

WHODAS as a strategy to enable the application of the biopsychosocial model in clinical settings: a systematic review

WHODAS como estratégia para viabilizar a aplicação do modelo biopsicossocial na prática clínica: Revisão sistemática

WHODAS como estrategia para la aplicación del modelo biopsicosocial en la práctica clínica: revisión sistemática

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ABSTRACT | This study aimed to identify how WHODAS 2.0 is being used in clinical trials. This is a systematic review that selected clinical trials in Portuguese, English, and Spanish that used WHODAS 2.0. The search was conducted in the following databases: MEDLINE, Embase, LILACS, and PEDro. Data were collected on country, year, population, objectives, version of WHODAS 2.0, and variables evaluated. This study found 206 references, after analysis and evaluation of the inclusion criteria, 32 articles were selected. Most studies were conducted in Asia (n=10), followed by America (n=9). Of the 32 studies, four used the 36-item version, 17 used the 12-item version, the others did not report or used results from specific domains. Regarding study population, most articles (n=24) included individuals with mental disorders as their target population. Among the health professionals who participated in the research, most were physicians and nurses. It was observed that despite being an instrument recommended by the WHO to assess functioning, only 32 studies used it. It was possible to observe that the instrument is disseminated worldwide and despite being a generic instrument, most studies used it to evaluate the population with mental disorders.

Keywords | Biopsychosocial Model; Review.

RESUMO | Este estudo teve o objetivo de identificar como o WHODAS 2.0 está sendo utilizado em ensaios clínicos. Trata-se de uma revisão sistemática em que se selecionou ensaios clínicos em português, inglês e espanhol que faziam uso do WHODAS 2.0. A busca foi realizada nas bases de dados: MEDLINE, Embase, LILACS e PEDro. Foram coletados dados de país, ano, população, objetivos, versão do WHODAS 2.0 e variáveis avaliadas. Encontraram-se 206 referências, após análise e avaliação dos critérios de inclusão e foram selecionados 32 artigos. A maioria dos estudos foi realizada na Ásia (n=10), seguida pela América (n=9). Dos 32 estudos, quatro utilizaram a versão de 36 itens, 17 utilizaram a versão de 12 itens, os outros não informaram ou usaram resultados de alguns domínios. Em relação à população dos estudos, a maioria dos artigos (n=24) apresentou como população-alvo indivíduos com transtornos mentais. A maioria dos profissionais de saúde que participaram da pesquisa eram médicos e enfermeiros. Observa-se que apesar de ser um instrumento indicado pela Organização Mundial da Saúde (OMS) para avaliar a funcionalidade, apenas 32 estudos o utilizaram. Foi possível observar que o instrumento é difundido mundialmente e apesar de ser genérico,

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a maioria dos estudos o utilizou na avaliação da população com transtornos mentais.

Descritores | Modelo Biopsicossial; Artigo de Revisão.

RESUMEN | Este estudio tuvo como objetivo identificar el uso de WHODAS 2.0 en los ensayos clínicos. Esta es una revisión sistemática en la que se seleccionaron ensayos clínicos en portugués, inglés y español que utilizaron WHODAS 2.0. La búsqueda se realizó en las bases de datos MEDLINE, EMBASE, LILACS y PEDro. Se recogieron datos en cuanto al país, año, población, objetivos, versión WHODAS 2.0 y variables evaluadas. Después de un análisis y evaluación de los criterios de inclusión se encontraron 206 referencias, de las cuales se seleccionaron 32 artículos. La mayoría de los estudios se realizaron

en Asia (n=10), seguido de las Américas (n=9). De los 32 estudios, cuatro utilizaron la versión de 36 ítems, 17 aplicaron la versión de 12 ítems y los otros no informaron ni utilizaron los resultados de algunos dominios. Con respecto a la población de estudio, la mayoría de los artículos (n=24) tuvieron a individuos con trastornos mentales como la población objetivo. La mayoría de los profesionales de la salud que participaron en la encuesta fueron médicos y enfermeros. A pesar de ser un instrumento indicado por la Organización Mundial de la Salud (OMS) para evaluar la funcionalidad, solo 32 estudios lo utilizaron. Se pudo observar que el instrumento está muy propagado en el mundo y a pesar de ser global, la mayoría de los estudios lo utilizaron en la evaluación de la población con trastornos mentales.

Palabras clave | Modelo Biopsicossial; Revisión.

INTRODUCTION

Population aging, epidemiological changes, and an increase in chronic noncommunicable diseases are leading to an increasing number of people with disabilities¹. This trend leads to a greater need for rehabilitation services, which are necessary interventions when an individual has functional, sensory, mental, or even social limitations². A study with data from 2019 showed that at least one in three people in the world need rehabilitation at some point³. In addition, it is insufficient to rely on information about morbidity and mortality occurrence to capture the real health status of people and their need for health services. Additional information is needed to complement the data and accurately estimate, e.g., rehabilitation needs. Therefore, the use of data on functioning has been recommended for making health decisions^{3,4}.

