agreement of 95% or more in all the Delphi studies were from the brief ICF-CS. All this supports the high relevance of the categories that form part of the brief version. The following discussion will therefore focus on the joint analysis of the expert perspective in comparison with the comprehensive version of the ICF-CS for schizophrenia.

5.1. Body functions

With regard to the *Body functions* component, 21 categories reached consensus from the perspective of at least one professional group. Of these, 17 categories yielded expert consensus, coinciding with 16 of the 17 categories from this component that are represented in the ICF-CS for schizophrenia. Twelve of them yielded consensus from the perspective of all the expert groups considered, and all these categories belong to the chapter *b1 Mental functions*, highlighting the relevance of this chapter for defining functioning in people with schizophrenia from the perspective of all health professions. All professionals agreed – with agreement from each perspective being higher than 95% – that categories referring to classical symptoms in schizophrenia, such as delusions and hallucinations (e.g., *b156 Perceptual functions* and *b160 Thought functions*), negative symptoms (*b130 Energy and drive functions* and *b152 Emotional functions*), and other typical alterations such as cognitive deficits (*b140 Attention functions* and *b164 Higher-level cognitive functions*) and psychosocial functions (*b122 Global psychosocial functions*), are crucial to consider when evaluating and treating this population.

These results also highlight the need for an interdisciplinary approach to all these functions. Interventions from the different professional profiles have proved to be effective for improving these areas of functioning. For example, antipsychotic treatment is the first choice treatment for reducing positive symptoms and achieving remission of 80% of symptoms after the first year of treatment (Zipursky & Agid, 2015), but cognitive behavioural therapy (Nowak et al., 2016), interventions of occupational therapy (Foruzandeh & Parvin, 2013) and nursing (Tham et al., 2018) or exercises promoted by physiotherapists (Gorczynski & Faulkner, 2010) have also been shown to be effective in reducing these symptoms. In this respect, social workers may also

contribute to alleviating psychotic symptoms by conducting appropriate assessments and referrals (Ashcroft, Mcmillan, Ambrose-miller, Mckee, & Brown, 2018). Cognitive function is mainly improved through cognitive remediation therapy (Best & Bowie, 2017), but it has also been proven that it can improve through medical interventions (Kani, Shinn, Lewandowski, & Öngür, 2017), occupational therapy (Shimada, Nishi, Yoshida, Tanaka, & Kobayashi, 2016) and physiotherapeutic interventions (Firth et al., 2017). Social functioning is another function that can significantly improve as a result of different and complementary interventions. This is the main goal of social skill training (Kurtz, Mueser, Thime, Corbera, & Wexler, 2015), which is usually applied by psychologists or nurses (Kurtz & Mueser, 2008), but it has also been shown to improve as a result of the interventions of occupational therapists (Buchain et al., 2003).

These are some examples of how interventions carried out from each professional perspective can produce effects in these affected areas. However, as stated above, these positive effects are even higher when applied by means of an integrated care approach, in which professionals from the different areas work together in a systematic way with the same objective (Schöttle et al., 2018; She et al., 2017). This marks the difference between multidisciplinary interventions, where various professionals work with an individual, but independently, and interdisciplinary interventions, where professionals cooperate in an interactive manner, coordinate interventions and integrate knowledge to pool their efforts.

It is also worth noting that the category *b126 Temperament and personality functions* reached consensus from all of the perspectives considered (with an average agreement of 82.8%), but it is not represented in the ICF-CS for schizophrenia. This high rate of agreement is consistent with many works in the bibliography that support the fact that this area may be affected in this population (Díaz-Caneja et al., 2018; Rettew & McKee, 2005; Sevilla-Llewellyn-Jones et al., 2017), and, therefore, its exclusion from the ICF-CS for schizophrenia should be reconsidered.

Only one category from the *Body functions* component that is represented in the ICF-CS did not yield consensus from the majority of the perspectives considered. This category was *b530 Weight maintenance functions*, which only reached consensus from the perspective of psychiatrists, nurses and physiotherapists. This is consistent with the notion that these professional groups have a more biomedical perspective, and suggests that this category is relevant to the assessment of, and interventions for, persons with schizophrenia, but that it may not be the most common target of some professionals' interventions (such as those of psychologists, occupational therapists and social workers).

5.2. Body structures

The ICF-CS for schizophrenia does not include any category from the *Body structures* component. However, all the expert panels agreed that brain structure was something that was altered in individuals with schizophrenia, with agreement higher than 90% from all the perspectives and an average agreement of 96.2% across professional perspectives on the category *s110 Brain structure*. This is supported by the literature, which suggests that the brain is the main altered structure in this illness (Koychev, El-Deredy, Mukherjee, Haenschel, & Deakin, 2012) and that other dysfunctions, such as neuropsychological impairment, are related to its malfunctioning (Chang et al., 2018; Fitzsimmons, Kubicki, & Shenton, 2013; Ira et al., 2013). It is well known that schizophrenia is associated with abnormal structural and functional connectivity in the brain at both the microscopic and macroscopic level (van den Heuvel & Fornito, 2014), but this can be partially restored by antipsychotic medication (Hutcheson et al., 2015; Kani et al., 2017). In this respect, nurses also play an important role in promoting medication adherence (Chang, Tao, & Lu, 2013), and they may be the first to detect non-adherence and non-attendance at follow-up visits (Morton & Zubek, 2013). Neurocognitive and social cognitive interventions also aim at improving cerebral functioning (Cella, Preti, Edwards, Dow, & Wykes, 2017; Kurtz & Richardson, 2012; Roder, Mueller, & Schmidt, 2011). Psychological interventions produce changes in brain structure and its functioning (Mason, Peters, Dima, Williams, & Kumari, 2016; Penadés et al., 2013), with this being the goal of interventions such as cognitive remediation. The interventions of OTs has also been related to improvements in neurocognitive functioning (Shimada et al., 2016), and could therefore influence these brain structures. Exercise also has important neurobiological effects (Vancampfort et al., 2014). The coordination of all these services and professionals by social workers will be crucial for improving cognitive outcomes (Cordeiro et al., 2015). Enhancement of this kind leads, in turn, to improved neurocognition and social cognition and a reduction of the negative symptoms (Lindenmayer et al., 2013; Mueller, Schmidt, & Roder, 2015; Pinkham & Harvey, 2013), which is essential for functional recovery in individuals with schizophrenia. Altogether, the study of these structural anomalies is a resource to be taken into account in order to enhance understanding of their causes and effects, their progression, and even the effects that treatment has on them. Therefore, from the expert perspective, inclusion of this category (*s110 Structure of brain*) in the ICF-CS for schizophrenia should be considered. Nevertheless, we must bear in mind that many other categories that form part of the CB-CIF for schizophrenia do indirectly take this structure into account (for example, cognitive functions), given the correspondence between these functions and the underlying structures, as reflected in the citations mentioned above.

5.3. Activities and participation

The *Activities and participation* component is the one with the largest number of categories reaching consensus among the different points of view: 50 categories reached consensus from at least one professional perspective, and 39 of them reached expert consensus. Of these categories, 31 reached consensus among all professional panels considered, with seven of them achieving an average agreement higher than 95%.

The categories selected covered all the chapters of this component and focused especially on domestic life (e.g., *d610 Acquiring a place to live*), interpersonal interactions (e.g., *d720 Complex interpersonal interactions*), and major life areas, such as education (e.g., *d825 Vocational training*) and employment (e.g., *d845 Acquiring, keeping and terminating a job*). Experts also emphasised the possible problems in *d1 Learning and applying knowledge* (e.g., *d175 Solving problems* and *d177 Making decisions*), *d2 General tasks and demands* (e.g., *d220 Undertaking multiple tasks* and *d240 Handling stress and other psychological demands*), and self-care (e.g., *d570 Looking after one's health*). All the categories of this component for which consensus was reached are included in the ICF-CS for schizophrenia. This reflects the fact that schizophrenia may have major implications for everyday functioning in all these areas (Quee et al., 2014; Xia, Merinder, & Belgamwar, 2011) and illustrates why the main long-term therapeutic goals of all health interventions for individuals with schizophrenia should go beyond remission of specific symptoms and focus on improving social functioning by enabling individuals with schizophrenia to participate in a variety of areas of life (Bowie, McGurk, Mausbach, Patterson, & Harvey, 2012; Brissos et al., 2011).

There are 9 categories from the ICF-CS for schizophrenia that did not reach expert consensus. These categories mainly related to simple activities, such as *d210 Undertaking a single task* and *d860 Basic economic transactions*, whereas consensus was achieved for the equivalent more complex categories (e.g., *d220 Undertaking multiple tasks or d865 Complex economic transactions).* This is also seen when we analyse the consensus in relation to the WHO regions: the five categories that do not reach consensus in any region of the world are categories that refer to simple activities and that each have an equivalent more complex category that does actually reach consensus. These results offer a more positive view of the abilities of people with schizophrenia, since they suggest that their difficulties mainly depend on the complexity of the task in hand.

Managing to restore the psychosocial functioning of individuals with schizophrenia through their performance in major areas of everyday activities (i.e., their personal care, independent

living and work performance), social achievement (i.e., their social relationships and participation in community activities) and social competence (i.e., their ability to effectively socialise with others) is the cornerstone of functional recovery (Harvey & Bellack, 2009; Slade & Longden, 2015). All the professions play a key role in achieving this goal. Psychiatric medication has shown a positive effect on functioning and quality of life of individuals with schizophrenia (Bailey, 2002). Different approaches of psychological treatment, such as cognitive behavioral therapy, social skills training, cognitive remediation and social cognition training, have also shown to be effective in improving psychosocial functioning and participation in community activities (Kern et al., 2009). Nursing interventions can also enhance social functioning, for example, through shared decision making, which has been suggested to improve social perception, as well as active participation in community activities and in one's own treatment plan (Adams & Drake, 2006; Malm et al., 2003). Social work also plays a central role in the identification of problems that affect one in carrying out daily activities and in the implementation of individualised and collaborative intervention plans guided by an individual's lifestyle and preferences (Ashcroft et al., 2019; Craig et al., 2016). Other work objectives of the OTs include improving functioning and the ability to participate in meaningful activities, and promoting self-determination, confidence and the experience of a satisfactory community life (Morris, Reid, & Spencer, 2018; Tapfumaneyi et al., 2015). Several studies have shown that the intervention of OTs enhances social functioning (improving interpersonal communication, in particular), the realisation of daily activities, and working life (Buchain et al., 2003; Cook et al., 2009; Oka et al., 2004). Physiotherapists can also improve one's ability to perform several daily activities, and their intervention has also been related to better functional outcomes (Vancampfort et al., 2017).

