

Review Article

# Evidence on occupational therapy and child and adolescent mental health in disciplinary journals: a bibliometric analysis

*Evidências de terapia ocupacional sobre saúde mental infantojuvenil em revistas da área: uma análise bibliométrica*

Evidencia de terapia ocupacional sobre salud mental infantojuvenil en revistas disciplinares: un análisis bibliométrico

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## Abstract

**Introduction:** In recent years, there has been a sustained increase in the prevalence of child and adolescent mental health diagnoses, which are associated with difficulties in the emotional, social, family and occupational spheres. Evidence supports the need for interdisciplinary and timely treatment to address these problems. Given the long history of occupational therapy in this field, it is essential to examine the evidence supporting its work. **Objective:** To characterize academic publications on occupational therapy in disciplinary journals related to child and adolescent mental health. **Method:** A bibliometric analysis with an exploratory-descriptive scope was conducted. Searches were performed in the SCOPUS and Web of Science databases, along with manual searches in disciplinary journals in Spanish and Portuguese. A total of 269 articles published between 1985 and 2022 were selected and analyzed using the Statistical Package for the Social Sciences (SPSS) software. **Results:** An increase in the number of publications was observed starting from 1985 t, with exponential growth since 2010. The thematic focus is on childhood, associated with diagnoses of Attention Deficit Hyperactivity Disorder and Autism Spectrum Disorder. The most commonly used disciplinary models are Sensory Integration, Models of Human Occupation, and the Canadian Model. Quantitative studies with a descriptive scope predominate. **Conclusion:**

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Despite the importance of the topic for occupational therapy, the publications are scarce, focused, and have low levels of evidence. The need to promote more disciplinary research that addresses the diversity of approaches and areas of work is emphasized. It is crucial to encourage analytical and experimental studies to raise the levels of evidence in addressing child and adolescent mental health.

**Keywords:** Mental Health, Child Psychiatry, Occupational Therapy.

### **Resumo**

**Introdução:** Nos últimos anos, tem-se observado um aumento sustentado na prevalência de diagnósticos de saúde mental infantojuvenil, os quais estão associados a dificuldades nas esferas emocional, social, familiar e ocupacional. Evidências apoiam a necessidade de tratamento interdisciplinar e oportuno para resolver esses problemas. Dada a longa história da terapia ocupacional nesse campo, é essencial examinar as evidências que apoiam o seu trabalho. **Objetivo:** Caracterizar as publicações acadêmicas de terapia ocupacional em revistas disciplinares referentes à saúde mental infantojuvenil. **Método:** Análise bibliométrica com escopo exploratório-descritivo. Foi realizada uma busca nas bases de dados SCOPUS e Web of Science e uma busca manual em revistas disciplinares em espanhol e português. Um total de 269 artigos publicados entre 1985 e 2022 foram selecionados e analisados usando-se o software Statistical Package for the Social Sciences (SPSS). **Resultados:** Observou-se um aumento no número de publicações a partir de 1985, com crescimento exponencial desde 2010. Há enfoque temático na infância, associado a diagnósticos de Transtorno do Espectro Autista e Transtorno do Desenvolvimento, Atenção e Hiperatividade. Os modelos disciplinares mais utilizados são Integração Sensorial, Modelos da Ocupação Humana e o Modelo Canadense. Predominam estudos quantitativos com escopo descritivo. **Conclusão:** Apesar da importância do tema para a terapia ocupacional, as publicações são escassas, focadas e com baixos níveis de evidência. Enfatiza-se a necessidade de promover mais pesquisas disciplinares que abordem a diversidade de enfoques e áreas de atuação. É crucial incentivar estudos analíticos e experimentais para elevar os níveis de evidência na abordagem da saúde mental de crianças e adolescentes.

**Palavras-chave:** Saúde Mental, Psiquiatria Infantil, Terapia Ocupacional.

### **Resumen**

**Introducción:** En los últimos años se ha observado un aumento sostenido en la prevalencia de diagnósticos de salud mental infantojuvenil, los cuales se asocian a dificultades en los ámbitos emocional, social, familiar y ocupacional. La evidencia respalda la necesidad de un tratamiento interdisciplinario y oportuno para abordar estas problemáticas. Dada la larga historia de la terapia ocupacional en este campo, es esencial examinar la evidencia que respalda su trabajo. **Objetivo:** Caracterizar las publicaciones académicas de terapia ocupacional en revistas disciplinares referentes a la salud mental infantojuvenil. **Método:** Análisis bibliométrico con alcance exploratorio-descriptivo. Se realiza una búsqueda avanzada en bases de datos SCOPUS y Web of Science, y búsqueda manual en revistas disciplinares en español y portugués. Se seleccionaron 269 artículos publicados entre los años 1985 y 2022, los cuales fueron analizados mediante SPSS (Statistical Package for the Social

Sciences). **Resultados:** Hay un aumento de publicaciones desde 1985 a la fecha, con un crecimiento exponencial desde el año 2010. Existe una focalización temática en la niñez, asociada a diagnósticos de Trastorno del Espectro Autista y Trastorno de Déficit de Atención/Hiperactividad. Los modelos disciplinares más utilizados son la Integración Sensorial, el Modelos de la Ocupación Humana el Canadiense. Predominan los estudios de tipo cuantitativo y de alcance descriptivo. **Conclusión:** A pesar de la importancia del tema para la terapia ocupacional, las publicaciones son escasas, focalizadas y con bajos niveles de evidencia. Se enfatiza la necesidad de impulsar mayor investigación disciplinar que aborde la diversidad de enfoques y de ámbitos de trabajo. Es crucial fomentar estudios analíticos y experimentales para elevar los niveles de evidencia en el abordaje de la salud mental infantojuvenil.