Thus, functioning has been understood as an important variable for understanding the health condition of the population and their needs^{3,4}. Functioning is an umbrella term that covers the components of body function, body structure, activity, participation, and contextual factors⁵. The International Classification of Functioning, Disability and Health (ICF) is the international standard for framing, describing, recording, and classifying functioning and disability based on the biopsychosocial model⁶. The ICF was published in 2001 by the World Health Organization (WHO), being developed based on the biopsychosocial model, and aims to: provide a unified and standardized

language and framework to describe health and health-related states; provide a scientific basis for understanding the study of health and health-related conditions, their determinants, and effects; allow comparison of data among countries, health-related disciplines, services, and at different points in time; and provide a coding scheme for health information systems⁵.

The ICF would not be recommended for measuring disability in daily clinical practice because it does not yield numerical information. In this context, the WHO developed the World Health Organization Disability Assessment Schedule (WHODAS 2.0), which provides a standardized and cross-cultural model for measuring health and disability⁶⁻⁸. WHODAS 2.0 is a generic instrument that assesses health and disability at the population or clinical level. It is a practical and easy-to-use instrument, providing the level of functioning in six domains, namely: Cognition - understanding and communicating; Mobility - getting around; Self-care - hygiene, dressing, eating, and staying alone; Getting along with people - interactions with other people; Life activities - domestic responsibilities, leisure, work, and school; Participation in society - joining in community activities. The instrument presents numerical scores ranging from zero to 100 (best to worst) for each of the domains and an overall score of functioning and disability, which is reliable and cross-culturally applicable for adults. Due to its generic nature, WHODAS 2.0 allows measuring the impact

of any health condition on functioning, enabling the comparison of different populations. The instrument has a 36-item version, a 12+24-item version, and a 12-item version, with the possibility of application by interview, self-assessment, and proxy. The questions address the difficulties encountered in the last 30 days, with five response options - none, mild, moderate, severe, and extreme or cannot. It was published in 2010 and have been translated into several languages. Another very important feature of this tool is that as an instrument answered by the respondent, it offers information from the respondent's perspective, with clinical patient-centered decision-making⁶.

Thus, studying the use of WHODAS 2.0 in clinical trials can provide a useful overview for detecting the possibilities of strengthening and disseminating already known application experiences and can also identify areas or fields that still lack stimulus for the use of the tool. Therefore, this study aimed to identify how WHODAS 2.0 is being used in clinical trials.

METHODOLOGY

Study Design, Search Strategy, and Article Selection

This systematic review followed the Cochrane Handbook for Systematic Reviews and PRISMA guideline^{8,9}. The study selected clinical trials published in Portuguese, English, and Spanish in 2010—the year of publication of WHODAS 2.0. The search was conducted in the following databases: MEDLINE® (via PubMed), Embase, LILACS, and PEDro. The following terms, their equivalents in Portuguese and Spanish, and their combinations were used: “WHODAS 2.0”; “WHO Disability Assessment Schedule”; “WHODAS, Measurement”; “Instrument”; “Assessment.” The search strategy was carried out as follows: (((“WHODAS 2.0”) OR (“WHO Disability Assessment Schedule”)) OR (“WHODAS”) AND (“Measurement”)) OR (“Instrument”)) OR (“Assessment”)). Filters: Clinical Trial. The search took place in March 2023.

This systematic review was registered in the International Prospective Register of Systematic

Reviews (PROSPERO) under registration number CRD42023406893.

Eligibility Criteria and Study Selection

This review included only clinical trials using the WHODAS 2.0 to assess study participants since 2010, from various locations worldwide. Pilot studies, protocols, and conference abstracts were excluded. The free reference manager Mendeley was used for removing duplicates and organizing references. The Rayyan website helps with the screening process, which was conducted independently by the reviewers. The full text of each selected article was then retrieved.

Data Extraction and Synthesis

Two reviewers independently read the titles and abstracts and excluded from further analysis articles with irrelevant titles or abstracts. The selected articles were compared, and disagreements were resolved by a third reviewer. After reading the full text of each article, the reviewers made a final selection based on the exclusion criteria. Finally, references of the selected review articles were examined to identify additional potentially eligible studies not identified in the databases. The authors' names, country, year, study population, objectives, interventions, WHODAS 2.0 version used, and variables assessed with WHODAS 2.0 were also collected independently by the two reviewers. The results were analyzed for discrepancies, but none was found. Articles with lacking information or specificity in the information were defined as “No information” or “Not specified.”