Multiple medical and non-medical interventions are therefore needed to achieve functional recovery, requiring integrated care and interdisciplinary intervention (Fleischhacker et al., 2014; Juntapim & Nuntaboot, 2018; Schöttle et al., 2018). Ultimately, being able to perform daily activities and to participate in community life is the main goal of all peeople, and it is therefore not surprising that this component represents a priority area of work and a treatment objective of all health interventions.

5.4. Environmental factors

The component with the second highest number of categories showing consensus was *Environmental factors*: 40 categories reached consensus from at least one professional

perspective, 33 reached expert consensus, and 21 reached consensus from all professional panels considered.

The agreed-upon categories covered five of the six chapters of this component, with the only chapter with no category reaching consensus being *e2 Natural environment and human-made changes to environment*. Indeed, this component has the highest number of categories that reached an average agreement greater than 95% (9 categories, with the following categories also reaching an agreement of 95% or higher from all the perspectives: *e310 Immediate family, e450 Individual attitudes of health professionals* and *e580 Health services*, *systems*, *and policies*). The selected categories concerned in particular the chapters *e3 support and relationships* (e.g., *e320 Friends*), *e4 attitudes* (*e465 Social norms, practices and ideologies*), and the accessibility of health services (chapter *e5 Services, systems and policies*, such as *e575 General social support services, systems and policies*). These results confirm that health professionals ascribe considerable importance to the impact of environmental factors on the functioning of a person with schizophrenia (Brown & Weisman de Mamani, 2018; Demjaha, MacCabe, & Murray, 2012; Niendam et al., 2018). In fact, authors such as Fleischhacker et al. (2014) point out the necessity of combining integrated care (which should be supported by the healthcare system) with active engagement on the part of people with schizophrenia, their families, and their communities, highlighting the relevance of paying attention to environmental circumstances. All these elements working together should lead to better lives for all those affected.

Indeed, the diathesis-stress model highlights the crucial role played by the environment in the onset, evolution and course of schizophrenia, with it possibly being a precipitator of the illness and a barrier for improvement, but also possibly being a protective factor for it (Mueser & McGurk, 2004). Early experiences and family environment are related to the appearance of psychotic symptoms (Brown & Weisman de Mamani, 2018), and family interventions, such as psychoeducation for relatives or multifamily group therapy, have proven to be effective in improving psychosocial functioning and promoting the well-being of people with schizophrenia, as well as that of their relatives (McFarlane, 2016; Okpokoro et al., 2014). Social workers also try to intervene in families and in other contextual factors and in how these factors affect the individual with schizophrenia (Fox et al., 2015), and nursing interventions have also been shown to facilitate the achievement of adequate social and therapeutic support (Virgolesi et al., 2017).

All the categories from this component that form part of the ICF-CS for schizophrenia reached expert consensus. Only one category from this component that reached expert consensus is not represented in the ICF-CS for schizophrenia (i.e., *e135 Products and technology*

for employment). It is worth noting here that the ICF-CS for schizophrenia already contains four categories pertaining to the chapter e1 Products and technology (i.e., *e110 Products or substances for personal consumption*, *e125 Products and technology for communication*, *e130 Products and technology for education*, and *e165 Assets*). Since an ICF-CS should be as short as possible, this domain might be deemed to be already sufficiently covered by these four categories. In addition, the categories that achieved a very high consensus, such as *e310 Immediate family* or *e355 Health professionals*, show the relevance of these agents as possible facilitators or obstacles to the recovery process of people with schizophrenia (Lim, Barrio, Hernandez, Barragán, & Brekke, 2017; Marwaha, Balachandra, & Johnson, 2009).

All the areas selected may provide health professionals with information about how the individual functioning of persons with schizophrenia might be improved by promoting enabling environmental factors and reducing barriers. However, despite the importance of these factors, they are usually ignored in the management of schizophrenia (Gurak & De Mamani, 2016). It has been found that interventions that take environmental factors into account are more inclusive and less stigmatising (Macleod, Elliott, & Brown, 2011). The ICF-CSs can be useful in this respect, as they enable a thorough assessment of the environmental barriers and facilitators that affect the daily functioning of a person with a specific health condition, identifying those aspects of the environment which merit intervention. Indeed, the ICF underlines the importance of actively changing the environment so as to adapt it to the needs of people with each health condition.

5.5. Personal factors

In total, 31 proposed *Personal factors* reached consensus from at least one professional perspective, with expert consensus being reached for 28 of these. Of these, 14 *Personal factors* achieved an average agreement higher than 95% across those perspectives from which reached consensus, and 12 reached consensus from all the professional perspectives considered. This highlights the relevance of considering personal characteristics in the treatment of individuals with schizophrenia, as well as the importance ascribed to this component by all the professional perspectives. It also reflects the important role that many personal factors have in the presentation and evolution of the disease, in how people with schizophrenia cope with their illness, and in their recovery and well-being.

Many studies support the relevance of the *Personal factors* that reached higher agreement in our research, such as age at onset (O'Donoghue et al., 2015), premorbid drug use and lifestyle (Bhalla, Stefanovics, & Rosenheck, 2018), premorbid social skills (Granholm, Holden, & Worley, 2018; Mahmood, Burton, Vella, & Twamley, 2018), premorbid cognitive skills (Kendler, Ohlsson,

Keefe, Sundquist, & Sundquist, 2018) and personal history and biography (Lee, Martin, Tu, Palmer, & Jeste, 2018; Rajkumar, 2015). Other categories that reached high consensus, which are also supported by the literature, are resilience (Mizuno et al., 2016; Torgalsbøen, Fu, & Czajkowski, 2018), genetic factors (van Erp et al., 2018), premorbid personality (Goghari, 2017; Ridgewell, Blackford, McHugo & Heckers, 2017) and premorbid intelligence (Leeson et al., 2011). The category *Premorbid functioning*, whose relevance has strong support in the literature (Brill et al., 2009), did not reach expert consensus, although it did achieve consensus from the perspective of all the WHO regions. Systematic classification of this component would facilitate further research into which of these personal factors, or others, merit particular consideration when treating this population.

Health professionals can, in fact, influence some of these personal factors. For example, psychosocial skills can be improved by psychologists (for example, through social skills training or social cognition training; Kern et al., 2009), and nurses can also help to promote them through specific workshops (Quee et al., 2014). Moreover, the knowledge of which personal factors may increase one's vulnerability to having a psychotic episode is very important given that it will facilitate the identification of individuals who are at clinically high risk for schizophrenia as well as then the application of preventive approaches (Fusar-Poli et al., 2013). In such cases, social work holds a unique position when it comes to identifying these youths and making appropriate referrals (DeVylder, 2016).

Consequently, it would be useful for the ICF system to incorporate a classification of this component to enable the systematic identification of all personal factors that influence the functioning of people with different health conditions, so that professionals can describe them in a detailed and exhaustive manner. The agreement regarding the categories proposed for *Personal factors* in our study was very high between regions (from 93.5% to 100%) but not so high between professions (from 58.1% to 87.1%), showing that the proposed categorisation lists personal factors that are of worldwide relevance, but that the relevance given to each one by each professional perspective is different. The lack of an exhaustive and systematised list of categories for this component may be a reason for the variability observed. Nevertheless, most of the categories regarded as important in our study coincide between the different perspectives of the various health professions, suggesting that the proposed list of *Personal factors* captures the aspects that merit particular consideration in this population. The list proposed here thus constitutes a valuable and innovative aspect of our study.

5.6. Strengths, limitations and future research

The present study has several strengths. First, the Delphi technique is a widely recognised and appropriate method for the purpose of this study, and it was applied in such a way as to maximise its possibilities, by including a large number of participants and facilitating worldwide participation. To our knowledge, this is the first time that an ICF-CS validation study has been carried out in such a large and diverse sample. Our initial panel of experts comprised 352 psychiatrists, 175 psychologists, 101 nurses, 92 occupational therapists, 57 social workers and 13 physiotherapists, covering the six WHO regions and representing a total of 85 countries. Moreover, the sample was formed by experts highly qualified in the treatment of individuals with schizophrenia, both acute and chronic, from both rural and urban settings. Another strength of the study is that participation was possible in five languages, and this is likely to have been a key factor in achieving such multicultural and multinational representation. It should also be noted that the response rate across rounds one to three was between 63.2% and 86.1%, which is considerably high for this kind of study.

Nonetheless, some consideration should be paid to certain limitations of the study's findings. The primary limitation concerns the representativeness of the panel of experts. Although individuals from all over the world took part, the African and Eastern Mediterranean WHO regions were under-represented. Possible reasons for this under-representation include greater difficulties in accessing these professionals (for example, due to limited internet access in these regions) and lower numbers of these kinds of specialised health professionals in these regions. Moreover, despite our efforts to recruit a large and representative panel of experienced professionals across all the areas, the number of physiotherapists and social workers who were willing to participate in the Delphi study was small in comparison to the relatively large number of them who work in mental health settings. A possible explanation for this low participation rate is that although physiotherapists and social workers may commonly treat persons with a mental disorder, they might not consider themselves to be experts in relation to schizophrenia, as they treat it among individuals with many other health conditions. Finally, the survey used was a self-response, online survey, with all the possible inherent biases this methodology may entail.

In summary, these Delphi studies have documented the areas and aspects that health professionals consider to be important in relation to the assessment and treatment of individuals with schizophrenia, and the results largely validate the ICF-CSs for schizophrenia. Further validation studies from the perspective of families and persons with schizophrenia, as well as studies that examine other sources of evidence of validity, are now needed in order to

complement the present findings and to move towards a definitive version of the ICF-CS for schizophrenia.

The objective of this thesis was to obtain a global vision from all the data collected, but in the future, the data will also be analysed deeper in order to study what specificities and differences exist between the WHO regions and in terms of the characteristics of the treated population (for example, being from rural or urban areas). In addition, a big amount of data has been collected and can be analysed in more detail. In this vein, the verbatim responses from the first round will be analysed using qualitative techniques. Moreover, a network analysis will also be done, in order to jointly investigate the results and the internal relationships between all the categories selected. Furthermore, the proposed categorisation of *Personal factors* constitutes an innovative aspect of our study, on which we will continue working, in order to be able to propose a list of *Personal factors* for consideration by WHO. From the resulting ICF-CS for schizophrenia, it will also be possible to propose a new test for evaluating functioning in individuals with schizophrenia. Finally, the ICF-CS for schizophrenia might represent a framework for promoting functioning in individuals with schizophrenia that has worldwide and multidisciplinary validation from an integrative care approach.