**Palabras clave:** Salud Mental, Psiquiatría Infantil, Terapia Ocupacional.

## Introduction

Mental health problems in children and young people have become one of the greatest social and health challenges of the time. It is estimated that around 8% of children between 5 and 9 years old and 14% of adolescents between 10 and 19 years old have a mental health diagnosis, the most frequent being Autism Spectrum Disorder (ASD), Attention Deficit Disorder with or without Hyperactivity (ADHD) and Mood Disorders (World Health Organization, 2022). When a child or young person (CYO) suffers from a mental health issue, their general well-being, their education and the development of their various potentialities are affected (Fondo de las Naciones Unidas para la Infancia, 2021). Furthermore, it has been shown that suffering from these types of problems in the early stages of life often has a negative impact on adulthood (Otto et al., 2021; Schlack et al., 2021; Saggiore de Figueiredo et al., 2021). This makes the prevention and timely approach to these problems a priority.

Mental health (MH) can be defined as a dynamic state in which biological, psychological and contextual factors interact (Lund et al., 2018). In this sense, the ecological approach to mental health problems is fundamental, that is, an approach that considers the needs and strengths of children and adolescents, their family, school and community; as well as the execution of various actions that aim to transform the political, economic and cultural structural conditions that negatively impact the experience of these problems. In coherence, occupational therapy (OT) should contribute to the development of knowledge in this area from a critical perspective, considering the complexity of child and adolescent mental health from a rights-based approach.

Scientific production constitutes a crucial space to address theoretical and practical aspects of disciplinary practice. Therefore, carrying out an analysis of this production allows us to identify the theoretical approaches that support occupational therapy research in the field of child and adolescent mental health, as well as the main sources and types of evidence available. In short, it makes it possible to map the extent, scope and nature of research in this specific area.

## **Evidence in health**

*Evidence-Based Medicine* (EBM) has gained a strong foothold in Western countries as a strategy to promote the use of scientific evidence in clinical decision-making (Pearson et al., 2005; Jordan et al., 2019) and in health policies (Bhargava & Bhargava, 2007). This strategy has traditionally been based on a positivist epistemology in which the importance of personal experience, observation and other sources of information in decision-making in this field is often undervalued (Green & Britten, 1998). In response to this, the notion of *Evidence-Based Health* (EBH) has been gaining greater prominence in recent times, as this approach gives greater value to the different sources and perspectives for evidence-based practice. Papuzinski et al. (2021) incorporate under the concept of EBS, the use of the best evaluated evidence, the exercise of clinical practice and the values and interests of users in decision-making, for example, regarding a treatment, allowing its effectiveness to be adequately evaluated.

In the field of Occupational Therapy, various perspectives have been developed on how to incorporate evidence into professional practice. In 2005, the concept of Evidence-Based Occupational Therapy (EBOT) was introduced, which is defined as “[...] a practice where clinical, management, and teaching decisions are based on the integration of external evidence from research with internal professional experience” (Rumbo-Prieto et al., 2005, p. 8). At the same time, the term Evidence-Based Practice (EBP) also emerged to refer to the systematic relationship between scientific production, professional experience, theories and intervention models, and user experience (Sirikka et al., 2014). In summary, both notions seek to account for the circular relationship between the practice of occupational therapy and scientific research and how this contributes both to the identity of the discipline and to raising the quality of interventions in line with the responsibility of providing more effective treatments to users (Aravena, 2015).

## **Assessment and classification of scientific evidence**

The EBS approach has a comprehensive view by incorporating clinical practice and user experience, but what is meant by the “most appropriate evidence”? There are various ways of classifying scientific evidence in the health field, mainly associated with its quality and levels of recommendation (Manterola et al., 2014). It is worth mentioning that these different forms of classification and assessment (for example, the Sackett classification, Grade working group, U.S. preventive services, among others) are governed by a positivist view, placing meta-analysis, systematic review or randomized controlled clinical trials as those with the highest levels of evidence, while descriptive, qualitative studies and experts opinion or reflection articles are classified as the lowest level of the evidence scale.

For this research, the criteria from the “Canadian Task Force on Preventive Health Care” (CTFPHC) scale were used to classify the level of evidence of the studies. This scale is a synthetic but at the same time complete proposal that allows categorizing the evidence into three levels of evidence and five degrees of recommendation (Manterola et al., 2014). Although it incorporates qualitative evidence, this is classified in the lower levels (Manterola et al., 2014). The flexibility and generality of the

classification proposed by the CTFPHC is useful for analyzing the diversity of types/designs of studies that characterize the publications of Occupational Therapy.

### **State of the art in occupational therapy and mental health in children and adolescents**

The relationship between occupational therapy and mental health emerged in the origins of the discipline in the framework of moral treatment (Bing, 1981). The work carried out by occupational therapists in this field has diversified and expanded over time, including, today, actions that are not limited only to the hospital institution; on the contrary, there is an important shift towards support in/with the community regarding the intervention of children and adolescents with MH problems. The available disciplinary literature regarding this area has moved from reflections on clinical cases (60's and 70's), the description of the professional role (80's) to the validation of assessments instruments and intervention practices (Brooks, 2016). This transition is consistent with the development of the discipline in this area.