RESULTS

The systematic review was conducted from March to June 2023 in the MEDLINE (via Pubmed), Embase, LILACS, and PEDro databases and found 206 works. After removing duplicates, 163 studies remained. Of these, 51 were initially selected by title and abstract. After analyzing the full texts, 32 articles were selected according to the inclusion criteria (Figure 1).

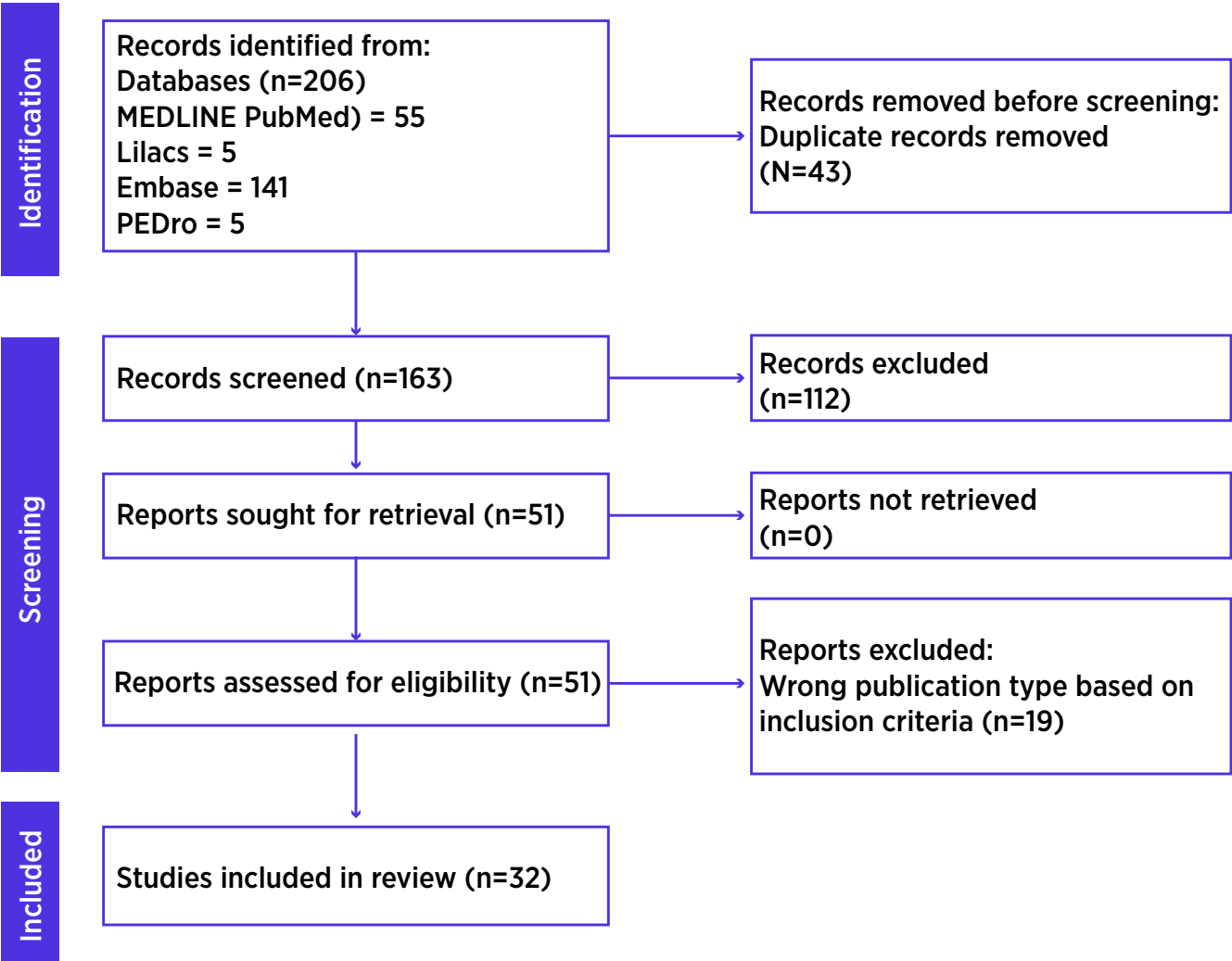


Figure 1. PRISMA flowchart showing a schematic illustration of database searches and identification, screening, and eligibility of included studies.

Regarding region in which the studies were conducted, most were in Asia, with 10 studies, followed by the Americas with nine studies, Europe with five, Middle East and Africa with four studies, and Oceania with one. However, all studies were published in English.

Of the 32 studies, four used the 36-item version of the WHODAS 2.0, 17 the 12-item version, nine did not inform which version they used, one used 15 items, and one used the result of only some domains. Moreover, eight studies also used the WHODAS 2.0 at the time of screening the individuals who would participate in the study, selecting only those who had values higher than 16 or 17 points in the final score.

