

## **Promotion of Mental Health in School Adolescents in Collaboration with the Primary Care Team: Systematic Review**

**ABSTRACT: Aim:** The purpose of this study is to identify, through an integrative review, the strategies implemented in partnership with the primary care team that contribute to promoting the mental health of adolescents at school. **Methods:** 2,791 studies were identified, 389 in PubMed, 389 in Scopus, 320 in VHL, 04 in Scielo and 1,693 in GALE. After excluding duplicate studies and applying the eligibility criteria, 17 articles were selected. **Results:** The analysis of the studies revealed that 18% of the articles addressed the relevance of the characteristics of promoting adolescent mental health in school in partnership with the primary care team, while another 18% were related to barriers faced in this promotion. Additionally, 41% of the articles dealt with the strategies used in this context and 24% discussed the associated challenges. **Discussion:** Several strategies have been incorporated into the partnership between the education sector and Primary Health Care to promote the mental health of school adolescents. **Conclusions:** Identifying the potential of actions and strategies carried out by education and primary health professionals reinforces the need for investments in spaces, materials and training of professionals aimed at promoting adolescent mental health.

**Keywords:** Primary Health Care; Adolescent Health; Mental health; Health promotion.

### **INTRODUCTION**

Adolescence, the period between the ages of 10 and 19, encompasses a significant portion of the population, around 1.8 billion individuals worldwide, representing approximately 24% of the global population, according to data widely published by the World Health Organization (WHO) (WHO, 2013; WHO, 2018). This phase of life is unique, culturally constructed, demanding attention that considers the individualizes and completeness of adolescents' needs (Ojio et al., 2020).

Although, in general, high indicators of illness are not observed when compared to other stages of human life, some individuals exposed to the process of change and adaptation typical of adolescence may present physical and psycho-emotional pathologies that affect their development in different spheres, such as family, affective and school (WHO, 2013; WHO, 2018; Lindow et al., 2020).

In this context, Primary Health Care (PHC) teams play a fundamental role as the first places to seek care in health systems, providing targeted assistance to acute health problems, health promotion, counseling and dissemination of health-related information mentality of the population (MS, 2023). APS carries out actions and care that encompass adolescents in different contexts, with emphasis on school-aged adolescents,

who receive special attention through public policies aimed at improving their physical, social and, especially, mental well-being (Vicari et al., 2022).

In this sense, the importance of a connection between PHC and school institutions is notable, as the school environment is conducive to communication and promotion of actions capable of influencing the health/disease process. Establishing a relationship between teachers, students and health professionals provides social support, whether emotional or informational (Martínez et al., 2018; Doyle et al., 2019; Oberto et al., 2020).

However, there is still a lack of mental health promotion actions aimed at meeting the specific needs of school adolescents, as pointed out in studies described in the literature (Tavares & Barros, 2022; Silva et al., 2022; Rebello et al. , 2022).

Given this context, the objective of this study was to carry out a systematic review to identify in the literature the strategies implemented in partnership with the primary care team that contribute to the promotion of mental health in school adolescents.

## **METHODOLOGY**

This article describes a systematic review of the literature that adopts the methodological protocol proposed by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), which is an internationally recognized guide for the planning, preparation and publication of systematic reviews and meta-analyses. For the present study, the items corresponding to a systematic review were followed, excluding those pertinent to a meta-analysis (Galvão et al., 2015). Therefore, the analysis of the data collected in the research, as well as the discussion of the results obtained through the application of this scoping review protocol, will follow the steps recommended by PRISMA (Galvão et al., 2015) as a basis for the preparation of this work. This methodological approach provides rigor and transparency to the literature review process, enabling the obtaining of relevant and reliable evidence on the topic in question.

### **Research Question**

The question that will guide the research was prepared in a question format based on the elements of the PICO mnemonic (Galvao et al., 2015). Keywords were defined for the selection of descriptors to be used and their combinations in Portuguese, English, and Spanish using the PICO strategy (Galvao et al., 2015), these being: P (population or problem) - A school teenager; I (proposed intervention) - Strategies in partnership with the primary care team; C (control or comparison) - but not suitable for this study; O ("Outcomes" which means outcome or expected result) - Promotion of mental health. In this, it will be represented:

In this way, we ask: What are the strategies implemented in partnership with the primary care team that helps promote the mental health of school adolescents?