There are 4 systematic reviews focused on Occupational Therapy, mental health and the child and adolescent population that are relevant to know in the context of this study. In 2013, Arbesman et al. analyzed the available evidence regarding the effects of interventions focused on occupation and social participation of children and adolescents with mental health problems and concluded that there is strong evidence regarding the effectiveness of this type of intervention. In 2020, Cahill et al. provided additional evidence by demonstrating that occupation-based interventions also positively influence the well-being and behavior of this group.

In 2018, Read et al. (2023) studied the level of evidence for early occupational therapy intervention to maintain occupational participation in young people at high risk of suffering from a mental health issue. The results of the research indicate that there is strong evidence regarding interventions that have a cognitive remediation, cognitive-behavioral or family psycho-education approach. While the approach focused on support in education and employment has an intermediate level of evidence.

One of the most recent reviews was the one carried out by Brooks & Bannigan (2021) in 2021, which aimed to determine the level of effectiveness of Occupational Therapy interventions in mental health problems. Contrary to previous reviews, they concluded that there is no conclusive evidence regarding the effectiveness of disciplinary work in this area.

The diversity of the results obtained in the aforementioned reviews can be attributed to the use of different evidence classification systems, review strategies and approaches, as well as specific limitations of each study. This heterogeneity reinforces the need to increase research and deepen disciplinary reflection in the area.

This study aimed to characterize the existing academic publications in disciplinary journals related to child and adolescent mental health. A distinctive aspect of this research lies in the intention to provide a historical and global view of the scientific literature in the aforementioned context.

## **Methods**

### **Type of study**

This bibliometric analysis study was developed from a quantitative approach with a descriptive scope, aimed at characterizing the available evidence on Occupational Therapy and child and adolescent mental health. Descriptive studies serve the function of delimiting certain properties and characteristics of a study phenomenon, through the measurement of certain variables or theoretical concepts, at a univariate and bivariate level (Hernández-Sampieri et al., 2014). The descriptive level in bibliometric studies has the function of providing quantitative information on scientific publications at the country, regional, and institutional level, among others. Thus, allowing the evaluation of scientific production and evidence on certain topics, characterizing the profile of the studies, identifying researchers and journals with greater scientific productivity, etc. (Romaní et al., 2011).

Bibliometric studies are characterized by analyzing and evaluating the quality and level of impact of the available scientific evidence, using statistical procedures that allow the results of the review to be organized, analyzed and presented (Pimenta et al., 2017). Bibliometrics is a research methodology that becomes necessary in view of the exponential increase in scientific production, being a channel that facilitates its understanding and evaluation (Mazaro et al., 2021).

Currently, there are several ways to conduct a bibliometric study, which are related to the areas of knowledge, the research objectives and the selected study variables, among others. The present study was inspired by the bibliometric reviews carried out by Mazaro et al. (2021) and the one carried out by Gutman et al. (2022), for the construction of analytical categories and the results presentation.

### **Study variables**

The variables from which the publications were classified are: (1) Temporality, which refers to the year of publication of the articles, considering the period from 1985 to 2022; (2) Research approach, considering the alternatives, “qualitative”, “quantitative”, “mixed” and “not applicable”; (3) Scope, which considers the levels “exploratory”, “descriptive”, “correlational”, “explanatory” and “analytical”; (4) Level of evidence, which ranges from “meta-analysis” to “descriptive studies” and “theoretical foundations”; (5) Mental health situation, which considers the categories “Autism spectrum disorder”, “Attention deficit hyperactivity disorder”, “mental health promotion”, “mental health problems” and “other diagnoses”; (6) Disciplinary model, which incorporates the categories “sensory integration approach”, “occupation-centered models”, also the option “not specified” and “not applicable”.

Some variables such as temporality, focus and scope are general and transversal to different bibliometric research in the field of occupational therapy (Mazaro et al., 2021; Gutman et al., 2022). For its part, the level of evidence variable was included given its relevance to rank the quality of published research, following the parameters of the CTFPHC) (Manterola et al., 2014). Regarding the mental health situation variable, it is important to mention that in the search process, mental health topics and diagnoses

that are traditionally linked to professional work were incorporated, such as: ASD and ADHD, the concepts of mental health promotion and mental health problems, being also the central axis of the research. It is worth mentioning that the decision to incorporate diagnoses into the search engines was due to the interest in increasing the number of articles; the selection of the ASD and ADHD diagnoses is due to the fact that these are the main reasons for mental health consultation during childhood and youth (World Health Organization, 2022).

### **Search strategy**

The search for articles was carried out in the period from 2019 to 2022. Articles in English, Spanish and Portuguese (from Brazil) were reviewed. An advanced search was carried out, using a search script and Boolean operators in the Web of Science and SCOPUS databases, for articles published in English. This action was carried out in 2019 and then an update of the search in September 2022. Only articles published in Occupational Therapy journals were considered in the study.

Regarding the literature in Spanish and Portuguese, a manual search was carried out in disciplinary journals since, for the most part, Occupational Therapy journals in these languages are not indexed in the aforementioned databases. The search was also updated in 2022 with the same objective as in the case of English-language journals.