Regarding samples, most articles (n=24) included individuals with mental disorders as target population; others included populations with neurological problems (n=2), and cancer (n=2). In addition, some studies did not evaluate individuals with health conditions, selecting only the patients' profile: older adults (n=1) and war veterans (n=1). Among the studies that reported which health professionals participated in the research, most were physicians and nurses. Chart 1 shows the details.

Chart 1. Characteristics of the studies included in the systematic review

Chart 1. Continuation

Authors/year	Objective	Sample	Country	WHODAS version	Type of intervention	Health professionals involved in the intervention	Area/Specialty
Von Korff et al. (2011) ¹⁰	To evaluate the effectiveness of integrated care for chronic physical diseases and depression in reducing disability and improving quality of life.	Individuals with diabetes or coronary heart disease, or both, and depression	USA.	15 items	Self-management support	Physicians and nurses	Diabetes or cardiovascular diseases
Jenkins et al. (2013) ¹¹ the rate of accurate routine clinic detection of mental disorder was greater than 0 in 5% versus 0% of the intervention and control groups respectively, in both the intention to treat analysis (p = 0.50)	To examine the impact of mental health in service training on routine detection of mental disorder in the clinics and on client outcomes.	Adults treated at a primary health care unit.	Kenya	36 items	Training for healthcare professionals	Local health workers	Mental disorders
Choi et al. (2014) ¹²	To report longer term outcomes of tele-PST for both depression and disability.	Non-Hispanic White, Black/ African American, and Hispanic homebound adults (age≥50) with depression	USA.	12 items	Monitoring by tele-rehabilitation or face-to-face	Social workers	Depression
Alegria et al. (2014) ¹³	To evaluate treatment effectiveness of telephone or face-to-face delivery of a cognitive behavioral therapy and care-management intervention for low-income Latinos with depression.	Latino primary care patients with moderate or severe depressive symptoms	USA and Puerto Rico	No information	Engagement and Counseling (telephone and face to face); usual care	Physicians	Depression
Kang et al. (2015) ¹⁴ 300 were randomized to a 24-week double-blind trial of escitalopram or placebo, while the remaining 146 received conventional medical treatment only (MTO)	To evaluate the result of screening for treatment and subsequent treatment of depression on one-year psychiatric outcomes in ACS.	Individuals who developed acute coronary syndrome, resulting in hospitalization	Korea	12 items	Escitalopram; Placebo.	Physicians and nurses	Depression
Jordans et al. (2015) ¹⁵	To evaluate the effectiveness of adding community-based counselor-delivered psychological interventions for adults who initiated mhGAP-based primary care services for depression and alcoholism in Nepal.	Adults (age≥16 years) with depression and suffering from alcoholism.	Nepal	12 items	mhGAP-based intervention; Additionally received HAP or CAP.	Local health professionals and counselors	Depression and alcoholism
Kästner et al. (2015) ¹⁶	To evaluate the effect of a previously implemented AO model using patient- and clinician-ratings.	Adult patients with a schizophreniform disorder and a maximum of 60 points on the Global Assessment of Functioning Scale.	Germany	12 items	Assertive Community Treatment, Intensive Case Management, Integrated Care, or Assertive Outreach; Treatment as usual.	Nurses and physicians	Schizophrenia

(continues)