Below, the flowchart representing the research question prepared in a question format based on the PICO mnemonic (Galvao et al., 2015):

The research question asks: "What strategies are implemented in partnership with the primary care team that help promote the mental health of school adolescents?" The elements of the PICO mnemonic (Galvao et al., 2015) are represented as follows:

- P (population or problem): School adolescents;
- I (proposed intervention): Strategies in partnership with the primary care team;
- C (control or comparison): However, it is not suitable for this study;
- O ("Outcomes" which means outcome or expected result): Promotion of mental health.

This question structure directs the scope of the research to investigate mental health promotion strategies aimed at school adolescents, which are implemented in partnership with the primary care team.

### **Eligibility Criteria**

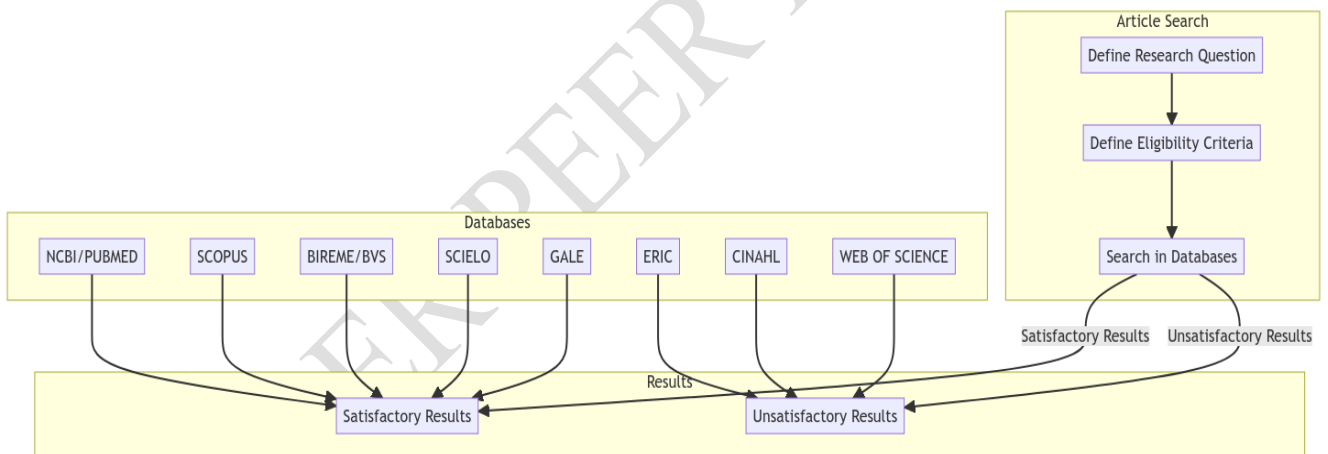
This systematic review included academic articles on scientific research that are related to the guiding question, available by entering the databases written in Portuguese, English and Spanish published between January 2017 and June 2023 as this section comprises the most recent scientific production. Review articles, dissertations, theses, newspaper articles and other articles that did not meet the research topic and articles repeated in the first analysis were excluded.

### **Sources of evidence**

In the search and selection process, the following databases were consulted: National Center for Biotechnology Information (NCBI/PubMed) via National Library of Medicine; Scopus (Elsevier); Latin American and Caribbean Center for Health Sciences Information – BIREME/VHL; biblioteca Scientific Electronic Library Online (SciELO) and Gale Academic OneFile (GALE). These sources of evidence were chosen due to the notoriety and trust they inspire in the national and international scientific community in the area of health.

This search strategy was also applied to the databases of Education Resources Information Center (Eric), Cumulative Index to Nursing and Allied Health Literature (CINAHL) via coleção principal Thomson Reuters by youWeb of Science via Core Collection (Clarivate Analytics) however, no articles were found that met the methodological criteria or did not answer the guiding research question that guided this manuscript.

Chart 1 :Below is the flowchart representing the path through the databases in search of articles



Source: Prepared by the authors, 2023.