The journals reviewed in Spanish were: Journal of the College of Occupational Therapy Professionals of Puerto Rico (CONEXIO), Journal of Human Occupation of the Colombian College of Occupational Therapy, Journal of Occupational Therapy of Castilla y León (Retocyl), Argentine Journal of Occupational Therapy, Chilean Journal of Occupational Therapy, Asturian Journal of Occupational Therapy and Journal TOG (A Coruña). The journals reviewed in Portuguese were: Brazilian Journal of Occupational Therapy and Journal of Occupational Therapy of the University of Sao Paulo.

### **Keywords and search engines**

The keywords used for the search belong to three domains. In the case of the search in Spanish, the keywords were: (1) Terapia Ocupacional, (2) Salud mental, problemas de salud mental, TEA (and its variants), TDAH (and its variants) and (3) Niñez y juventud, adolescencia, niños, niñas y jóvenes. For the search in Portuguese the words were: (1) Terapia Ocupacional, (2) Saúde mental, problemas de saúde mental, TEA (and its variants), TDAH (and its variants) and (3) Infância e juventude, adolescência, crianças, meninas e jovens. In the case of the search in English, the words and concepts were translated to perform the advanced search, the following keywords were used: (1) Occupational therapy, (2) Mental health, mental health problems, ASD (and its variants) and ADHD (and its variants) and (3) Children, childhood, youth, adolescence. The advanced search scripts were: (1) Occupational therapy AND mental health AND Children OR childhood. (2) Occupational therapy AND mental health AND youths OR youth. (3) Occupational therapy AND attention deficit hyperactivity disorder OR ADHD. (4) Occupational therapy AND autistic spectrum disorder OR autism OR ASD.

In the case of the manual search in Spanish and Portuguese, all editions of each of the selected journals were reviewed, from 1985 onwards, considering that the concepts just described were present in the title, abstract and keywords.

The inclusion criteria were: (1) academic articles published in disciplinary journals indexed in databases in English, Spanish and Portuguese (from Brazil), (2) academic articles published in disciplinary journals not indexed in databases in Spanish and Portuguese (from Brazil), (3) “open access” articles, free to download or accessible through the institutional credentials of the University of Chile (4) articles published in Spanish, Portuguese (from Brazil) and English, (5) articles that explicitly refer to topics of prevention, promotion and/or intervention in mental health of children and adolescents in the title, keywords or abstract. The exclusion criteria were: (1) publications in non-disciplinary journals, (2) articles that are paid for and/or not available in databases accessible through the credentials of the University of Chile and (3) publications in disciplinary journals in English not indexed in databases. The articles selection was carried out by analyzing the title, abstract and keywords of each of the publications in English, Spanish and Portuguese. The methodology and part of the body text were then reviewed to proceed with the elimination of articles that did not meet the search criteria.

The articles were selected by analyzing the title, abstract and keywords of each of the publications in English, Spanish and Portuguese. The methodology and part of the body of the text were then reviewed in order to eliminate articles that did not meet the search criteria.

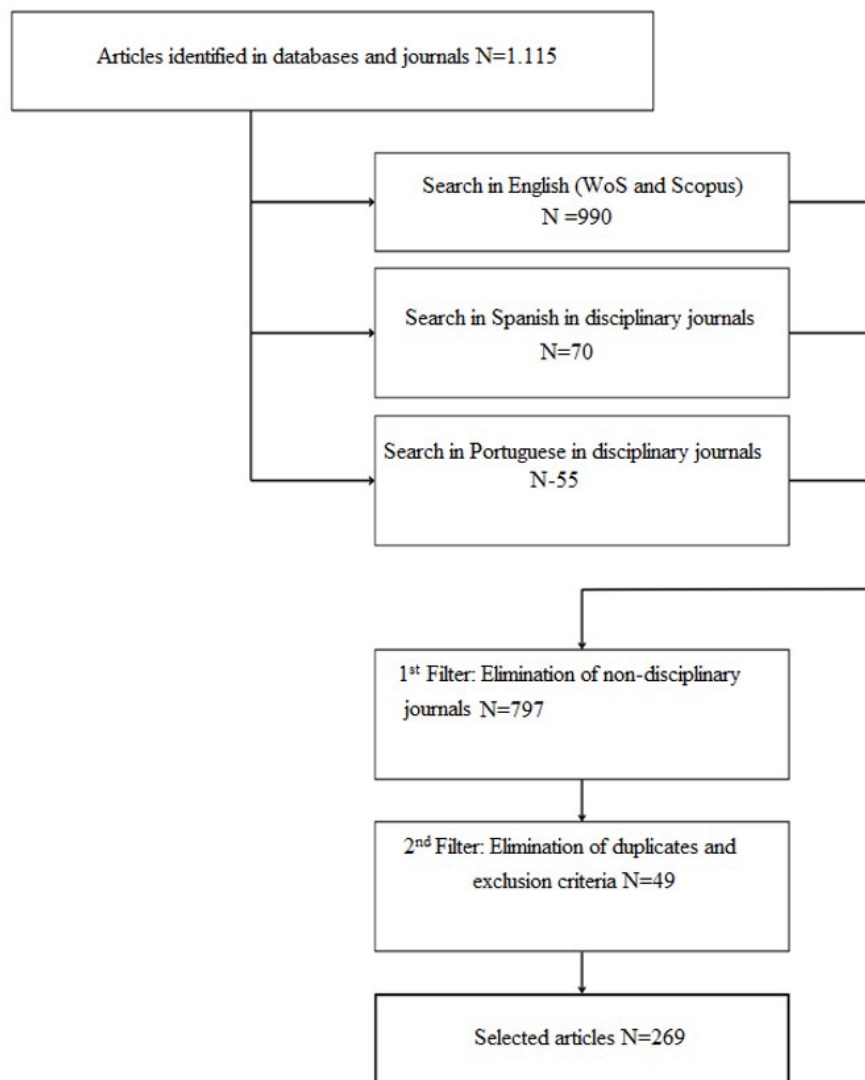
### **Articles selection**

The procedure for defining the inclusion/exclusion criteria and for selecting articles was guided by the PCC (Population, Concept, and Context) framework for scoping reviews (Pollock et al., 2023) (Figure 1).