6. Conclusions

Overall, the results obtained provide strong support for the worldwide validity of the content of the ICF-CSs for schizophrenia from the expert perspective. In total, 89 out of the 97 categories from the comprehensive version of the ICF-CS yielded expert consensus, and 100% of the categories from the brief version reached consensus from all the professional perspectives. The experts who participated are from 85 different countries, representing the six WHO regions. The agreement between professional perspectives and between WHO regions regarding the most relevant ICF categories was very high in both cases. All this suggests that the results obtained are quite uniform along professions and regions and can be considered to be globally representative across all the professional perspectives and in the different contexts and areas studied. These results show that the ICF-CSs for schizophrenia offer a clinically comprehensive framework for organising information about this health condition according to a broad biopsychosocial perspective. ICF-CSs for schizophrenia provide a tool to enable health professionals to assess functional status, identify an individual's strengths and weaknesses, and determine appropriate interventions. Additionally, by providing different specialists with a shared language, the ICF framework facilitates communication and coordination in integrated care systems with interdisciplinary teams.

Having a basic set of categories that addresses a particular population at different stages of an illness and that helps to guide the management and treatment of a person with a particular health condition by different health professionals is necessary for ensuring optimal care. As stated, individuals with schizophrenia can live independently and have good psychosocial functioning under a well-prepared and organised mental health care system. The ICF-CSs for schizophrenia can play a key role at this point, as they can provide guidance regarding the needs of the individuals when planning treatment, and can facilitate the communication and coordination between all the professionals, in order to pool efforts for the well-being of the person being treated.

The ICF-CSs for schizophrenia can be used as a standard set of ICF categories to facilitate the assessment of functioning in real-life clinical practice by using the ICF qualifiers, which are codes used to record the extent of functioning or disability in a domain or category, or the extent to which an environmental factor is a facilitator or barrier. Importantly, improvement and decline in aspects of functioning can be displayed in a functioning profile over the course of treatment or over one's lifespan. The ICF-CSs for schizophrenia may also be used as a framework for analysing the content of patient-reported outcome measures or for informing instrument developers about what needs to be included in tools designed to assess the functioning of persons with schizophrenia.

Two categories (*s110 Brain structure* and *b126 Temperament and personality functions)* reached expert consensus (reaching agreement from all the perspectives considered, with an average agreement across professions of greater than 80%) but are not present in the ICF-CSs for schizophrenia. Moreover, much of the literature supports the relevance of these categories. Therefore, their exclusion from the ICF-CS for schizophrenia should be reconsidered.

Many *Personal factors* reached expert consensus with high levels of average agreement, showing that this component is very important when considering the functioning of individuals with schizophrenia and suggesting that it would be useful for the ICF to include a list of personal factors that may influence the psychosocial functioning of people with different health conditions.

The high number of categories selected by all the professional perspectives show the relevance that interventions by all these professions have for promoting well-being and enhancing psychosocial functioning in individuals with schizophrenia. The fact that there are also some differences between the results of the different professions highlights the importance of considering different professional points of view in order to achieve a fuller picture of how functioning is affected in people with schizophrenia.

In summary, the current study has documented the most relevant areas that health professionals consider when treating this population, which involve mental, physical, social and personal aspects. The results obtained are essential for achieving an integrative view of the needs of this population and for producing the definitive ICF-CSs for schizophrenia.

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8. Annexes

8.1. Annex 1: Material suplementari de l'estudi 1: Perspectiva des de l'àmbit de la psiquiatria

S1. Body functions component. Percentage of participants who considered the respective ICF category as relevant in the third round (n = 303), and whether or not the category is included in the ICF-CS for schizophrenia.

ICF code	ICF category	Percentage[a]	Consensus Delphi	ICF Core Set
b114	*Orientation functions*	56		x
b117	Intellectual functions	81	x	x
b122	Global psychosocial functions	97	x	x[b]
b126	**Temperament and personality functions**	78	x	
b130	Energy and drive functions	98	x	x[b]
b134	Sleep functions	82	x	x
b140	Attention functions	96	x	x[b]
b144	Memory functions	75	x	x
b147	Psychomotor functions	99	x	x
b152	Emotional functions	98	x	x[b]
b156	Perceptual functions	97	x	x[b]
b160	Thought functions	98	x	x[b]
b164	Higher-level cognitive functions	99	x	x[b]
b167	Mental functions of language	53		
b180	Experience of self and time functions	79	x	x[b]
b330	Fluency and rhythm of speech functions	77	x	x
b530	Weight maintenance functions	75	x	x
b540	General metabolic functions	55		
b640	Sexual functions	75	x	x
b765	Involuntary movement functions	85	x	x

Abbreviations: ICF, International Classification of Functioning, Disability and Health.
*Italic text***:** Categories from the ICF-CS for schizophrenia for which consensus was not reached in the third round of the Delphi study.
Bold text: Categories for which consensus was reached in the third Delphi round but that do not feature in the ICF-CS for schizophrenia.
[a] Percentage of participants who considered the respective ICF category as relevant in the third round.
[b] Categories included in the Brief ICF-CS for schizophrenia.

S2. Body structure component. Percentage of participants who considered the respective ICF category as relevant in the third round (n = 303), and whether or not the category is included in the ICF-CS for schizophrenia.

ICF code	ICF category	Percentage[a]	Consensus Delphi	ICF Core Set
s110	**Structure of brain**	97	x	
s410	Structure of cardiovascular system	22		
s430	Structure of respiratory system	11		
s580	Structure of endocrine glands	43		
s710	Structure of head and neck region	12		
s730	Structure of upper extremity	9		
s750	Structure of lower extremity	9		
s770	Additional musculoskeletal structures related to movement	22		

Abbreviations: ICF, International Classification of Functioning, Disability and Health.
*Italic text***:** Categories from the ICF-CS for schizophrenia for which consensus was not reached in the third round of the Delphi study.
Bold text: Categories for which consensus was reached in the third Delphi round but that do not feature in the ICF-CS for schizophrenia.
[a] Percentage of participants who considered the respective ICF category as relevant in the third round.
[b] Categories included in the Brief ICF-CS for schizophrenia.

S3. Activity and participation component. Percentage of participants who considered the respective ICF category as relevant in the third round (n = 303), and whether or not the category is included in the ICF-CS for schizophrenia.

ICF code	ICF category	Percentage[a]	Consensus Delphi	ICF Core Set
d155	Acquiring skills	91	x	x[b]
d160	Focusing attention	97	x	x
d163	Thinking	97	x	x
d166	*Reading*	55		x
d175	Solving problems	97	x	x[b]
d177	Making decisions	97	x	x
d210	*Undertaking a single task*	60		x
d220	Undertaking multiple tasks	96	x	x
d230	Carrying out daily routine	99	x	x[b]
d240	Handling stress and other psychological demands	98	x	x[b]
d310	Communicating with - receiving - spoken messages	86	x	x
d315	Communicating with - receiving - nonverbal messages	95	x	x
d330	*Speaking*	69		x
d335	Producing nonverbal messages	91	x	x
d350	Conversation	96	x	x
d470	*Using transportation*	48		x
d475	*Driving*	55		x
d510	*Washing oneself*	70		x
d520	Caring for body parts	87	x	x
d530	Toileting	56		
d540	*Dressing*	67		x
d570	Looking after one's health	99	x	x[b]
d610	Acquiring a place to live	94	x	x
d620	Acquisition of goods and services	84	x	x
d630	Preparing meals	76	x	x

d640	Doing housework	84	x	x
d650	Caring for household objects	79	x	x
d660	Assisting others	79	x	x
d710	Basic interpersonal interactions	88	x	x[b]
d720	Complex interpersonal interactions	98	x	x[b]
d730	Relating with strangers	82	x	x
d740	Formal relationships	90	x	x
d750	Informal social relationships	87	x	x
d760	Family relationships	92	x	x[b]
d770	Intimate relationships	94	x	x
d820	School education	89	x	x
d825	Vocational training	89	x	x
d830	Higher education	89	x	x
d840	Apprenticeship (work preparation)	84	x	x
d845	Acquiring, keeping and terminating a job	98	x	x[b]
d850	Remunerative employment	98	x	x
d855	Non-remunerative employment	76	x	x
d860	*Basic economic transactions*	51		x
d865	Complex economic transactions	90	x	x
d870	Economic self-sufficiency	94	x	x
d910	Community life	91	x	x[b]
d920	Recreation and leisure	96	x	x
d930	*Religion and spirituality*	57		x
d950	Political life and citizenship	78	x	x

Abbreviations: ICF, International Classification of Functioning, Disability and Health.
*Italic text***:** Categories from the ICF-CS for schizophrenia for which consensus was not reached in the third round of the Delphi study.
Bold text: Categories for which consensus was reached in the third Delphi round but that do not feature in the ICF-CS for schizophrenia.
[a] Percentage of participants who considered the respective ICF category as relevant in the third round.
[b] Categories included in the Brief ICF-CS for schizophrenia.

S4. Environmental factors component. Percentage of participants who considered the respective ICF category as relevant in the third round (n = 303), and whether or not the category is included in the ICF-CS for schizophrenia.

ICF code	ICF category	Percentage[a]	Consensus Delphi	ICF Core Set
e110	Products or substances for personal consumption	98	x	x
e115	Products and technology for personal use in daily living	70		
e125	Products and technology for communication	79	x	x
e130	Products and technology for education	81	x	x
e135	**Products and technology for employment**	84	x	
e140	**Products and technology for culture, recreation and sport**	78	x	
e165	Assets	90	x	x
e310	Immediate family	97	x	x[b]
e315	Extended family	80	x	x
e320	Friends	98	x	x
e325	Acquaintances, peers, colleagues, neighbours and community members	93	x	x
e330	People in positions of authority	76	x	x
e340	Personal care providers and personal assistants	93	x	x
e355	Health professionals	97	x	x[b]
e360	Other professionals	83	x	x

e410	Individual attitudes of immediate family members	95	x	x[b]
e415	Individual attitudes of extended family members	81	x	x
e420	Individual attitudes of friends	93	x	x
e425	Individual attitudes of acquaintances, peers, colleagues, neighbours and community members	91	x	x
e430	Individual attitudes of people in positions of authority	78	x	x
e440	Individual attitudes of personal care providers and personal assistants	92	x	x
e450	Individual attitudes of health professionals	95	x	x[b]
e455	Individual attitudes of other professionals	88	x	x
e460	Societal attitudes	95	x	x[b]
e465	Social norms, practices and ideologies	91	x	x
e525	Housing services, systems and policies	87	x	x
e545	Civil protection services, systems and policies	81	x	x
e550	Legal services, systems and policies	85	x	x
e555	Associations and organizational services, systems and policies	82	x	x
e560	Media services, systems and policies	79	x	x
e570	Social security services, systems and policies	92	x	x[b]
e575	General social support services, systems and policies	92	x	x
e580	Health services, systems and policies	98	x	x[b]
e585	Education and training services, systems and policies	94	x	x
e590	Labour and employment services, systems and policies	94	x	x

Abbreviations: ICF, International Classification of Functioning, Disability and Health.
Italic text: Categories from the ICF-CS for schizophrenia for which consensus was not reached in the third round of the Delphi study.
Bold text: Categories for which consensus was reached in the third Delphi round but that do not feature in the ICF-CS for schizophrenia.
[a] Percentage of participants who considered the respective ICF category as relevant in the third round.
[b] Categories included in the Brief ICF-CS for schizophrenia.