### Search strategy

The search for articles was carried out using the Boolean operator “AND”, “OR” and “NOT” through the “advanced search” feature, according to the vocabularies controlled in the area of Health through paired descriptors and in DeCS (Descriptors in Health Sciences), developed by BIREME (Latin American and Caribbean Center for Health Sciences Information) and MeSH (Medical Subject Headings), developed by the U.S. National Library of Medicine. The descriptors were delimited according to Table 1:

Table 1 – Search in databases—Niterói, RJ, Brazil, 2023.

| Database     | Paired Descriptor Search Keys (DECS / MESH)  | Articles Searched | Selected Articles |
|--------------|--|-------------------|-------------------|
| Pubmed       | ("primary health care"[MeSH Terms] OR ("primary"[All Fields] AND "health"[All Fields] AND "care"[All Fields]) OR "primary health care"[All Fields]) AND ("adolescent health"[MeSH Terms] OR ("adolescent"[All Fields] AND "health"[All Fields]) OR "adolescent health"[All Fields]) AND ("mental health"[MeSH Terms] OR ("mental"[All Fields] AND "health"[All Fields]) OR "mental health"[All Fields]) AND ("health promotion"[MeSH Terms] OR ("health"[All Fields] AND "promotion"[All Fields]) OR "health promotion"[All Fields]) | 389               | 6                 |
| Scopus       | TITLE-ABS-KEY(Primary Health Care AND Adolescent Health AND Mental health AND Health promotion)ANDALL("Cognitive architectures") AND AUTHOR-NAME(smith)TITLE-ABS-KEY(*somatic complaint wom?n) AND PUBYEAR AFT 1993SRCTITLE(field ormith) AND VOLUME(75) AND ISSUE(1) AND PAGES(53-66)   | 385               | 3                 |
| BVS          | Primary Health Care AND Adolescent Health AND Mental health AND Health promotion.  | 320               | 2                 |
| Scielo       | Primary Health Care AND Adolescent Health AND Mental health AND Health promotion.  | 4                 | 1                 |
| Gale         | Primary Health Care AND Adolescent Health AND Mental health AND Health promotion.  | 1.693             | 5                 |
| <b>Total</b> |  | <b>2.791</b>      | <b>17</b>         |

Source: Prepared by the authors, 2023.

The table above presents the search results in different databases using paired search keys of the descriptors (DECS / MESH). The descriptors used were "Primary Health Care", "Adolescent Health", "Mental Health" and "Health Promotion". The results indicate the total number of articles found in the search ("Articles Searched") and the number of articles selected after the filtering or review process ("Articles Selected") for each database. The total number of articles searched and selected is presented at the end of the table.

This search for studies was made possible by accessing the databases through the Periodical Portal of the Coordination for the Improvement of Higher Education