The English search in the Web of Science (WoS) and Scopus databases yielded a total of N=990 publications. The search in Spanish (N=70) and Portuguese (N=55) was carried out manually in Occupational Therapy disciplinary journals. A total of 1,115 articles were found in the search. The first filter applied to the publications was to select those articles belonging to Occupational Therapy disciplinary journals, discarding 797 articles, resulting in N=318 articles to be consulted. In the second instance, the applied filter consisted of eliminating duplicate articles 7 and those that did not meet the inclusion criteria 42, so 49 articles were discarded. As a result, 269 articles were selected, which are divided into English (N=197), Spanish (N=44) and Portuguese (N=28).

After that, the selected articles were downloaded, numbered and stored in a shared “Google drive”. The publications were then classified in a “Google spreadsheet”, taking into account the information available in the title, abstract and keywords. However, the articles were reviewed in greater depth with special emphasis on the methodology, since the information provided in this section was not sufficient to make a correct classification.





**Figure 1.** Extraction and Revision of Articles.

**Source:** Own elaboration.

## Levels of evidence

The study evaluated the levels of evidence based on the classification of the “Canadian Task Force on Preventive Health Care”. It distinguishes 5 levels of evidence, these are: I) Existing evidence that arises from a randomized clinical trial, including systematic reviews and meta-analysis. II-1) Existing evidence that arises from a clinical trial without random assignment of cases. II-2) Evidence that arises from studies without intervention, such as cohort and case-control studies. II-3) Evidence that arises from comparisons over time, with or without intervention. Studies without random assignment could also be considered. III) Evidence that arises from the opinion of experts, based on their experience, also includes descriptive studies or expert reports (Manterola et al., 2014).

## Data analysis

The data was initially processed in Google and Excel spreadsheets. Once they were cleaned and coded, they were imported into a database in SPSS. The study variables were all categorical and were analyzed at a univariate and bivariate level, through frequency distribution analysis and variable crossings using contingency tables, respectively.

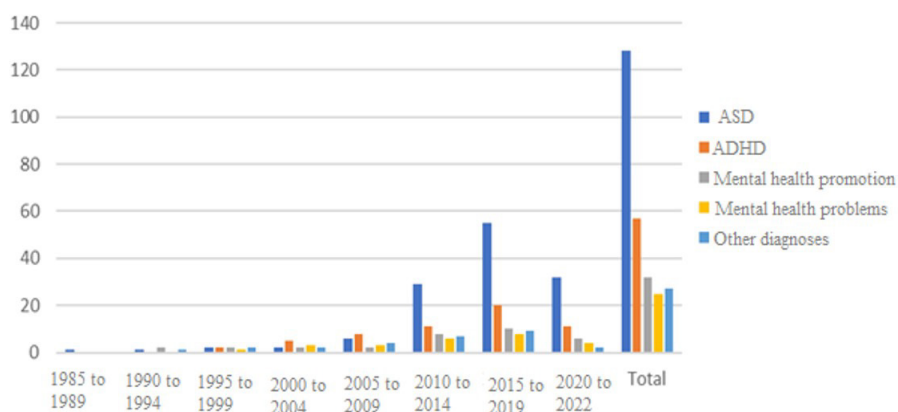
## Results

The results are presented in eight thematic sections, which summarize the main characteristics of the academic publications reviewed based on the selected study variables.

### Temporal evolution of child and adolescent mental health diagnoses

A sustained increase in the number of disciplinary publications focused on child and adolescent mental health is observed over time, which has been concentrated between the years 2010 and 2022. In Figure 2, it is possible to observe that the periods that represent the highest percentage of publications correspond to the periods 2010 to 2014, with 61 articles (22.7%) and the period between 2015 and 2019, with 102 articles (37.9%).

On the other hand, Figure 2 also shows a progressive and sustained increase over time of publications referring to the diagnoses of ASD and ADHD, which correspond to the health diagnoses most addressed by disciplinary publications in this field, representing 47.6% (N=128) and 19.3% (N=57) of the total number of selected articles, respectively. The rest of the studies mainly refer to the prevention and promotion of mental health (11.9%, N=32), to mental health problems in general (9.3%, N=25) and only 27 (10%) articles refer to other diagnoses, such as: conduct disorder, mood disorders, first psychotic episodes, video game addiction, psychosis and child abuse.



**Figure 2.** Temporality and diagnoses in occupational therapy research in child and adolescent mental health.

**Source:** Own elaboration.

## Main methodological approaches to research

For the methodological approach variable, all applied research is considered a valid result, that is, research that carried out field work using a quantitative, qualitative or mixed methodology. Research with a theoretical foundation, opinion studies and literature reviews were excluded from the analysis, which were considered as missing values.