S5. Personal factor component (proposed categories). Percentage of participants who considered the respective ICF category as relevant in the third round (n = 303).

Personal factor	Percentage[a]	Consensus Delphi
Habits and lifestyle		
Dietary habits	79	x
Drug use	99	x
Fitness habits	83	x
Lifestyle	93	x
Personality and other psychological characteristics		
Agreeableness	84	x
Attitudes towards health	97	x
Autonomy	96	x
Confidence	86	x
Conscientiousness	78	x
Extraversion	75	x
Morality	60	
Motivation	97	x
Neuroticism	75	x
Openness to experience	81	x
Optimism	83	x

Personal attitude	94	x
Personality	96	x
Resilience	97	x
Self-awareness	93	x
Self-esteem	95	x
Personal skills		
Cognitive skills	98	x
Coping skills	99	x
Intelligence	89	x
Psychosocial skills	99	x
Sociodemographic variables		
Age	83	x
Ethnicity	31	
Gender	60	
Level of education	88	x
Marital status	92	x
Occupational status	96	x
Socioeconomic status	93	x
Other personal factors		
Age at onset	98	x
Genetics	88	x
Premorbid functioning	98	X
Spirituality and religiosity	67	

[a] Percentage of participants who considered the respective ICF category as relevant in the third round.

S6. Acknowledgments

We express our thanks to all expert participants for their invaluable contribution and the time they devoted to respond to the questionnaires. Participants who agreed to be acknowledged in the publication are listed in surname alphabetical order: O. Abayomi, M. Abella, A. K. Abu Bakar, D. Aceituno, A. Adeoye, V. Agarwal, T. K. Aich, P. Ajiboye, L. Alain, M. Alexandra, G. Aliev, O. Aloba, R. Aly, S. K. An, A. Andri, A. E. Anıl Yağcıoğlu, R. Apiquian, J. Apud, S. Arsova, S. Assanangkornchai, E. C. Atbasoglu, W. Bahk, Y. Barak, A. Basu, R. Behere, A. Belinskiy, R. Bertelli, J. Bhachech, M. S. Bhatia, J. Bhattacharjee, K. Bhattacharya, R. Bhattacharyya, M. Bily, T. Binbay, H. Birabwa-Oketcho, D. Bloom, M. Borovcanin, A. Brand, P. Brazo, M. Burgic Radmanovic, D. Capdevielle, V. Carr, P. Castelli, A. C. Cesar Terzian, M. Cetkovich, S. Chaturvedi, S. Chauhan, K. Y. Chee, P. Chue, L. Citrome, J. Conway, C. Correll, F. Cournos, V. Danivas, F. Dark, A. De Sousa, V. Dharmawardene, A. Diehl, M. M. Dumitru, S. Dursun, C. Eka, A. Elijosiene, H. Elkholy, S. Englisch, O. Esan, R. I. Escamilla Orozco, B. Estepa, S. Farhang, E. Fernandez-Egea, R. Ferretjans, M. L. Figueira, G. Filho Busatto, S. Frangou, W. Friedlander, A. Gadelha, M. Gagui, B. Galińska-Skok, S. Gandotra, J. Gannon, C. Garcia, R. Garg, M. Ghadirivasfi, M. Ghosal, J. S. Gill, A. Gonzalez, R. Gopalakrishnan, C. Goss, W. Greenberg, S. Grignon, G. Grobler, S. Grover, J. Grubišin, N. Gupta, S. Gupta, C. Hanlon, R. Hashem, C. Hocaoglu, H. Hori, M. Howard, G. Hranov, N. Ibrahim, D. Ignjatovic Ristic, S. Ikai, S. Ikezawa, M. Irfan, S. Iritani, R. Ishii, B. Issa, L. Izakova, A. H. Jalali Nadoushan, R. Janakiraman, P. Janik, L. F. Jarskog, D. Jeon, B. Joshi, T. Jun, D. Jung, S. Kaliski, S. Kanba, Y. Kaneda, S. K. Kar, R. Karadag, Y. Kato, S. Kattimani, O. Kazutaka, T. Kieseppä, C. Y. Kim, S. Kim, P. Kittirattanapaiboon, K. Koelkebeck, E. Konicki, G. Konstantakopoulos, M. Krebs, P. Kulhara, A. Kumar, S. Kumar, Y. Kunii, M. Kupchik, A. Kuruvilla, K. Kuruvilla, F. Lacaz, T. Lambert, J. Lauriello, E. Lee, S. Lee, B. J. Lee, P. Lengdee, R. P. Liberman, I. Licanin, A. Lingeswaran, S. Loganathan, M. Lotrakul, G. M. Lovisi, V. Luthra, N. Madjirova, K. Malik, L. Mantovani, N. Manusheva, M. De Hert, A. Marconi, J. Mari, S. Martic-Biocina, R. Medina Dávalos, G. Mellsop, V. Menon, M. Midin, G. Minutolo, S. Mitra, P. Mittal, M. Mizuno, A. Mohagheghi, P. Mohr, P. Molero, C. Montag, K. Mosaku, S. Mostovoy, A.

Muhammad, R. J. Muscellini, B. B. Mutamba, T. Nagamine, N. Nakasujja, M. Nakaya, K. Nakgome, K. Narsi, C. Naveen Kumar, R. Nayak, N. Nebhinani, I. Netto, E. Ngan, I. M. Noor, C. Noto, J. U. Ohaeri, A. T. Olagunju, R. O'Reilly, G. Orellana, L. Orsolini, D. S. Padhy, S. Paholpak, L. Palmeira, P. Panagiotidid s, A. Pandurangi, S. Paruk, O. Pec, J. F. Pérez Milán, B. Ç. Poyraz, J. Prakash, K. Prasad, A. Raballo, R. Rajkumar, S. Ramlall, H. Ramy, M. Ran, F. Ranjbar, W. Ratta-apha, A. Ray, B. Remberk, A. Riecher-Rössler, J. L. Roos, A. Rudnick, J. Rybakowski, P. Sachdev, D. S. Sahoo, N. S. Saidman, J. Salgado, C. Sánchez Nuñez, R. Saracco, K. Sawada, S. Schiavone, J. Scott, M. Seeman, G. Serafini, D. Serrani, N. Shahmansouri, A. Sharma, P. M. Singh, V. Singh, S. M. Singh, M. Sinha, P. Sirivech, S. Sivayokan, R. K. Solanki, M. Sood, T. R. Soron, M. Srisurapanont, A. Srivastava, V. Steibliene, T. Sumiyoshi, J. S. Sundarakumar, T. Surmeli, T. Suzuki, M. Swami, I. Szendi, M. T. Taube, M. Teixidó, C. Tek, R. Thimmaiah, M. Thyloth, S. Tore, W. Torres, M. C. Turola, R. E. Ulloa, R. Uwakwe, A. Valença, M. Varghese, L. Venkatraman, B. Vicente, V. Videnova, F. Vila-Rodriguez, V. Vitriol, V. Voros, S. Wahab, W. Wang, T. Wiguna, A. Wong, M. Yeghiyan, R. Yoshimura, M. Youssef, M. Yu, H. Zakaria, M. Zelman, J. Zhou, S. M. Zsuzsa, Е. Корень, Е. Костюкова, Е. Кучер, Д. Полянский, Э. Цукарзи, **琦 刘**, **路**线 吕, **小**伟 **唐**, **勇 徐**, 洁 **李**, 晓**一 李**, 军 **梁**, **惠峰 段**, **作**为 **汪**, 红**星 王**, 传跃 **王**, **景梨 甘**, **秀峰** 许, **林** 陆, 剑华 陈 and 现仓马.

8.2. Annex 2: Material suplementari de l' estudi 2: Perspectiva des de l'àmbit de la psicologia

S1 Text. Survey questions (round 1).

- If you think about the **body** and **mind** of individuals with schizophrenia, which problems do you think are relevant for them (which **functions** are affected)?
- If you think about the **body parts** of individuals with schizophrenia, in which parts do you think they show problems?
- If you think about the **daily activities** of individuals with schizophrenia, in which ones do you think they have problems?
- If you think about the **environment** and the **living conditions** of individuals with schizophrenia, what do you think helps them (that is a **facilitator** for them)?
- If you think about the **environment** and the **living conditions** of individuals with schizophrenia, what do you think that hinders them (that is a **barrier** or obstacle for them)?
- If you think about individuals with schizophrenia, which **personal characteristics** do you think are important to cope their illness?

S2 Text. Acknowledgments.

We are grateful to all the experts for their invaluable contribution and the time they invested in responding to the survey. Participants who agreed to be acknowledged in the publication are listed in surname alphabetical order:
F. Afzal, K. Allott, I. Alvarez Tomas, S. Azzali, D. Barch, M. Bechi, M. Bell, M. H. Bin Jamil, I. Birulés, C. Bouvet, J. J. Brofman Epelbaum, L. Byrne, C. Cardoso, X. Castellano, M. Chadzynska, C. Chalkia, V. Chambon, V. Cheung, I. Chrysopoulos, J. Cid, L. Cowley, L. Cremer, M. L. de Bustamante Simas, G. de Souza Lima Brito, C. Demarco, R. Dresdner, C. Duboc, L. Dumitrache, A. Escanilla, G. Escuder, M. Eskin, V. Fenekou, L. Fiorentini, A. Foix, A. Fresan, N. L. Gaines, G. Garrido García, A. M. Gaviria Gómez, V. V. Gijs, L. Glenthøj, J. Gomar, E. Gonzalez-Agua, J. Gottlieb, P. Grandón, E. Grasa, M. Green, K. Grimen, A. Gupta, N. Idrees, I. Incorvaia, Z. Iqbal, L. Irarrázaval, V. O. Jafar, I. J. Jahan, K. Jindal, J. Johannesen, H. Joppich, T. Kahwemba, I. Karaoulani, A. Karistinos, S. Kewming, M. Khader, S. Khodarahimi, A. Kikuchi, D. Kirla, J. Krishnan, N. Kumar, D. Kumar, J. Lee, B. Leonhardt, M. Linke-Jankowska, R. Loewy, H. Long, A. Lucas Hoff Dannevang, J. Luke, M. Lakshmi, A. Mahato, C. Manolatos, D. Mark, E. F. Martínez Rivas, S. A. Mathews, C. McEnery, Z. I. Mohammad, V. Montesano, S. J. Munjanadan, J. Muthee, R. Naranjo Valentín, A. Naumovska, M. Nieznański, J. Noel, I. Nowak, D. Núñez, Y. Olando, G. Oliveira, P. O. O'Reilly, A. Palli, E. J. Pedrero-Pérez, J. Pena-Garijo, S. Perona-Garcelán, D. Perumal, E. Petkari, S. A. Philip, G. Poelke, M. Poletti, A. Polkovnikova-Wamoto, S. Ramachandran, L. Ramos, M. M. Rashad, M. Rizwan, M. Rodriguez, S. Saldivia, N. Schluep, M. Segura, E. Smyth, R. Stavroula, N. Studzinski, K. Subotnik, R. Talwar, N. Thomas, T. Torralba, W. N. Utami, M. Valencia, D. R. Valentino, S. Vallath, L. Valmaggia, A. J. Vázquez Morejón, J. Vehil, D. Velligan, J. Ventura, L. P. Vrklevski, S. Williams, W. Wong, T. Wykes, H. Yazbek, N. Yee, A. Zia & C. Бабин.