Chart 1. Continuation

Authors/year	Objective	Sample	Country	WHODAS version	Type of intervention	Health professionals involved in the intervention	Area/Specialty
Robinson et al. (2015) ¹⁷	To investigate the value of exergaming using the Wii Fit™ for people with Multiple Sclerosis.	Adults with clinical diagnosis of multiple sclerosis, self-reported ability to walk 100 meters with or without resting with the use of a walking stick or crutch.	UK	12 items	Balance training using Nintendo Wii Fit™ (exergaming); Traditional balance training (no exergaming); No intervention.	Physical Therapist	Multiple sclerosis
Rahman et al. (2016) ¹⁸ SETTING, AND PARTICIPANTS: A randomized clinical trial was conducted from November 1, 2014, through January 28, 2016, in 3 primary care centers in Peshawar, Pakistan, that included 346 adult primary care attendees with high levels of both psychological distress and functional impairment according to the 12-item General Health Questionnaire and the World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0)	To tests the effectiveness of a multicomponent behavioral intervention delivered by lay health workers to adults with psychological distress in primary care settings.	Adult primary care attendees with high levels of both psychological distress and functional impairment.	Pakistan	12 items	Empirically supported problem-solving strategies, behavioral activation, strengthening social support, and stress management; Treatment as usual.	Physicians and other unspecified healthcare professionals	Post-traumatic stress disorder
Medina Vidales et al. (2017) ¹⁹	To evaluate the efficacy of Brief Psychoeducation Intervention to reduce time being ill, prevent relapses, and alleviate symptoms for people with bipolar disorder.	Adults (aged 18–29 years), who had been diagnosed with bipolar disorder.	Mexico	No information	Psychoeducation plus medication; Treatment as usual – pharmacological.	Graduate research students of the last year of Psychology.	Bipolar disorder
Nadkarni et al. (2017) ²⁰ only a small fraction of people globally receive these treatments because of poor access in routine primary care. We assessed the effectiveness and cost-effectiveness of Counseling for Alcohol Problems (CAP)	To evaluate the effects of the intervention on alcohol consumption 12 months after enrollment, the cost-effectiveness of the intervention, for whom and under what circumstances the intervention works, and mediation of these results by the patient's "readiness to change" evaluated at three months.	Males aged 18 to 65 who binge drink.	India	No information	Consultation with the PHC physician and information on when and where to find psychiatric service; Manual psychological treatment delivered in three phases in a maximum of four sessions.	Physicians and counselors (no mental health experience and high school graduate)	Alcoholism
Richard et al. (2017) ²¹	To test the effectiveness of a new five-session behavioral treatment called Problem Management Plus that lay community workers can be taught to deliver.	Female adults who had experienced gender-based violence.	Kenya	12 items	Problem Management Plus (PM+); Usual care with nurses.	Nurses and community workers	Post-traumatic stress disorder

(continues)

Chart 1. Continuation

Authors/year	Objective	Sample	Country	WHODAS version	Type of intervention	Health professionals involved in the intervention	Area/Specialty
Teixeira-Machado et al. (2017) ²²	To investigate the effect of dance in the functioning and psychosocial adjustment of young subjects with cerebral palsy.	Young subjects with cerebral palsy.	Brazil	No information	Kinesiotherapy; Dance.	Physical Therapists	Cerebral Palsy
Weobong et al. (2017) ²³ a brief behavioural intervention delivered by lay counsellors, enhanced remission over 3 months among primary care attendees with depression in peri-urban and rural settings in India. We evaluated the sustainability of the effects after treatment termination, the cost-effectiveness of HAP over 12 months, and the effects of the hypothesized mediator of activation on clinical outcomes. Methods and findings: Primary care attendees aged 18–65 years screened with moderately severe to severe depression on the Patient Health Questionnaire 9 (PHQ-9	To assess the stability of HAP's effects on depression at 12 months post-enrolment, the mediation of the clinical outcomes by patient activation assessed at three months, and the cost-effectiveness of the intervention.	Adult patients at a primary health center with a probable diagnosis of moderately severe to severe depression.	India	No information	Enhanced routine care; Healthy activity programmed.	Physicians, community counselors	Depression
Alegria et al. (2019) ²⁴	To test the acceptability and effectiveness of a disability prevention intervention, Positive Minds-Strong Bodies, offered by paraprofessionals to mostly immigrant older adults in four languages.	Adults, not seeking disability prevention services but eligible per elevated mood symptoms and minor to moderate physical dysfunction.	USA and Puerto Rico	No information	Routine care; Cognitive-behavioral therapy plus strengthening exercises.	Exercise trainers and clinical supervisors	Post-traumatic stress disorder
Anjara et al. (2019) ²⁵	To compare patient outcomes following primary care in mental health treatment by GPs and Nurses additionally trained in the WHO mhGAP or a Clinical Psychologist co-located in a Puskesmas.	Adult primary care patients	Indonesia	36 items	Psychosocial and/or pharmacological interventions; Psychosocial interventions.	General practitioners and nurses	Mental disorders

(continues)