Of the total number of articles reviewed, it is evident that the largest number corresponds to research in which field work was carried out with human beings, representing 73.6% of the total (N=198). Of these, 46.8% (N=126) were quantitative, 21.9% (N=59) worked with a qualitative approach and 4.8% (N=13) used a mixed approach. It is worth mentioning that in the category of quantitative research, instrument validation studies were considered (Table 1).

**Table 1.** Methodological approaches.

	Approach	Frequency	Percentage	Valid Percentage
Valid	Qualitative	59	21.9	29.8
	Quantitative	126	46.8	63.6
	Mixed	13	4.8	6.6
	Total	198	73.6	100
Lost	Theoretical foundation	30	11.2	
	Revision	41	15.2	
	Total	71	26.4	
Total		269	100.0	

**Source:** Own elaboration.

## Cross-section between year of publication in sections and methodological approach

The joint analysis of the variables “temporality” and “methodological approach” shows that there has been an increase in the use of qualitative methodologies to develop research. When considering the period between 2000 and 2004, it is evident that, of the 11 articles published in the period, 9 used a quantitative methodology, 1 used a qualitative methodology, and 1 a mixed approach. While in the period from 2005 to 2009, it is observed that, of the total publications executed in the period, 22.2% (N=4) correspond to qualitative research, 72.2% (N=13) to quantitative research, and one mixed study. For the periods from 2010 to 2014 and from 2015 to 2020, it is observed that the proportion of qualitative studies reaches approximately 28% of the total published works. Quantitative studies, on the other hand, decreased from 71% to 61%, which is explained by the increase in mixed studies, which in the second period (2015 to 2020) was 11.4% (N=9). In the period from 2020 to 2022, 39% corresponded to qualitative studies, 56% to quantitative studies and 4% to mixed studies.

## Research scope

The scope level of the studies was classified taking as reference the four categories of Hernández-Sampieri et al. (2014): exploratory, descriptive, correlational and explanatory. Additionally, the category of analytical scope was added. Nearly half of the investigations that carried out field work (N=198) have an exploratory and/or descriptive scope. Specifically, 9.7% of the articles reviewed were exploratory (N=26) and 37.5% of the articles were descriptive (N=101). Only 6.3% of the investigations worked with a correlational scope (N=17), while 7.8% did so with an explanatory scope (N=21). Only 11.2% of the selected articles have an analytical scope (N=30), as indicated in Table 2.

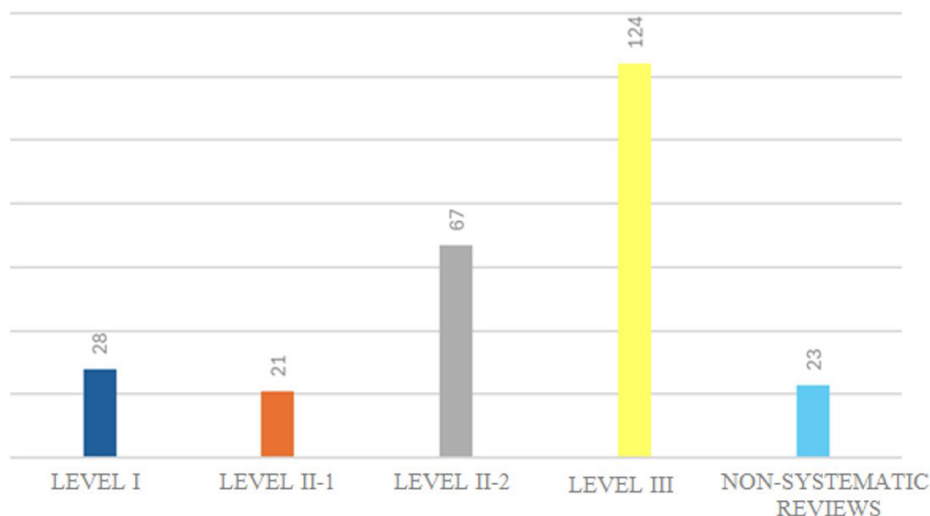
**Table 2.** Research scope.

	Scope	Frequency	Percentage	Valid Percentage
Valid	Exploratory	26	9.7	13.1
	Descriptive	101	37.5	51.0
	Correlational	17	6.3	8.6
	Explanatory	21	7.8	10.6
	Analytical	30	11.2	15.2
	exploratory descriptive	3	1.1	1.5
	Total	198	73.6	100
Lost	Not applicable	71	26.4	
Total		269	100	

## Classification of evidence in publications

The articles were classified according to the type of study declared in the material and methods section, considering the criteria of the Canadian Task Force on Preventive Health Care (CTFPHC) systematized by Manterola et al. (2014). According to the results, it is observed that the highest percentage, 36.4% (N=29), corresponds to descriptive studies, which are located in level III of evidence, the lowest. It should be noted that the majority of qualitative studies are in this category, following the classification criteria of the CTFPHC (Manterola et al., 2014). At this same level are the theoretically based studies corresponding to 9.7% (N=26) of the total.