S1 Table. Body functions component.

ICF code	ICF category	Percentage (%)[a]	Consensus among experts	Included in ICF Core Set
b114	Orientation functions	79	x	x
b117	Intellectual functions	76	x	x
b122	Global psychosocial functions	96	x	x[b]
b126	**Temperament and personality functions**	77	x	
b130	Energy and drive functions	99	x	x[b]
b134	Sleep functions	89	x	x
b140	Attention functions	98	x	x[b]
b144	Memory functions	88	x	x
b147	Psychomotor functions	96	x	x
b152	Emotional functions	99	x	x[b]
b156	Perceptual functions	98	x	x[b]
b160	Thought functions	100	x	x[b]
b164	Higher-level cognitive functions	100	x	x[b]
b180	Experience of self and time functions	92	x	x[b]
b330	*Fluency and rhythm of speech functions*	66		x
b530	*Weight maintenance functions*	57		x
b640	*Sexual functions*	52		x
b760	Control of voluntary movement functions	45		
b765	*Involuntary movement functions*	55		x

Abbreviations: ICF, International Classification of Functioning, Disability and Health.

*Italic text***:** Categories from the ICF-CS for schizophrenia for which consensus was not reached in the third round of the Delphi study.

Bold text: Categories for which consensus was reached in the third Delphi round but that do not feature in the ICF-CS for schizophrenia.

[a] Percentage of participants who considered the respective ICF category as relevant in the third round (n=137).

[b] Categories included in the Brief ICF-CS for schizophrenia.

S2 Table. Body structures component.

ICF code	ICF category	Percentage (%)[a]	Consensus among experts	Included in ICF Core Set
s110	**Structure of brain**	90	x	
s320	Structure of mouth	10		
s410	Structure of cardiovascular system	17		
s430	Structure of respiratory system	12		
s580	Structure of endocrine glands	10		
s710	Structure of head and neck region	9		
s730	Structure of upper extremity	6		
s750	Structure of lower extremity	8		

Abbreviations: ICF, International Classification of Functioning, Disability and Health.
Bold text: Categories for which consensus was reached in the third Delphi round but that do not feature in the ICF-CS for schizophrenia.
[a] Percentage of participants who considered the respective ICF category as relevant in the third round (n=137).

S3 Table. Activities and Participation component.

ICF code	ICF category	Percentage (%)[a]	Consensus among experts	Included in ICF Core Set
d155	Acquiring skills	75	x	x[b]
d160	Focusing attention	99	x	x
d163	Thinking	94	x	x
d166	*Reading*	42		x
d175	Solving problems	96	x	x[b]
d177	Making decisions	93	x	x
d210	*Undertaking a single task*	40		x
d220	Undertaking multiple tasks	96	x	x
d230	Carrying out daily routine	94	x	x[b]
d240	Handling stress and other psychological demands	98	x	x[b]
d310	Communicating with - receiving - spoken messages	77	x	x
d315	Communicating with - receiving - nonverbal messages	88	x	x
d330	*Speaking*	39		x
d335	Producing nonverbal messages	77	x	x
d350	Conversation	93	x	x
d470	*Using transportation*	42		x
d475	*Driving*	51		x
d510	*Washing oneself*	47		x
d520	Caring for body parts	83	x	x
d530	Toileting	38		
d540	*Dressing*	47		x
d550	Eating	28		
d570	Looking after one's health	96	x	x[b]
d610	Acquiring a place to live	91	x	x
d620	Acquisition of goods and services	77	x	x
d630	*Preparing meals*	73		x
d640	*Doing housework*	72		x
d650	*Caring for household objects*	66		x
d660	*Assisting others*	72		x
d710	Basic interpersonal interactions	82	x	x[b]
d720	Complex interpersonal interactions	97	x	x[b]

d730	Relating with strangers	80	x	x
d740	Formal relationships	81	x	x
d750	Informal social relationships	88	x	x
d760	Family relationships	90	x	x[b]
d770	Intimate relationships	92	x	x
d810	Informal education	38		
d820	School education	89	x	x
d825	Vocational training	81	x	x
d830	Higher education	85	x	x
d840	*Apprenticeship (work preparation)*	72		x
d845	Acquiring, keeping and terminating a job	96	x	x[b]
d850	Remunerative employment	89	x	x
d855	*Non-remunerative employment*	74		x
d860	*Basic economic transactions*	38		x
d865	Complex economic transactions	85	x	x
d870	Economic self-sufficiency	89	x	x
d910	Community life	85	x	x[b]
d920	Recreation and leisure	95	x	x
d930	*Religion and spirituality*	39		x
d950	*Political life and citizenship*	64		x

Abbreviations: ICF, International Classification of Functioning, Disability, and Health.
Italic text: Categories from the ICF-CS for schizophrenia for which consensus was not reached in the third round of the Delphi study.
[a] Percentage of participants who considered the respective ICF category as relevant in the third round (n=137).
[b] Categories included in the Brief ICF-CS for schizophrenia.

S4 Table. Environmental factors component.

ICF code	ICF category	Percentage (%)[a]	Consensus among experts	Included in ICF Core Set
e110	Products or substances for personal consumption	96	x	x
e115	Products and technology for personal use in daily living	69		
e125	Products and technology for communication	82	x	x
e130	*Products and technology for education*	74		x
e135	**Products and technology for employment**	76	x	
e140	Products and technology for culture, recreation, and sport	69		
e165	Assets	85	x	x
e250	Sound	48		
e310	Immediate family	99	x	x[b]
e315	Extended family	91	x	x
e320	Friends	98	x	x
e325	Acquaintances, peers, colleagues, neighbors, and community members	93	x	x
e330	*People in positions of authority*	74		x
e340	Personal care providers and personal assistants	92	x	x
e355	Health professionals	96	x	x[b]
e360	Other professionals	91	x	x
e410	Individual attitudes of immediate family members	99	x	x[b]
e415	Individual attitudes of extended family members	78	x	x
e420	Individual attitudes of friends	93	x	x
e425	Individual attitudes of acquaintances, peers, colleagues, neighbors, and community members	89	x	x

e430	Individual attitudes of people in positions of authority	79	x	x
e440	Individual attitudes of personal care providers and personal assistants	91	x	x
e450	Individual attitudes of health professionals	93	x	x[b]
e455	Individual attitudes of other professionals	81	x	x
e460	Societal attitudes	91	x	x[b]
e465	Social norms, practices, and ideologies	97	x	x
e525	Housing services, systems, and policies	89	x	x
e535	Communication services, systems, and policies	68		
e545	*Civil protection services, systems, and policies*	72		x
e550	Legal services, systems, and policies	85	x	x
e555	*Associations and organizational services, systems, and policies*	74		x
e560	Media services, systems, and policies	75	x	x
e570	Social security services, systems, and policies	88	x	x[b]
e575	General social support services, systems, and policies	96	x	x
e580	Health services, systems, and policies	97	x	x[b]
e585	Education and training services, systems, and policies	90	x	x
e590	Labor and employment services, systems, and policies	94	x	x

Abbreviations: ICF, International Classification of Functioning, Disability and Health.
Italic text: Categories from the ICF-CS for schizophrenia for which consensus was not reached in the third round of the Delphi study.
Bold text: Categories for which consensus was reached in the third Delphi round but that do not feature in the ICF-CS for schizophrenia.
[a] Percentage of participants who considered the respective ICF category as relevant in the third round (n=137).
[b] Categories included in the Brief ICF-CS for schizophrenia.

S5 Table. Personal factors component (proposed categories).

Personal factor[a]	Percentage[b]	Consensus Delphi
Habits and lifestyle		
Drug use	94	x
Lifestyle	94	x
Personality and other psychological characteristics		
Agreeableness	82	x
Attitudes towards health	95	x
Autonomy	91	x
Conscientiousness	75	x
Extraversion	62	
Motivation	94	x
Neuroticism	85	x
Openness to experience	82	x
Optimism	86	x
Personal attitude	92	x
Personality	96	x
Resilience	97	x
Self-awareness	90	x
Self-esteem	96	x
Spirituality and religiosity	64	
Personal skills		
Cognitive skills	96	x
Coping skills	96	x
Intelligence	86	x
Psychosocial skills	98	x
Sociodemographic variables		
Age	81	x
Ethnicity	34	
Gender	42	
Level of education	84	x
Living situation	98	x
Marital status	76	x
Occupational status	91	x
Socioeconomic status	86	x
Other personal factors		
Age at onset	98	x
Genetics	69	
Personal history and biography	98	x
Premorbid functioning	86	x

[a] Each proposed personal factor category was accompanied by its definition in the second and third round.
[b] Percentage of participants who considered each proposed category as relevant in the third round (n=137).

8.3. Annex 3: Material suplementari de l' estudi 3: Perspectiva des de l'àmbit de d'infermeria

S1. Body functions component.