Chart 1. Continuation

Authors/year	Objective	Sample	Country	WHODAS version	Type of intervention	Health professionals involved in the intervention	Area/Specialty
Hounsou et al. (2019) ²⁶	To test the hypothesis that community-based treatment of podoconiosis lymphoedema reduces the frequency of acute dermatolymphangio-adenitis episodes and secondarily that it improves other clinical, social, and economic outcomes.	Adults with a diagnosis of at least stage 2 podoconiosis (persistent lymphoedema).	Ethiopia	12 items	Training in foot hygiene, skin care, dressings, exercise, and use of socks and shoes; Followed quarterly for data collection but did not receive intervention for 12 months (delayed intervention).	Not specified	Podoconiosis lymphoedema
Khan et al. (2019) ²⁷	The feasibility trial was to evaluate the feasibility and acceptability of the locally adapted Problem Management Plus Group intervention for women in the conflict affected settings in Swat, Pakistan.	Female adults with suspected psychological distress.	Pakistan	12 items	Problem management plus (PM+); Treatment as usual.	Psychiatrists and psychologists	Mental disorders
Rahman et al. (2019) ²⁸	To establish the effectiveness of a brief psychological intervention group for women in a conflict-affected setting in rural Swat, Pakistan.	Female adults in the community	Pakistan	12 items	Problem management plus (PM+); Treatment as usual.	Graduates without mental healthcare experience	Post-traumatic stress disorder
Choi et al. (2020) ²⁹	To test the acceptability and effectiveness of a lay-coach-facilitated, videoconference, short-term behavioral activation (Tele-BA) intervention for improving social connectedness among homebound older adults.	Individuals with ≥50 years and confirmation of loneliness and no-to-mild depressive symptoms.	USA	12 items	Tele-BA as Treatment Condition; Tele-Friendly Visiting as Active Control.	Not specified	Older people
Kladnitski et al. (2020) ³⁰	To examine the efficacy of transdiagnostic internet-delivered cognitive behavioral therapy (iCBT), mindfulness-enhanced iCBT, and stand-alone online mindfulness training compared with a usual care control group (TAU) for clinical anxiety and depression.	Adult individuals with a diagnosis of depressive and/or anxiety disorder.	Australia	12 items	The iCBT program; The Mindfulness-Enhanced iCBT program; The Mindfulness Training (MT) program; The TAU group.	Psychiatrists	Depression and anxiety
Maurus et al. (2020) ³¹	To evaluate the feasibility and efficacy of a newly developed 12-week resistance program according to current recommendations of the WHO and the American College of Sports Medicine.	Adult individuals with diagnosis of schizophrenia.	Germany (Munich)	36 items	Resistance training for schizophrenia patients; Balance and tone training.	Not specified	Schizophrenia

(continues)

Chart 1. Continuation

Authors/year	Objective	Sample	Country	WHODAS version	Type of intervention	Health professionals involved in the intervention	Area/Specialty
Shaili et al. (2020) ³²	To assess the efficacy of a five-session version of Skills Training in Affective and Interpersonal Regulation (STAIR) among veterans obtaining treatment in primary care.	Patients receiving treatment at a large Veterans Affairs medical center in the Western United States.	USA	WHODAS domains: Getting along with people, Life activities, and Participation in society	STAIR-PC; Usual treatment.	Mental health professionals, health technicians and coordinators	War veterans
Akhtar et al. (2021) ³³	To test the safety and acceptability of GroupPM+ in a refugee camp and to identify areas for adaptation in preparation for a definitive RCT.	Syrian adults, parent of a child aged 10–16 years, experiencing psychological distress.	Jordan	12 items	Problem management plus (PM+); Enhanced treatment as usual.	Bachelor's degree in Psychology or a Health-related field	Post-traumatic stress disorder
Hamdani et al. (2021) ³⁴	To evaluate the effectiveness of adding PM+ for CMDs to routine care in a specialized mental health care facility in Pakistan.	Adult outpatient department attendees, referred for psychological support for depression, anxiety, and stress.	Pakistan	12 items	Problem Management plus (PM+); Treatment-as-Usual (TAU).	Master's degree in Psychology and Psychiatry	Mental disorders
de Pinho et al. (2021) ³⁵ 1-week post-treatment and at follow-up 3 months after treatment. The primary outcome measure was psychotic symptoms based on the Psychotic Symptom Rating Scales (PSYRATS)	To evaluate the efficacy of metacognitive group training in reducing psychotic symptoms and improving cognitive insight and functions in people with schizophrenia.	Adult patients with schizophrenia	Portugal	12 items	Metacognitive training; Treatment as usual.	Psychiatric and mental health nurses	Schizophrenia

(continues)

Chart 1. Continuation

Authors/year	Objective	Sample	Country	WHODAS version	Type of intervention	Health professionals involved in the intervention	Area/Specialty
Asher et al. (2022) ³⁶	masked to the intervention or control label, used a computer programme to randomly choose the allocation sequence from the set of optimal ones. We recruited adults with disabling illness as a result of schizophrenia. The subdistricts were eligible for inclusion if they included participants that met the eligibility criteria. Researchers recruiting and assessing participants were masked to allocation status. Facility-based care was a task-shared model of mental health care integrated within primary care. CBR was delivered by lay workers over a 12-month period, comprising of home visits (psychoeducation, adherence support, family intervention, and crisis management	Adults with a diagnosis of schizophrenia, schizoaffective disorder, or schizophreniform disorder and who had one or more markers of severe, disabling, or enduring illness.	Ethiopia	36 items	Community-based rehabilitation plus facility-based care; Establishment-based service only.	Nurses and health officers	Schizophrenia
Bryant et al. (2022) ³⁷	To investigate the potential impact of gPM+ on refugees' parenting behavior and also how this may benefit their children's mental health.	Adult participants comprised refugees in Azraq Refugee Camp and had a child or dependent aged 10-16 years who is living in the household.	Jordan	12 items	Problem Management plus (PM+); Treatment as usual	Bachelor's degree in Social Sciences or a Health-related discipline	Post-traumatic stress disorder