The investigations that have the highest levels of evidence are all quantitative in approach, following the criteria of the CTFPHC. Articles referring to non-experimental research such as case series studies (7.8%, N=21) and case-control studies (5.6%, N=15) are located at level II-2 of the CTFPHC evidence scale, representing 13.4% of the total. Experimental studies are divided into: clinical trials, which represent 6.7% (N=18), controlled clinical trials, representing 1.1% (N=3), and randomized controlled clinical trials, which represent 3% (N=8). The first two types of trials are located at level II-1 of evidence and the third is located at level I, the highest (Manterola et al., 2014). Systematic reviews are also located at level I of evidence, which represent 7.1% (N=19), and a meta-analysis, corresponding to 0.4% of the total research (Figure 3).



**Figure 3<sup>1</sup>.** Levels of evidence in occupational therapy research in child and adolescent mental health.  
**Source:** Own elaboration.

### Representation of disciplinary models in the articles

There is a scarce representation of occupation-centered models in disciplinary research on mental health in children and youth. Of the 132 articles that refer to occupational therapy interventions, it is noted that 65.9% (N=87) of these refer to a disciplinary model, the most frequent being the Sensory Integration Model or approach, representing 46.2% (N=61) of the total that refer to a model. Only 19.7% (N=26) of these publications refer to an occupation-centered model, such as: the Human Occupation Model, the Canadian Model of Occupational Therapy or the Cognitive Orientation to Daily Occupational Performance Approach (CO-OP).

### Cross-reference between disciplinary models and diagnoses

Of the total number of publications that refer to occupational therapy interventions (N=132), the following can be noted: of those that use a Sensory Integration approach (N=61), 82% (N=50) are associated with the diagnosis of ASD, 8.2% with the diagnosis of ADHD, and only 6.6% refer to other mental health diagnoses. On the other hand, of the total number of articles that consider occupation-centered models (N=26), 50% correspond to interventions aimed at children and adolescents with ADHD, 27% to children and adolescents with an ASD diagnosis, and 11.5% refer to mental health problems. Regarding the 45 articles that refer to interventions and do not explicitly state the use of a disciplinary model, it is observed that 42.2% are investigations associated with ASD, 22.2% with ADHD, 15.6% with other diagnoses and 11% with mental health problems.

<sup>1</sup> The CTFPHC evidence scale was used as a guide for classifying the papers. Cohort studies and case series were integrated into Level of Evidence II-2.

## **Cross-reference between disciplinary models and level of evidence**

Regarding the cross-reference between the models used and the levels of evidence (N=132), the results show that of the total number of articles that consider the sensory integration model or approach (N=61), the majority correspond to descriptive studies (19.7%). Continuing with the above, both case-control studies and case studies represent 16.4% respectively. On the other hand, case series studies are represented by 11.5%, clinical trials by 9.8% and theoretical foundation articles by 8.2%. Both narrative reviews and randomized controlled trials represent the same percentage of 4.9% each.

Regarding the level of evidence represented by those articles that use an occupation-centered model (N=26), the results show a prevalence of the development of descriptive studies with 26.9%. Then, with 19.2% there are articles that use a case series design. Continuing with the above, there are clinical trials, which represent 15.4%, followed by case studies, which represent 11.5%. In a smaller proportion there are systematic reviews and randomized controlled clinical trials, which represent 7.7% respectively.

Regarding the level of evidence represented by the articles that refer to interventions but do not specify an intervention model, it can be seen that of the total (N=45), the majority correspond to descriptive studies, representing 40%. This is followed by research in which case studies and case series have been carried out, both representing 11.1% respectively. Thirdly, there are articles referring to clinical trials, theoretical foundation articles and narrative reviews, representing 6.7% respectively.

At the levels just described, it is possible to observe that descriptive studies represent the highest percentages. It is worth mentioning that when considering clinical trials and randomized controlled clinical trials, those studies that use a sensory integration model or approach present a lower proportion than those that use an occupation-centered model, accounting for more robust evidence in the case of sensory integration over occupation-centered models.

## **Cross-reference between level of evidence and diagnosis**

When considering the levels of evidence according to the type of diagnosis to which the research corresponds, a predominance of descriptive studies can be seen. Regarding the diagnosis of ASD (N=128), it is observed that 9.4% of these studies used a clinical trial design and 3.1% used a randomized controlled clinical trial design. On the other hand, systematic reviews represent 5.5% of the total of these investigations. In the case of the diagnosis of ADHD (N=52), it is evident that 9.6% correspond to clinical trials, while randomized controlled clinical trials represent 7.7%. On the other hand, 9.6% correspond to systematic reviews.

Regarding the diagnosis of ASD, it is observed that the percentage of studies that are at level I of evidence according to the CTFPHC is 18%. On the other hand, considering the different types of clinical trials and systematic reviews, it can be seen that 26.9% of the studies that address the diagnosis of ADHD are at level I of evidence (Manterola et al., 2014). In short, it is observed that there is more robust and better quality evidence in studies on ADHD compared to those that address ASD.

## **Discussion**

The present study reveals that the scientific production of Occupational Therapy in the field of child and adolescent mental health requires greater consolidation. According to the CTFPHC criteria, it can be stated that the research reviewed is, for the most part, of low levels of evidence. The results obtained coincide with the observations of Brooks & Bannigan (2021), who highlight the low levels of evidence present in academic publications related to this topic. Along the same lines, Gutman et al. (2022) point out that the discipline has generated a small body of knowledge associated with mental health intervention in children and youth, and that there is limited evidence regarding the effectiveness of disciplinary interventions for children and youth. Below are some of the critical aspects found in academic publications.