ICF code	ICF category	Percentage[a]	Consensus Delphi	ICF Core Set
b114	Orientation functions	97	x	x
b117	Intellectual functions	75	x	x
b122	Global psychosocial functions	95	x	x[b]
b126	**Temperament and personality functions**	81	x	
b130	Energy and drive functions	95	x	x[b]
b134	Sleep functions	100	x	x
b140	Attention functions	94	x	x[b]
b144	Memory functions	76	x	x
b147	Psychomotor functions	91	x	x
b152	Emotional functions	99	x	x[b]
b156	Perceptual functions	99	x	x[b]
b160	Thought functions	100	x	x[b]
b164	Higher-level cognitive functions	94	x	x[b]
b180	Experience of self and time functions	92	x	x[b]
b330	Fluency and rhythm of speech functions	82	x	x
b410	Heart functions	37		
b530	Weight maintenance functions	81	x	x
b540	General metabolic functions	67		
b640	Sexual functions	85	x	x
b760	Control of voluntary movement functions	65		
b765	Involuntary movement functions	81	x	x

Abbreviations: ICF, International Classification of Functioning, Disability and Health.
Bold text: Categories for which consensus was reached in the third Delphi round but that do not feature in the ICF-CS for schizophrenia.
[a] Percentage of participants who considered the respective ICF category as relevant in the third round (n=79).
[b] Categories included in the Brief ICF-CS for schizophrenia.

S2. Body structure component.

ICF code	ICF category	Percentage[a]	Consensus Delphi	ICF Core Set
s110	**Structure of brain**	95	x	
s320	Structure of mouth	14		
s410	Structure of cardiovascular system	25		
s430	Structure of respiratory system	11		
s530	Structure of stomach	11		
s540	Structure of intestine	15		
s580	Structure of endocrine glands	24		
s610	Structure of urinary system	11		
s710	Structure of head and neck region	8		
s730	Structure of upper extremity	9		
s750	Structure of lower extremity	10		
s770	Additional musculoskeletal structures related to movement	44		
s810	Structure of areas of skin	14		

Abbreviations: ICF, International Classification of Functioning, Disability and Health.
Bold text: Categories for which consensus was reached in the third Delphi round but that do not feature in the ICF-CS for schizophrenia.
[a] Percentage of participants who considered the respective ICF category as relevant in the third round (n=79).
[b] Categories included in the Brief ICF-CS for schizophrenia.

S3. Activity and participation component.

ICF code	ICF category	Percentage[a]	Consensus Delphi	ICF Core Set
d155	Acquiring skills	87	x	x[b]
d160	Focusing attention	94	x	x
d163	Thinking	95	x	x
d166	*Reading*	70		x
d175	Solving problems	91	x	x[b]
d177	Making decisions	90	x	x
d210	*Undertaking a single task*	58		x
d220	Undertaking multiple tasks	95	x	x
d230	Carrying out daily routine	84	x	x[b]
d240	Handling stress and other psychological demands	96	x	x[b]
d310	Communication with-receiving- spoken messages	91	x	x
d315	Communicating with - receiving - nonverbal messages	91	x	x
d330	*Speaking*	71		x
d335	*Producing nonverbal messages*	68		x
d350	Conversation	87	x	x
d355	**Discussion**	85	x	
d360	Using communication devices and techniques	53		
d470	*Using transportation*	56		x
d475	*Driving*	72		x
d510	*Washing oneself*	73		x
d520	Caring for body parts	86	x	x
d540	Dressing	75	x	x
d550	Eating	56		
d570	Looking after one's health	94	x	x[b]
d610	Acquiring a place to live	92	x	x
d620	Acquisition of goods and services	90	x	x

d630	Preparing meals	81	x	x
d640	Doing housework	78	x	x
d650	Caring for household objects	81	x	x
d660	*Assisting others*	72		x
d710	Basic interpersonal interactions	81	x	x[b]
d720	Complex interpersonal interactions	96	x	x[b]
d730	Relating with strangers	82	x	x
d740	Formal relationships	95	x	x
d750	Informal social relationships	82	x	x
d760	Family relationships	87	x	x[b]
d770	Intimate relationships	85	x	x
d820	School education	87	x	x
d825	Vocational training	84	x	x
d830	Higher education	84	x	x
d840	Apprenticeship (work preparation)	76	x	x
d845	Acquiring, keeping and terminating a job	89	x	x[b]
d850	Remunerative employment	89	x	x
d855	Non-remunerative employment	78	x	x
d860	*Basic economic transactions*	65		x
d865	Complex economic transactions	90	x	x
d870	Economic self-sufficiency	92	x	x
d910	Community life	86	x	x[b]
d920	Recreation and leisure	81	x	x
d930	*Religion and spirituality*	59		x
d950	Political life and citizenship	84	x	x

Abbreviations: ICF, International Classification of Functioning, Disability and Health.
*Italic text***:** Categories from the ICF-CS for schizophrenia for which consensus was not reached in the third round of the Delphi study.
Bold text: Categories for which consensus was reached in the third Delphi round but that do not feature in the ICF-CS for schizophrenia.
[a] Percentage of participants who considered the respective ICF category as relevant in the third round (n=79).
[b] Categories included in the Brief ICF-CS for schizophrenia.

S4. Environmental factors component.

ICF code	ICF category	Percentage[a]	Consensus Delphi	ICF Core Set
e110	Products or substances for personal consumption	84	x	x
e115	**Products and technology for personal use in daily living**	87	x	
e120	**Products and technology for personal indoor and outdoor mobility and transportation**	80	x	
e125	Products and technology for communication	84	x	x
e130	Products and technology for education	82	x	x
e135	**Products and technology for employment**	86	x	
e140	**Products and technology for culture, recreation and sport**	82	x	
e165	Assets	91	x	x
e310	Immediate family	97	x	x[b]
e315	Extended family	95	x	x
e320	Friends	96	x	x
e325	Acquaintances, peers, colleagues, neighbours and community members	94	x	x
e330	People in positions of authority	91	x	x
e340	Personal care providers and personal assistants	96	x	x

e345	Strangers	62		
e355	Health professionals	97	x	x[b]
e360	Other professionals	94	x	x
e410	Individual attitudes of immediate family members	97	x	x[b]
e415	Individual attitudes of extended family members	86	x	x
e420	Individual attitudes of friends	95	x	x
e425	Individual attitudes of acquaintances, peers, colleagues, neighbours and community members	90	x	x
e430	Individual attitudes of people in positions of authority	91	x	x
e440	Individual attitudes of personal care providers and personal assistants	97	x	x
e450	Individual attitudes of health professionals	100	x	x[b]
e455	Individual attitudes of other professionals	94	x	x
e460	Societal attitudes	91	x	x[b]
e465	Social norms, practices and ideologies	89	x	x
e520	**Open space planning services, systems and policies**	76	x	
e525	Housing services, systems and policies	91	x	x
e535	**Communication services, systems and policies**	86	x	
e540	**Transportation services, systems and policies**	87	x	
e545	Civil protection services, systems and policies	96	x	x
e550	Legal services, systems and policies	92	x	x
e555	Associations and organizational services, systems and policies	94	x	x
e560	Media services, systems and policies	84	x	x
e570	Social security services, systems and policies	99	x	x[b]
e575	General social support services, systems and policies	99	x	x
e580	Health services, systems and policies	99	x	x[b]
e585	Education and training services, systems and policies	96	x	x
e590	Labour and employment services, systems and policies	94	x	x

Abbreviations: ICF, International Classification of Functioning, Disability and Health.
Bold text: Categories for which consensus was reached in the third Delphi round but that do not feature in the ICF-CS for schizophrenia.
[a] Percentage of participants who considered the respective ICF category as relevant in the third round (n=79).
[b] Categories included in the Brief ICF-CS for schizophrenia.

S5. Personal factor component (proposed categories).

Personal factor	Percentage[a]	Consensus Delphi
Habits and lifestyle		
Lifestyle	97	x
Personality and other psychological characteristics		
Agreeableness	80	x
Attitudes towards health	95	x
Autonomy	97	x
Confidence	94	x
Conscientiousness	87	x
Extraversion	92	x
Motivation	96	x
Openness to experience	87	x
Optimism	90	x
Personal attitude	97	x
Personality	99	x
Resilience	99	x
Self-awareness	96	x
Self-esteem	97	x
Personal skills		
Cognitive skills	99	x
Coping skills	97	x
Intelligence	90	x
Psychosocial skills	99	x
Sociodemographic variables		
Gender	54	
Age	85	x
Ethnicity	56	
Educational and cultural background	91	x
Living situation	95	x
Marital status	87	x
Occupational status	95	x
Socioeconomic status	95	x
Other personal factors		
Genetics	91	x
Age at onset	97	x
Personal history and biography	99	x
Spirituality and religiosity	91	x

[a] Percentage of participants who considered the respective ICF category as relevant in the third round (n=79).

8.4. Annex 4: Material suplementari de l' estudi 4: Perspectiva des de l'àmbit de l'àmbit de la terapia ocupacional

S1. Body functions component. Percentage of OT who considered the respective ICF category as relevant in the third round (n = 92), and whether or not the category is included in the ICF-CS for schizophrenia.

ICF code	ICF category	Percentage[a]	Consensus Delphi	ICF Core Set
b114	Orientation functions	93	x	x
b117	*Intellectual functions*	71		x
b122	Global psychosocial functions	96	x	x[b]
b126	**Temperament and personality functions**	90	x	
b130	Energy and drive functions	99	x	x[b]
b134	Sleep functions	93	x	x
b140	Attention functions	100	x	x[b]
b144	Memory functions	91	x	x
b147	Psychomotor functions	96	x	x
b152	Emotional functions	100	x	x[b]
b156	Perceptual functions	99	x	x[b]
b160	Thought functions	99	x	x[b]
b164	Higher-level cognitive functions	99	x	x[b]
b167	Mental functions of language	53		
b176	Mental function of sequencing complex movements	56		
b180	Experience of self and time functions	99	x	x[b]
b280	Sensation of pain	33		
b330	*Fluency and rhythm of speech functions*	67		x
b530	*Weight maintenance functions*	69		x
b640	Sexual functions	75	x	x
b760	Control of voluntary movements functions	60		
b765	*Involuntary movements functions*	62		x
b770	Gait pattern functions	40		

Abbreviations: ICF, International Classification of Functioning, Disability and Health.
*Italic text***:** Categories from the ICF-CS for schizophrenia for which consensus was not reached in the third round of the Delphi study.
Bold text: Categories for which consensus was reached in the third Delphi round but that do not feature in the ICF-CS for schizophrenia.
[a] Percentage of participants who considered the respective ICF category as relevant in the third round.
[b] Categories included in the Brief ICF-CS for schizophrenia.

S2. Body structure component. Percentage of participants who considered the respective ICF category as relevant in the third round (n = 92), and whether or not the category is included in the ICF-CS for schizophrenia.