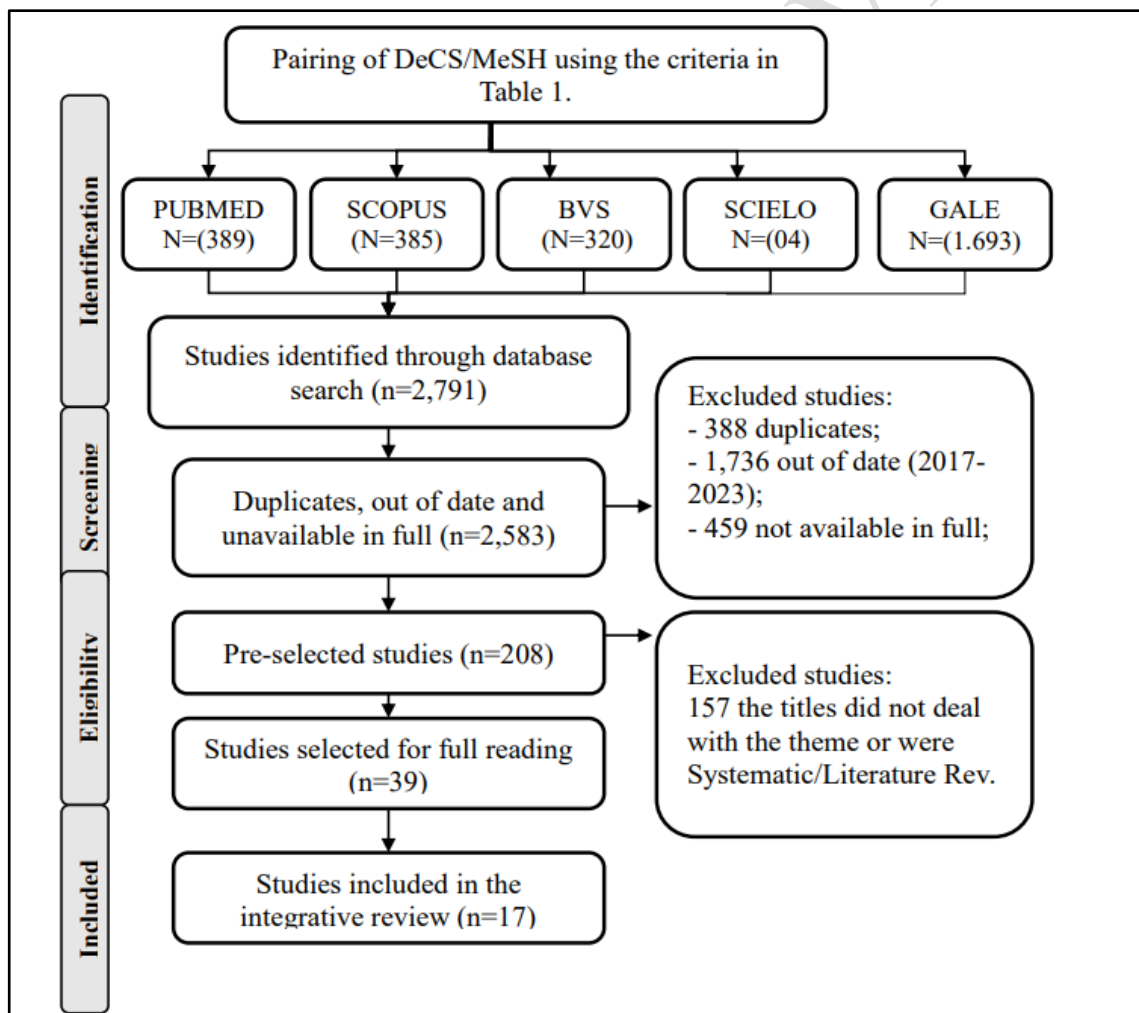
Personnel (CAPES) of the Brazilian Ministry of Education, with access through the Federated Academic Community (CAFe).

### Evidence selection

The evidence selection stage will be carried out by two researchers, autonomously and independently, whose flow of the study selection process is illustrated in Figure 1:

From this perspective, in case of divergences in the eligibility of studies between the two researchers, a third researcher will carry out the evaluation. Data regarding the selection of articles will be available through the PRISMA Flowchart (Galvão., et al. 2015).

Figure 1 - Flow of the study selection process



Source: Data found in bibliographic research. Niterói, RJ, Brazil, 2023.

### Data extraction

With searches in the databases, thorough readings of titles and abstracts were carried out to identify studies that could answer the guiding research question. After separating this material, the articles were read in their entirety interpretively, all of which were categorized and filed for later synthesis of information.

The search strategies allowed us to identify 2.791 studies, being 389 on PubMed, 389 that Scopus, 320 at BVS, 04 at Scielo, and 1.693 at GALE. After excluding duplicate studies and applying the eligibility criteria, 17 studies were selected. Thus, 17 studies made up the final sample. In this process, if disagreements occur between researchers, a third researcher will be called to resolve them.