First, there are significant shortcomings in the fulfillment of formal aspects in relation to academic writing. In a large number of the articles reviewed, problems of internal coherence were found, both within and between sections. For example, summaries that did not refer to the objective, methodology or results of the study; omissions, inconsistencies or methodological errors and incongruence between the different sections of the article. The lack of rigor observed in the publications is a problem both for the scientific validation of the discipline, as well as for the use of theoretical knowledge generated in the practice of occupational therapy.

Secondly, it is highlighted that most of the studies are situated at low levels of evidence and recommendation (Manterola et al., 2014). However, it is crucial to recognize that evidence should not be limited solely to a quantitative and positivist approach. Other forms of scientific production should be valued, such as systematizations, case studies, documentary analysis and qualitative research in general. However, despite these possibilities, there is a lack of publications that adopt an analytical or critical perspective on the phenomenon. An example of this is that the current epistemological debates on childhood, youth and mental health have not permeated the disciplinary production, but rather, on the contrary, the positivist view of diagnoses tends to predominate.

Thirdly, there is a significant focus on ADHD and ASD diagnoses from an SI approach. The primacy of this focus of study was observed even when carrying out a broader search considering general mental health concepts such as: “child and adolescent mental health problems” and “promotion and prevention of child and adolescent mental health”. This result coincides with that described by Gutman et al. (2022), who report that one third of the disciplinary literature devoted to mental health in childhood and youth refers to SI interventions in boys and girls with ADHD. The thematic predominance is striking, as it does not represent the diversity of areas and work approaches that the discipline addresses in this field. It is important to consider that the results may be influenced by the restrictions in the search, since ASD and ADHD were the only diagnoses incorporated, which could imply the exclusion of research that uses other nominations such as “mental illnesses” or “psychological suffering”.

Fourthly, there is a low number of publications that refer to young people, a result that coincides with the conclusions developed in the work of Gutman et al. (2022). This finding could have been influenced by the search strategy, since “mood disorders”, “eating disorders” or “suicide” were not incorporated into the frequent mental health

diagnoses at this stage of life (Organización Mundial de la Salud, 2021). However, it is important to highlight that the explicit reference to adolescence and youth is scarce both in relation to general mental health and to the diagnoses of ASD and ADHD. Considering that these are neurobiological conditions that accompany throughout life, it is expected that more research and academic publications will be developed that refer to their approach in youth.

Fifthly, it is interesting that only 19.7% of the evidence associated with occupational therapy interventions refers to an occupation-centered model. Given this result, it is necessary to promote the development of more research on interventions that allow strengthening the validity of occupational therapy in the field of child and adolescent mental health. To do so, it is essential to promote the use of intervention strategies that use occupation as a means and/or as an end, in addition to including the disciplinary models on which these interventions are based. In line with the above, assessment measures focused on occupation should be considered.

## **Conclusion**

Although occupational therapy has a long history of non-pharmacological approaches to mental health problems in children and young people, academic publications in this field are still insufficient. The lack of consolidation can be seen in the low levels of evidence in research related to the topic, the scarce representation of works aimed at the youth population and the strong focus of research that addresses the diagnoses of ASD, ADHD, as well as the SI approach. Along the same lines, a shortage of nosological discussions regarding the concepts of mental health, childhood and youth was evident. The above reveals a discontinuity between clinical practice and scientific production, given that professional work in this area usually involves working with young people, supporting children and adolescents with different MH diagnoses, as well as the use of different work approaches. The latter being an expression of the new approaches to look at childhood, youth and the problems that affect them.

In line with the above, it is necessary to promote the development of research in this area, in particular, those that allow improving the levels of evidence regarding the approach to occupational therapy, in addition to taking into account the diversity of approaches used by the profession in the area.

## **Limitations**

The research has some limitations that could have influenced the results obtained. Firstly, concepts associated with the specific diagnoses of Autism Spectrum Disorder (ASD) and Attention Deficit Hyperactivity Disorder (ADHD) were incorporated into the search engines, which may have meant the exclusion of articles referring to other mental health situations. These were the only diagnostic nominations used, since the sole use of the concept “mental health” yielded a small number of articles. These diagnoses were chosen because they are the most prevalent in the field of child and adolescent mental health, as detailed in the introduction.

It is important to note that this decision could have affected the representation of publications aimed at young people. However, when using the concept of “mental



health”, a low number of publications aimed at this group was observed and, in addition, both ASD and ADHD are considered health conditions that affect throughout the lifespan, so it would be expected to find works that address these two diagnoses in the youth population. It is also important to mention that other research has also pointed out the underrepresentation of this group in disciplinary publications.

That said, it is important to consider that search restrictions may have influenced the results. For example, the search could have been expanded by using keywords such as “mental or subjective illness,” “psychological suffering, or other.” This limitation is relevant given the diversity of articles and the countries where they were written or published.

Other limitations arise in the process of searching and accessing the articles. As mentioned, the search and extraction of the articles in Spanish and Portuguese was carried out manually, however, not all journals were considered in this process. In addition, a total of 42 articles could not be considered due to access restrictions. Although the most relevant journals were reviewed, these situations could have influenced the results obtained.

Finally, it is relevant to note that the decision to focus the review solely on disciplinary journals was made with the purpose of specifically characterizing how scientific publications in the field of occupational therapy address, and have addressed, the issue of mental health in the child and adolescent population. Although this study achieves this objective, it is considered relevant that future research also include publications from other disciplines to enrich and complement the results obtained here.

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