ICF code	ICF category	Percentage[a]	Consensus Delphi	ICF Core Set
s110	**Structure of brain**	95	x	
s410	Structure of cardiovascular system	10		
s530	Structure of stomach	8		
s710	Structure of head and neck region	7		
s730	Structure of upper extremity	10		
s750	Structure of lower extremity	8		
s760	Structure of trunk	11		
s770	Additional musculoskeletal structures related to movement	21		

Abbreviations: ICF, International Classification of Functioning, Disability and Health.
*Italic text***:** Categories from the ICF-CS for schizophrenia for which consensus was not reached in the third round of the Delphi study.
Bold text: Categories for which consensus was reached in the third Delphi round but that do not feature in the ICF-CS for schizophrenia.
[a] Percentage of participants who considered the respective ICF category as relevant in the third round.
[b] Categories included in the Brief ICF-CS for schizophrenia.

S3. Activity and participation component. Percentage of participants who considered the respective ICF category as relevant in the third round (n = 92), and whether or not the category is included in the ICF-CS for schizophrenia.

ICF code	ICF category	Percentage[a]	Consensus Delphi	ICF Core Set
d155	Acquiring skills	97	x	x[b]
d160	Focusing attention	100	x	x
d163	Thinking	99	x	x
d166	*Reading*	63		x
d175	Solving problems	100	x	x[b]
d177	Making decisions	97	x	x
d210	Undertaking a single task	81	x	x
d220	Undertaking multiple tasks	97	x	x
d230	Carrying out daily routine	97	x	x[b]
d240	Handling stress and other psychological demands	100	x	x[b]
d310	Communication with-receiving- spoken messages	86	x	x
d315	Communicating with - receiving - nonverbal messages	89	x	x
d330	*Speaking*	64		x
d335	*Producing nonverbal messages*	74		x
d350	Conversation	92	x	x
d360	Using communication devices and techniques	49		
d470	Using transportation	85	x	x
d475	Driving	88	x	x
d510	Washing oneself	85	x	x
d520	Caring for body parts	95	x	x
d530	Toileting	58		
d540	Dressing	81	x	x
d570	Looking after one's health	95	x	x[b]
d610	Acquiring a place to live	97	x	x
d620	Acquisition of goods and services	93	x	x

d630	Preparing meals	100	x	x
d640	Doing housework	95	x	x
d650	Caring for household objects	93	x	x
d660	Assisting others	90	x	x
d710	Basic interpersonal interactions	96	x	x[b]
d720	Complex interpersonal interactions	99	x	x[b]
d730	Relating with strangers	92	x	x
d740	Formal relationships	96	x	x
d750	Informal social relationships	97	x	x
d760	Family relationships	99	x	x[b]
d770	Intimate relationships	97	x	x
d810	**Informal education**	82	x	
d820	School education	95	x	x
d825	Vocational training	99	x	x
d830	Higher education	96	x	x
d840	Apprenticeship (work preparation)	99	x	x
d845	Acquiring, keeping and terminating a job	100	x	x[b]
d850	Remunerative employment	100	x	x
d855	Non-remunerative employment	99	x	x
d860	Basic economic transactions	81	x	x
d865	Complex economic transactions	93	x	x
d870	Economic self-sufficiency	100	x	x
d910	Community life	100	x	x[b]
d920	Recreation and leisure	100	x	x
d930	Religion and spirituality	78	x	x
d950	Political life and citizenship	91	x	x

Abbreviations: ICF, International Classification of Functioning, Disability and Health.
Italic text: Categories from the ICF-CS for schizophrenia for which consensus was not reached in the third round of the Delphi study.
Bold text: Categories for which consensus was reached in the third Delphi round but that do not feature in the ICF-CS for schizophrenia.
[a] Percentage of participants who considered the respective ICF category as relevant in the third round.
[b] Categories included in the Brief ICF-CS for schizophrenia.

S4. Environmental factors component. Percentage of participants who considered the respective ICF category as relevant in the third round (n = 92), and whether or not the category is included in the ICF-CS for schizophrenia.

ICF code	ICF category	Percentage[a]	Consensus Delphi	ICF Core Set
e110	Products or substances for personal consumption	86	x	x
e115	**Products and technology for personal use in daily living**	80	x	
e120	Products and technology for personal indoor and outdoor mobility and transportation	48		
e125	*Products and technology for communication*	64		x
e130	Products and technology for education	77	x	x
e135	**Products and technology for employment**	78	x	
e140	**Products and technology for culture, recreation and sport**	77	x	
e165	Assets	89	x	x
e310	Immediate family	100	x	x[b]
e315	Extended family	97	x	x
e320	Friends	100	x	x
e325	Acquaintances, peers, colleagues, neighbours and community members	97	x	x

e330	People in positions of authority	89	x	x
e340	Personal care providers and personal assistants	97	x	x
e345	Strangers	70		
e355	Health professionals	100	x	x[b]
e360	Other professionals	99	x	x
e410	Individual attitudes of immediate family members	99	x	x[b]
e415	Individual attitudes of extended family members	88	x	x
e420	Individual attitudes of friends	97	x	x
e425	Individual attitudes of acquaintances, peers, colleagues, neighbours and community members	93	x	x
e430	Individual attitudes of people in positions of authority	88	x	x
e440	Individual attitudes of personal care providers and personal assistants	99	x	x
e450	Individual attitudes of health professionals	99	x	x[b]
e455	Individual attitudes of other professionals	99	x	x[b]
e460	Societal attitudes	97	x	x[b]
e465	Social norms, practices and ideologies	97	x	x
e525	Housing services, systems and policies	100	x	x
e535	**Communication services, systems and policies**	77	x	
e540	**Transportation services, systems and policies**	89	x	
e545	Civil protection services, systems and policies	90	x	x
e550	Legal services, systems and policies	92	x	x
e555	Associations and organizational services, systems and policies	90	x	x
e560	Media services, systems and policies	85	x	x
e570	Social security services, systems and policies	97	x	x[b]
e575	General social support services, systems and policies	96	x	x
e580	Health services, systems and policies	97	x	x[b]
e585	Education and training services, systems and policies	95	x	x
e590	Labour and employment services, systems and policies	96	x	x

Abbreviations: ICF, International Classification of Functioning, Disability and Health.
*Italic text***:** Categories from the ICF-CS for schizophrenia for which consensus was not reached in the third round of the Delphi study.
Bold text: Categories for which consensus was reached in the third Delphi round but that do not feature in the ICF-CS for schizophrenia.
[a] Percentage of participants who considered the respective ICF category as relevant in the third round.
[b] Categories included in the Brief ICF-CS for schizophrenia.

S5. Personal factor component (proposed categories). Percentage of participants who considered the respective ICF category as relevant in the third round (n = 92).

Personal factor	Percentage[a]	Consensus Delphi
General personal characteristics		
Gender	37	
Age	78	x
Genetics factors	95	x
Age at onset	97	x
*Etnicity**	30	
Mental factors- Personality and cognitive factors		
Personality	100	x
Neurotic	96	x
Openness to experience	93	x
Agreeableness	86	x
Conscientiousness	92	x
Confidence	96	x
Optimism	90	x
Self-awareness	97	x
Self-esteem	99	x
Motivation	97	x
Cognitive skills	95	x
Intelligence	78	x
Lifestyle- Altitudes, basic skills and behaviors patterns		
Personal attitude	97	x
*Spirituality and religiosity**	74	
Psychosocial skills	99	x
Coping skills	99	x
Resilience	100	x
Autonomy	95	x
Lifestyle	100	x
Attitudes towards health	96	x
Life situation and socioeconomic factors		
Socioeconomic status	90	x
Marital status	74	
Occupational status	96	x
Educational and cultural background	92	x
Living situation	99	x
Personal history and biography	100	x

[a] Percentage of participants who considered the respective ICF category as relevant in the third round.
*Italic text***:** Categories from the ICF-CS for schizophrenia for which consensus was not reached in the third round of the Delphi study.

S6. Acknowledgment

We express our thanks to all expert participants for their invaluable contribution and the time they devoted to respond to the questionnaires. Participants who agreed to be acknowledged in the publication are listed in surname alphabetical order: V. Barreiro Minguillón; R. Barrios Escudero; M. Bense Othero; L. Blanchard; J. Bonilla-Guerrero; F. Braga; B. Bruun Olsen; M. Calatayud Sanz; M. Casado; M. Casasempere Blanquer; V. Chauhan; J. Coppers; S. Daskaloy; C. Day; C. De Kock; E. De Schepper; E. Denysiuk; P. Dominguez; G. Döringer; M. Eklund; M. Evatt; B. Ferri; M. Giguère-Allard; I. Gómez Soria; G. Gu; A. Heeres; S. Heras Ortega; K. Iwai; P. Iyer; N. Josman; L. Juma; B. Kashefimehr; I. Katajisto-Korhonen; T. Krupa; L. Lipskaya-Velikovsky; A. Lorente; M. Macedo; B. Maghfouri; L. Mahaffey; M. Marín Berges; A. Marion; L. Martini; T. Masoumi; E. McIntyre; S. McMillan; T. Morimoto; f. Motahari; K. Moxham; I. Ndlovu; M. Nivela; M. Nowers; G. Ojha; I. Olivar Fraile; E. Oliveira; M. Oyarzun; J. Pérez Corrales; C. Perez Franco; V. Perumal; S. Prasad; S. Ramos Sánchez; L. K. Reilly; L. Sanchez Cucchi; A. Sanchis Asensi; J. Scanlan; C. Serra; N. Shafaroudi; R. Simões de Almeida; S. Sousa; M. Suto; J. Taylor; A. Van Bemmel; A. Vázquez; B. Wong.

8.5. Annex 5: Material suplementari de l' estudi 6: Perspectiva des de l'àmbit de la fisioterapia

S1. Body functions component. Percentage of physiotherapists who considered each ICF category as relevant in the third round (n = 10), whether or not consensus was reached in the Delphi process and whether or not the category is currently included in the ICF-CSs for schizophrenia.

ICF code	ICF category	Percentage	Consensus	ICF Core Set
b114	Orientation functions	100	✓	✓
b117	Intellectual functions	80	✓	✓
b122	Global psychosocial functions	100	✓	✓(B)
b126	*Temperament and personality functions*	90	✓	×
b130	Energy and drive functions	100	✓	✓(B)
b134	Sleep functions	90	✓	✓
b140	Attention functions	100	✓	✓(B)
b144	Memory functions	90	✓	✓
b147	Psychomotor functions	100	✓	✓
b152	Emotional functions	100	✓	✓(B)
b156	Perceptual functions	90	✓	✓(B)
b160	Thought functions	100	✓	✓(B)
b164	Higher-level cognitive functions	90	✓	✓(B)
b180	Experience of self and time functions	70	✓	✓(B)
b280	Sensation of pain	50	×	×
b330	Fluency and rhythm of speech functions	80	✓	✓
b530	Weight maintenance functions	80	✓	✓
b640	Sexual functions	60	✓	✓
b730	Muscle power functions	50	×	×
b735	*Muscle tone functions*	80	✓	×
b765	Involuntary movements functions	70	✓	✓
b770	*Gait pattern functions*	70	✓	×

ICF: International Classification of Functioning, Disability and Health.
(B): Categories included in the Brief ICF-CS for schizophrenia.
Categories in italics are those for which consensus was reached in the third Delphi round but which do not feature in the ICF-CS for schizophrenia.