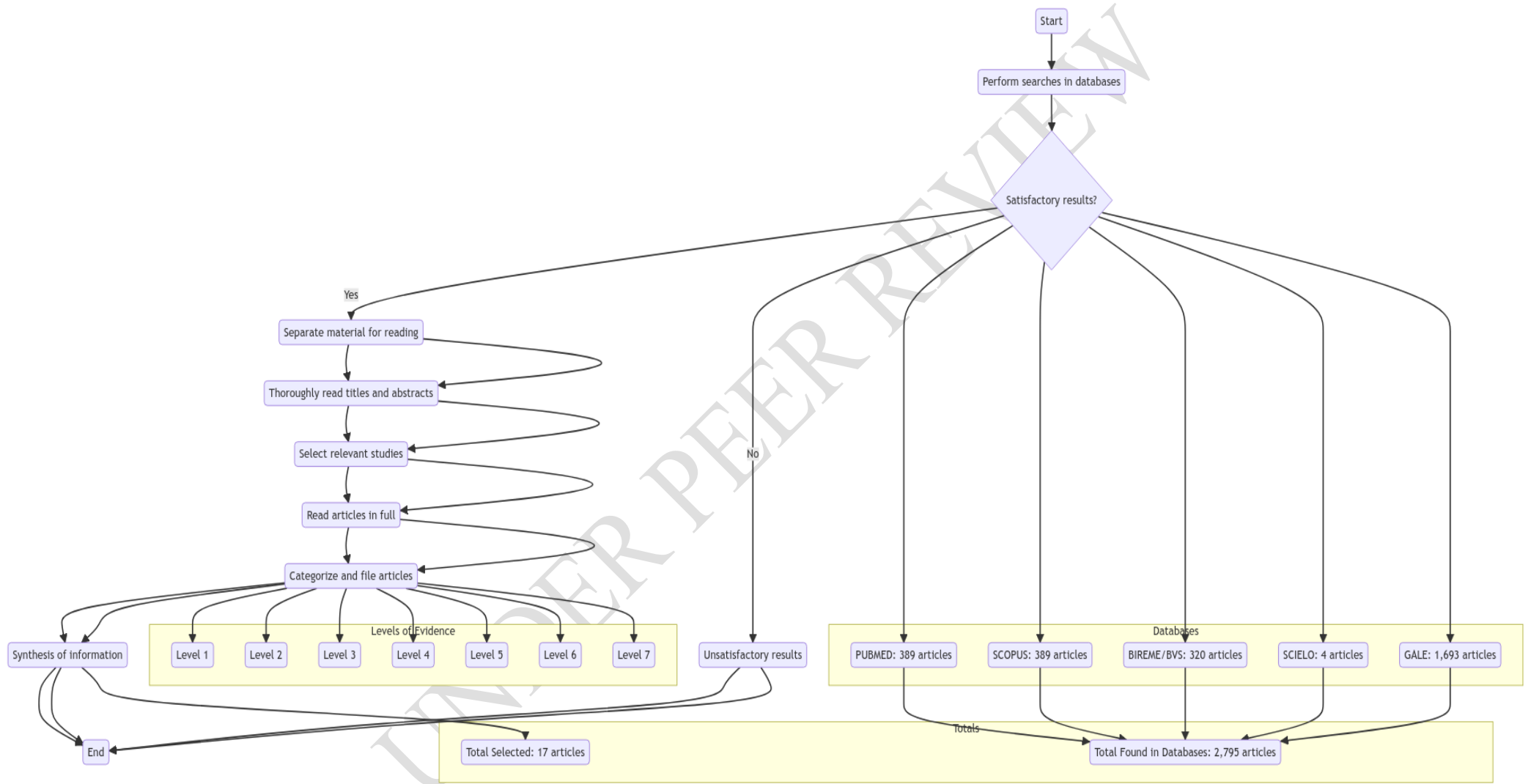
### **Data analysis and presentation**

After a thorough reading of the articles, in addition to applying the inclusion and exclusion criteria described in the methodology, those articles that could be related to the guiding question and objective of the study were selected.

To summarize the information, common characteristics noticed in at least two or more articles were sought, and unusual characteristics found in any study were not considered. The study's risk of bias was considered when analyzing the data from each article.

For the level of evidence, the classification was considered: level 1 – evidence from systematic reviews or meta-analysis of Randomized Controlled Clinical Trials (RCT); level 2 – evidence obtained from at least one well-designed RCT; level 3 – originating from well-designed clinical trials without randomization; level 4 – from well-designed case-control and cohort studies; level 5 – obtained from systematic reviews of descriptive or qualitative studies; level 6 – originating from a single descriptive or qualitative study; and level 7 – evidence originating from the opinion of authorities and/or a committee of experts (Galvão, 2006).