(continues)

Chart 1. Continuation

Authors/year	Objective	Sample	Country	WHODAS version	Type of intervention	Health professionals involved in the intervention	Area/Specialty
Catto et al. (2022) ³⁸ but it is unclear whether total intracorporeal surgery improves recovery compared with open radical cystectomy for bladder cancer. Objectives: To compare recovery and morbidity after robot-assisted radical cystectomy with intracorporeal reconstruction vs open radical cystectomy. Design, Setting, and Participants: Randomized clinical trial of patients with nonmetastatic bladder cancer recruited at 9 sites in the UK, from March 2017-March 2020. Follow-up was conducted at 90 days, 6 months, and 12 months, with final follow-up on September 23, 2021. Interventions: Participants were randomized to receive robot-assisted radical cystectomy with intracorporeal reconstruction (n = 169	To compare recovery and morbidity after robot-assisted radical cystectomy with intracorporeal reconstruction vs open radical cystectomy.	Adult patients' with nonmetastatic bladder cancer.	U.K.	No information	Robot-assisted radical cystectomy with intracorporeal reconstruction; Open radical cystectomy.	Physician	Cancer
Cuijpers et al. (2022) ³⁹ and their access to care has deteriorated during the Coronavirus Disease 2019 (COVID-19	To examine the effects of a WHO guided digital mental health intervention, Step-by-Step, supported by a non-specialist helper in Lebanon, in the context of concurring economic, humanitarian, and political crises, a large industrial disaster, and the COVID-19 pandemic.	Syrian displaced people, above eight years of age with moderate or severe depressive symptoms and who experienced functional impairment.	Lebanon (Syrian refugees).	12 items	Step-by-Step; Enhanced treatment as usual.	Not specified	Depression
Javaherirani et al. (2022) ⁴⁰	To evaluate the effectiveness of virtual reality exposure and response prevention in the treatment of the obsessive-compulsive disorder contamination subtype.	Patients aged 18-50 years, with a clinical diagnosis of obsessive-compulsive disorder.	Iran	No information	Cognitive Behavior Therapy and virtual reality exposure and response prevention; Cognitive Behavior Therapy.	Psychiatrist and clinical psychologists	Obsessive compulsive disorder
Richerson et al. (2023) ⁴¹	To assess the therapeutic and economic benefits of service dogs versus emotional support dogs for veterans with posttraumatic stress disorder.	Veterans with post-traumatic stress disorder.	USA	No information	Service dogs; Emotional support dogs.	Not specified	War veterans with post-traumatic stress disorder

DISCUSSION

This review identified how WHODAS 2.0 is being used in clinical trials. Although 206 studies were found, only 38 used the instrument in clinical trials, which were included in this review. The instrument is disseminated worldwide because there is at least one study in each continent. Most used the instrument to assess disability or functioning and included the population with mental disorders.

WHODAS 2.0 is an instrument developed by the WHO for the assessment of health and disability, enabling the identification of needs, defining rehabilitation priorities, matching needs with the most appropriate intervention, and assessing measures and treatment effectiveness⁷. The fact that the WHO recommends it, and it is in the annex of International Classification of Diseases version 11 (ICD-11) reinforces the need for its adoption worldwide. This is an important advance since WHODAS 2.0 makes it possible to evaluate individuals based on the biopsychosocial model, a challenge that has been advocated since ICF publication in 2001, thus seeking a paradigm shift and understanding of the concepts of functioning and disability⁴².

Although its generic characteristic—i.e., it can be used to evaluate people with different health conditions—most studies have used it to evaluate individuals with mental disorders. This result may be linked to the fact that for other health conditions, such as musculoskeletal conditions, some other instruments have already been considered as the gold standard for assessing functioning. As an example, studies analyzing the instruments used to assess the functioning of people with temporomandibular dysfunction (TMD) and in children and adolescents with low back pain found a great diversity of instruments^{43,44}. However, it is important to understand whether the questionnaires and scales proposed follow the ICF framework. The results of the aforementioned studies^{43,44} indicate that instruments that contemplate the concept of functioning in a restricted or incomplete way are still used, not addressing all ICF components. Thus, the use of WHODAS 2.0 can be encouraged as the best tool for measuring functioning from a biopsychosocial perspective in all health conditions. This does not prevent other tools from being used in association with the WHODAS 2.0.

When analyzing the versions used, most studies assessed individuals using the 12-item version. According to the WHODAS 2.0 manual, this version explains 81% of the variance of the more detailed 36-item version⁶.