S2. Body structures component. Percentage of physiotherapists who considered each ICF category as relevant in the third round (n = 10), whether or not consensus was reached in the Delphi process and whether or not the category is currently included in the ICF-CSs for schizophrenia.

ICF code	ICF category	Percentage	Consensus	ICF Core Set
s110	*Structure of brain*	100	✓	×
s530	Structure of stomach	20	×	×
s720	Structure of shoulder region	30	×	×
s750	Structure of lower extremity	60	×	×
s760	Structure of trunk	40	×	×
s770	*Additional musculoskeletal structures related to movement*	70	✓	×

ICF: International Classification of Functioning, Disability and Health.
Categories in italics are those for which consensus was reached in the third Delphi round but which do not feature in the ICF-CS for schizophrenia.

S3. Activities and participation component. Percentage of physiotherapists who considered each ICF category as relevant in the third round (n = 10), whether or not consensus was reached in the Delphi process and whether or not the category is currently included in the ICF-CSs for schizophrenia.

ICF code	ICF category	Percentage	Consensus	ICF Core Set
d155	Acquiring skills	90	✓	✓ (B)
d160	Focusing attention	100	✓	✓
d163	Thinking	100	✓	✓
d166	Reading	70	✓	✓
d175	Solving problems	100	✓	✓ (B)
d177	Making decisions	100	✓	✓
d210	Undertaking a single task	60	×	✓
d220	Undertaking multiple tasks	100	✓	✓
d230	Carrying out daily routines	100	✓	✓ (B)
d240	Handling stress and other psychological demands	100	✓	✓ (B)
d310	Communicating with – receiving - spoken messages	100	✓	✓
d315	Communicating with - receiving - nonverbal messages	80	✓	✓
d330	Speaking	80	✓	✓
d335	Producing nonverbal messages	80	✓	✓
d350	Conversation	100	✓	✓
d410	Changing basic body position	30	×	×
d470	Using transportation	40	×	✓
d475	Driving	70	✓	✓
d510	Washing oneself	50	×	✓
d520	Caring for body parts	80	✓	✓
d540	Dressing	50	×	✓
d570	Looking after one's health	100	✓	✓ (B)
d610	Acquiring a place to live	100	✓	✓
d620	Acquisition of goods and services	100	✓	✓
d630	Preparing meals	100	✓	✓

d640	Doing housework	90	✓	✓
d650	Caring for household objects	90	✓	✓
d660	Assisting others	90	✓	✓
d710	Basic interpersonal interactions	70	✓	✓ (B)
d720	Complex interpersonal interactions	100	✓	✓ (B)
d730	Relating with strangers	80	✓	✓
d740	Formal relationships	70	✓	✓
d750	Informal social relationships	70	✓	✓
d760	Family relationships	90	✓	✓ (B)
d770	Intimate relationships	70	✓	✓
d820	School education	100	✓	✓
d825	Vocational training	100	✓	✓
d830	Higher education	100	✓	✓
d840	Apprenticeship (work preparation)	80	✓	✓
d845	Acquiring, keeping and terminating a job	100	✓	✓ (B)
d850	Remunerative employment	100	✓	✓
d855	Non-remunerative employment	90	✓	✓
d860	Basic economic transactions	40	✗	✓
d865	Complex economic transactions	90	✓	✓
d870	Economic self-sufficiency	100	✓	✓
d910	Community life	90	✓	✓ (B)
d920	Recreation and leisure	70	✓	✓
d930	Religion and spirituality	60	✗	✓
d950	Political life and citizenship	80	✓	✓

ICF: International Classification of Functioning, Disability and Health.
(B): Categories included in the Brief ICF-CS for schizophrenia.

S4. Environmental factors component. Percentage of physiotherapists who considered each ICF category as relevant in the third round (n = 10), whether or not consensus was reached in the Delphi process and whether or not the category is currently included in the ICF-CSs for schizophrenia.

ICF code	ICF category	Percentage	Consensus	ICF Core Set
e110	Products or substances for personal consumption	90	✓	✓
e115	Products and technology for personal use in daily living	60	×	×
e125	Products and technology for communication	60	×	✓
e130	Products and technology for education	60	×	✓
e165	Assets	60	×	✓
e310	Immediate family	100	✓	✓ (B)
e315	Extended family	80	✓	✓
e320	Friends	100	✓	✓
e325	Acquaintances, peers, colleagues, neighbours and community members	100	✓	✓
e330	People in positions of authority	60	×	✓
e340	Personal care providers and personal assistants	90	✓	✓
e355	Health professionals	100	✓	✓ (B)
e360	Other professionals	70	✓	✓
e410	Individual attitudes of immediate family members	80	✓	✓ (B)
e415	Individual attitudes of extended family members	60	×	✓
e420	Individual attitudes of friends	80	✓	✓
e425	Individual attitudes of acquaintances, peers, colleagues, neighbours and community members	60	×	✓
e430	Individual attitudes of people in positions of authority	50	×	✓
e440	Individual attitudes of personal care providers and personal assistants	90	✓	✓
e450	Individual attitudes of health professionals	90	✓	✓ (B)
e455	Individual attitudes of other professionals	70	✓	✓
e460	Societal attitudes	90	✓	✓ (B)
e465	Social norms, practices and ideologies	100	✓	✓
e525	Housing services, systems and policies	60	×	✓
e545	Civil protection services, systems and policies	70	✓	✓
e550	Legal services, systems and policies	70	✓	✓
e555	Associations and organizational services, systems and policies	80	✓	✓
e560	Media services, systems and policies	50	×	✓
e570	Social security services, systems and policies	100	✓	✓ (B)
e575	General social support services, systems and policies	100	✓	✓
e580	Health services, systems and policies	100	✓	✓ (B)
e585	Education and training services, systems and policies	100	✓	✓
e590	Labour and employment services, systems and policies	100	✓	✓

ICF: International Classification of Functioning, Disability and Health.
(B): Categories included in the Brief ICF-CS for schizophrenia.

S5. Personal factors. Percentage of physiotherapists who considered each personal characteristic as relevant in the third round (n = 10) and whether or not consensus was reached in the Delphi process.

ICF category	Percentage	Consensus
Habits and lifestyle		
Lifestyle	100	✓
Personality and other psychological characteristics		
Agreeableness	80	✓
Attitudes towards health	90	✓
Confidence	100	✓
Conscientiousness	90	✓
Neuroticism	100	✓
Personal attitude	100	✓
Personality	80	✓
Self-awareness	100	✓
Personal skills		
Coping skills	100	✓
Psychosocial skills	100	✓
Sociodemographic variables		
Gender	20	×
Age	90	✓
Ethnicity	10	×
Educational and cultural background	70	✓
Living situation	90	✓
Marital status	70	✓
Occupational status	80	✓
Socioeconomic status	90	✓
Other personal factors		
Age at onset	90	✓
Genetics	70	✓
Personal history and biography	100	✓
Premorbid functioning	90	✓

8.6. Annex 6. Categories considerades als estudis Delphi que no arriben a consens expert

Categoria	PQ	PS	IF	TO	TS	FS	Total	ICF-CS
Funcions corporals								
b530 Funcions relacionades amb el manteniment del pes	✓	×	✓	×	×	✓	3	☑
b735 Funcions relacionades amb el to muscular	Ø	Ø	Ø	Ø	Ø	✓	1	
b760 Funcions relacionades amb el control dels moviments voluntaris	Ø	×	×	×	✓	Ø	1	
b770 Funcions relacionades amb el patró de la marxa	Ø	Ø	Ø	×	Ø	✓	1	
Activitats i participació								
d166 Llegir	×	×	×	×	×	✓	1	☑
d210 Dur a terme una única tasca	×	×	×	✓	×	×	1	☑
d330 Parlar	×	×	×	×	✓	✓	2	☑
d355 Discussió	Ø	Ø	✓	Ø	Ø	Ø	1	
d470 Utilització de mitjans de transport	×	×	×	✓	×	×	1	☑
d475 Conducció	×	×	×	✓	×	✓	2	☑
d510 Rentar-se	×	×	×	✓	✓	×	2	☑
d540 Vestir-se	×	×	✓	✓	×	×	2	☑
d810 Educació informal	Ø	×	Ø	✓	Ø	Ø	1	
d860 Transaccions econòmiques bàsiques	×	×	×	✓	×	×	1	☑
d930 Religió i espiritualitat	×	×	×	✓	×	×	1	☑
Factors ambientals								
e115 Productes i tecnologia per a ús personal en la vida diària	×	×	✓	✓	✓	×	3	
e120 Productes i tecnologia per a la mobilitat i el transport personal en espais tancats i oberts	Ø	Ø	✓	×	Ø	Ø	1	
e140 Productes i tecnologia per a les activitats culturals, recreatives i esportives	✓	×	✓	✓	×	Ø	3	
e520 Serveis, sistemes i polítiques de planificació dels espais oberts	Ø	Ø	✓	Ø	Ø	Ø	1	
e535 Serveis, sistemes i polítiques de comunicació	Ø	×	✓	✓	✓	Ø	3	
e540 Serveis, sistemes i polítiques de transport	Ø	Ø	✓	✓	✓	Ø	3	
e595 Serveis, sistemes i polítiques de govern	Ø	Ø	Ø	Ø	✓	Ø	1	
Factors personals								
Extraversió	✓	×	✓	Ø	Ø	Ø	2	
Espiritualitat i religiositat	×	×	✓	×	Ø	Ø	1	
Funcionament premòrbid	✓	✓	Ø	Ø	Ø	✓	3	

PQ: psiquiatria; PS: psicologia; IF: infermeria; TO: teràpia ocupacional; TS: treball social; FS: fisioteràpia.
D.E.: desviació estàndard.

✓ Categories que arriben a consens (percentatge d'acord igual o major al 75%).

× Categories que no arriben a consens.

Ø Categories que no van ser presentades a aquella professió per no resultar del procés de vinculació de les respostes a la primera ronda.

☑ Categories presents a la versió completa del CB-CIF per a l'esquizofrènia.

☑[b] Categories presents a la versió completa i l'abreujada del CB-CIF per a l'esquizofrènia.