Fig 2 :Below is the figure representing the levels of evidence found in the articles



Source: Prepared by

the

authors,

2023.

## RESULTS

The 17 texts were then tabulated in an analytical table format, where the data were synthesized and organized in a systematic way, to better display the information in Tables 2 and 3.

Table 2 – Methodological information of the selected articles.

| N.º do article | Author                   | Base   | Country of the study | Method                            | Total Sample No. | Level of Evidence |
|----------------|--------------------------|--------|----------------------|-----------------------------------|------------------|-------------------|
| 1              | Bjørnsen et al., (2018)  | Pubmed | Norway               | Cohort study.                     | 357              | 4                 |
| 2              | Granrud et al., (2019)   | Pubmed | Norway               | Qualitative ethnographic research | 18               | 6                 |
| 3              | Carlson et al., (2021)   | Pubmed | Uganda               | Qualitative ethnographic research | 59               | 6                 |
| 4              | Bjørnsen et al., (2019)  | Pubmed | Norway               | Quantitative exploratory study.   | 1888             | 4                 |
| 5              | Shahraki, (2020)         | Pubmed | Will                 | Quasi-experimental study          | 420              | 4                 |
| 6              | Marinucci et al., (2023) | Pubmed | Australia            | Qualitative-quantitative research | 88               | 6                 |
| 7              | Long et al., (2018)      | Scopus | USA                  | Mixed methods research.           | 342              | 4                 |
| 8              | Bai et al., (2018)       | Scopus | USA                  | Randomized controlled study.      | 187              | 4                 |
| 9              | Teixeira et al., (2017)  | Scopus | Brazil               | Qualitative exploratory study.    | 25               | 6                 |
| 10             | Bhatta et al., (2018)    | BVS    | USA                  | Quantitative exploratory study.   | 258              | 4                 |
| 11             | Clients, (2017)          | BVS    | Norway               | Qualitative exploratory study.    | 284              | 6                 |
| 12             | Amaro et al., (2022)     | Scielo | Portugal             | Quantitative exploratory study.   | 120              | 4                 |
| 13             | Tissera, (2020)          | Gale   | New Zealand          | Quantitative exploratory study.   | 114              | 4                 |
| 14             | Imran et al., (2022)     | Gale   | Pakistan             | Quantitative exploratory study.   | 231              | 4                 |
| 15             | Potrebny, et al., (2021) | Gale   | Norway               | Quantitative exploratory study.   | 368.579          | 4                 |
| 16             | Lima et al., (2021)      | Gale   | Brazil               | Qualitative ethnographic research | 85               | 6                 |
| 17             | Bisal et al., (2022)     | Gale   | England              | Quantitative exploratory study.   | 10.315           | 4                 |

When examining the years of publication of the articles, it becomes possible to verify that four (24%) articles were published in 2018 (Bjørnsen et al., 2018; Bhatta et al., 2018; Long et al., 2018; Bai et al., 2018), three (18%) articles were published in 2022 (Amaro et al., 2022; Imran et al., 2022; Bisal et al., 2022), three (18%) articles were published in 2021 (Carlson et al., 2021; Potrebny, et al., 2021; Lima et al., 2021), two (12%) articles were published in 2017 (Teixeira et al., 2017; Skundberg-Kletthagen & Moen, 2017; et al., 2017), two (12%) articles were published in 2019 (Granrud et al., 2019; Bjørnsen et al., 2019), two (12%) articles were published in 2020 (Shahraki-Sanavi et al., 2020; Tissera & Tairi, 2020) and one (6%) article was published in Marinucci et al., (2023)

When analyzing the articles found in the databases, six (35%) articles were found in PubMed/NCBI (Bjørnsen et al., 2018; Granrud et al., 2019; Carlson et al., 2021; Bjørnsen et al., 2019; Shahraki-Sanavi et al., 2020; Marinucci et al., 2023), three (18%) articles were found in Scopus (Long et al., 2018; Bai et al., 2018; Teixeira et al., 2017), two (12%) articles were found in BVS/BIREME (Bhatta et al., 2018; Skundberg-Kletthagen & Moen, 2017), one (6%) article was found in Scielo (Amaro et al., 2022) and five (30%) articles were found in Gale (Tissera & Tairi, 2020; Imran et al., 2022; Potrebny, et al., 2021; Lima et al., 2021; Bisal et al., 2022).