Application time may have been a determining factor in the version choice. Despite the 36-item version, which is more detailed, the average application time is 20 min, whereas the 12-item version can be applied in five minutes⁶, enabling a brief assessment of functioning. Of all respondents, 5.26% used only a few domains of the instrument. Therefore, they did not configure the instrument as an assessment of functioning or disability. The authors describe the methodology as an assessment of the domain, being a possibility offered by the instrument, since it provides values referring to each domain⁴⁵.

All studies that used WHODAS 2.0 at the screening process conducted intervention processes linked or adapted from a program developed by the WHO called “Problem management plus (PM+)”⁴⁵. According to the WHO itself, PM+ is “a low-intensity psychological intervention for adults with emotional distress in communities exposed to adversity”, and in the PM+ manual, there is an indication for the use of WHODAS 2.0 as a measuring functioning. Thus, this may have been the stimulus for these studies to use the instrument. Thus, the preponderant role of the WHO in determining and stimulating clinical practice is perceived. Therefore, it would be interesting if more normative documents were adopted and recommended for the functioning assessment by WHODAS 2.0, so that the BPS model could be progressively incorporated into the clinical routine of health professionals worldwide.

Although the instrument was not developed for the use of any specific profession, most studies were conducted with the help of physicians and nurses, and only two studies were conducted by physical therapists. This fact must be related to the main interventions proposed in the articles, which were therapy actions aimed at counseling individuals with mental health disorders. Furthermore, the studies that used the WHO PM+ proposal presented community agents as actors, and in many cases, they were not health professionals. This information leads us to some reflections regarding the use of WHODAS 2.0 in enabling biopsychosocial assessment in clinical trials. For example, why are other health professionals such as psychologists, speech therapists, occupational therapists, and dentists not yet among the health professionals working with clinical trials using WHODAS 2.0? Is functioning not studied by these professionals? Do these professionals not yet have sufficient proximity to WHODAS 2.0 for its application? These questions may be a starting point for new studies that seek to understand this imbalance between health professions in evaluation from the biopsychosocial perspective in clinical trials.

Thus, despite being an instrument created to assess the functioning/disability of the population in the clinical environment, comprehensively and following the biopsychosocial model, there are still few studies. This applies especially to individuals with health conditions other than mental disorders. Note that the instrument has already been validated for many health conditions: fibromyalgia⁴⁶, low back pain⁴³, post-stroke, TMD⁴⁴, chikungunya⁴⁷, and multiple sclerosis⁴⁸ and external construct validity by association with the Western Ontario and McMaster Universities Index of Osteoarthritis (WOMAC, among others^{49,50}), therefore, it is reliable and available to use for free. It is also noteworthy initiatives that facilitate the application of the WHODAS 2.0 in routine health care, requiring less time for its application and/or scoring. The WHO itself provides a spreadsheet on the internet in which the scores can be calculated automatically⁷, and a free mobile app created with the WHO authorization that digitizes the WHODAS 2.0 application and scoring process.

Regarding Brazil, only one article was found, despite some validation studies already being conducted in the country (chikungunya⁴⁷, low back pain⁴³, and fibromyalgia⁴⁶). The low frequency of instrument use in Brazil may be attributed to the prevalence of classic instruments that are already commonly used in the daily clinical practice of health professionals. Such instruments, however, typically gather information related to constructs such as “functional capacity,” function, and “functional disability,” which is not aligned with the conceptual framework presented by the ICF⁷.

The limitations of this study are threefold. Gray literature was not considered during the search. Secondly, articles in languages other than Portuguese, English, and Spanish were not included in the search. Finally, some articles did not provide all the information regarding the use of WHODAS 2.0, such as the version of the instrument used in data collection.

This study comes with the proposal to foster the use of WHODAS 2.0 in clinical trials, reflecting on the possibilities of its use in clinical practice. Once the instrument makes it possible to obtain findings consistent with the discussions on disability and the population that needs rehabilitation is growing, WHODAS 2.0 can offer a series of information that helps in understanding the main needs and barriers faced by the individual. Besides that, this tool is an alternative to cope with the difficulty encountered by professionals in applying for the ICF in the clinical environment. WHODAS 2.0

can also facilitate the dissemination and homogenization of terms related to ICF, which is still a problem in clinics and the academia due to the inappropriate use of terms^{7,51}. Incapacidade e Saúde (CIF). Overall, there is an inequality in the use of WHODAS 2.0 among health professions, health conditions, countries, and health areas. This information provides an overview of its use in clinical trials and provides directions for possible actions to encourage its use. Thus, a wider range of health professionals could be trained or encouraged to use the instrument. An expansion of the health conditions covered and assessed using this approach would also be interesting. In addition to what has been said, the use of the tool around the world could be strengthened for its recommendations in clinical practice guidelines, normative clinical texts, and clinical protocols.

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