The country where most of the research published in the articles took place was Norway with five (30%) articles published (Bjørnsen et al., 2018; Granrud et al., 2019; Bjørnsen et al., 2019; Skundberg-Kletthagen & Moen, 2017; Potrebny, et al., 2021). The incidence of article publication in other countries occurred in the following order: three (18%) were published in the USA (Long et al., 2018; Teixeira et al., 2017; Bhatta et al., 2018), two (12%) articles were published in Brazil (Teixeira et al., 2017; Lima et al., 2021), one (6%) in Uganda (Carlson et al., 2021), one (6%) in Iran Shahraki-Sanavi et al., 2020), one (6%) in Australia (Marinucci et al., 2023), one (6%) in Portugal (Amaro et al., 2022), one (6%) in New Zealand (Tissera & Tairi, 2020), one (6%) in Pakistan (Imran et al., 2022) and one (6%) in England (Bisal et al., (2022).

The research method most used in the studies found in the articles was a quantitative exploratory study with seven (41%) articles (Bjørnsen et al., 2019; Bhatta et al., 2018; Amaro et al., 2022; Tissera & Tairi, 2020; Imran et al., 2022; Potrebny, et al., 2021; Bisal et al., 2022). The remaining articles used the following methods: three

(18%) qualitative ethnographic research (Granrud et al., 2019; Carlson et al., 2021; Lima et al., 2021), two (12%) qualitative exploratory studies (Teixeira et al., 2017; Skundberg-Kletthagen & Moen, 2017), one (6%) cohort study (Bjørnsen et al., 2018), one (6%) quasi-experimental study (Shahraki-Sanavi et al., 2020), one (6%) exploratory qualitative and quantitative research (Marinucci et al., 2023), one (6%) mixed methods research (Long et al., 2018), and one (6%) randomized controlled trial (Bai et al., 2018).

Three (18%) of the studies stood out for containing a high number of participants, being that: three hundred and sixty-eight thousand five hundred and seventy-nine participated in the study by Potrebny, et al., (2021), ten thousand three hundred and fifteen participated in the study by Bisal et al., (2022) and one thousand eight hundred and eighty-eight participated in the study by Bjørnsen et al., (2019).

Regarding the level of evidence: eleven (65%) articles presented level of evidence 4 (Bjørnsen et al., 2018; Bjørnsen et al., 2019; Shahraki-Sanavi et al., 2020; Long et al., 2018; Bai et al., 2018; Bhatta et al., 2018; Amaro et al., 2022; Tissera & Tairi, 2020; Imran et al., 2022; Potrebny, et al., 2021; Bisal et al., 2022) and six (35%) articles presented evidence level 6 (Granrud et al., 2019; Carlson et al., 2021; Marinucci et al., 2023; Teixeira et al., 2017; Skundberg -Kletthagen & Moen, 2017; Lima et al., 2021).

In this context, with the intention of singularizing the findings of the selected articles, through the elaboration of the table above, it became possible to concentrate the data to facilitate the analytical construction of the discussion around the theme of this integrative review article.

Table 3 – Information on selected articles.

| <b>N.º from the article</b> | <b>Author</b>           | <b>Goals</b>  | <b>Synthesis of Results and Conclusions</b>           | <b>Strategies for promoting the mental health of school adolescents.</b> |
|-----------------------------|-------------------------|---|---|--|
| 1                           | Bjørnsen et al., (2018) | Investigate Positive Mental Health Literacy in adolescents. | MEST has a positive effect on Mental Health Literacy. | - MEST is a promising strategy for school health services.               |

|    |                                |   |   |   |
|----|--------------------------------|---|---|---|
| 2  | Granrud et al., (2019)         | Describe interprofessional collaboration related to adolescent mental health problems.                  | Public health nurses had limitations as they depended on both the school principal and teachers.                                    | - Constant collaboration with teachers to increase visibility of the actions of public health nurses to support the promotion of mental health at school.                     |
| 3  | Carlson et al., (2021)         | Analyze the implementation of mental health interventions based on the Good School Toolkit.             | School tends to be a fertile place for interventions to promote mental health in adolescents.                                       | - Group interventions in partnership with teachers as facilitators.<br>- The Good School Toolkit helps with school mental health interventions.                               |
| 4  | Bjørnsen et al., (2019)        | Analyze mental health education by a school nurse.  | Positive mental health literacy is significant for adolescent mental well-being.  | - Positive mental health literacy and health promotion provided by the primary health care school nurse.  |
| 5  | Shahraki-Sanavi et al., (2020) | Investigate the effect of school interventions on mental health among adolescents.                      | There was a significant difference in mental health after the educational intervention.   | - Educational intervention for moderate to severe mental health problems.<br>- Individual support for emotional demands.  |
| 6  | Marinucci et al., (2023)       | Understand the school team's perspective on mental health literacy.                                     | School staff realize they are not mental health literate.   | - Programs for social and emotional learning for school employees.  |
| 7  | Long et al., (2018)            | Teach motivational interviewing strategies to improve the skills of teachers in a school environment.   | An isolated approach is unlikely to effectively affect the mental health outcomes of school-aged adolescents.                       | - Interventions by the primary care team in partnership with educators with a cognitive-behavioral approach adapted to school adolescents.                                    |
| 8  | Bai et al., (2018)             | Evaluate interventions to reduce health risk behaviors among adolescents with depressive symptoms.      | There are links between depression and health risk behaviors, supporting monitoring of both in patients.                            | - Enhanced usual behavioral health intervention reduces health risk behaviors and depressive symptoms.  |
| 9  | Teixeira et al., (2017)        | Analyze barriers to psychosocial care for young people.   | The network's care and coordination actions are fragile or non-existent.  | - Collaborative care is a strategy for psychosocial care for young people.  |
| 10 | Bhatta et al., (2018)          | Implementation of a screening test (PHQ-9) among adolescents cared for by school primary care services. | The screening protocol (PHQ-9) identified major depressive disorder among adolescents accessing school-based primary care services. | - Implementation of a protocol promotes depression screening among adolescents, with early diagnosis and treatment of major depressive disorder and improves health outcomes. |
| 11 | Skundberg - Kletthagen (2017)  | Explore experiences of nurses working in school health services.  | School nurses lack more information to care for students with mental disorders.   | - Implement education strategies for school nurses when working with adolescents with mental disorders.   |

|    |                          |  |   |   |
|----|--------------------------|--|---|---|
| 12 | Amaro et al., (2022)     | Assess the impact of training in young people's mental health on the practice of primary health professionals. | The primary health team must collaborate with different community structures, in consultancy and initiatives or projects. | - It is possible to recognize the significant impact that training actions seem to have had on the acquisition of new knowledge in child mental health. |
| 13 | Tissera & Tairi, (2020)  | Assess mental health literacy in adolescents.  | Education to treat mental problems benefits young people.   | - Early intervention actions to prevent the onset of mental disorders.  |
| 14 | Imran et al., (2022)     | Evaluate the effectiveness and feasibility of a School Mental Health Program.                                  | Promising results for mental health with early intervention in schools.   | - Educational interventions to improve mental health literacy among teachers.   |
| 15 | Potrebny, et al., (2021) | Investigate the use of primary mental health services.   | There may be barriers to seeking help.  | - Strategies to increase the use of primary mental health services.   |
| 16 | Lima et al., (2021)      | Understand primary care practices for young people with mental disorders.                                      | Primary care must provide care within the Brazilian Psychiatric Reform.   | - Home visits and presence in schools;<br>- I use social media to expand mental health support to young people.   |
| 17 | Bisal et al., (2022)     | Assess the acceptability and feasibility of offering On The Level to young people.                             | Low mental health rates in schoolchildren support On The Level in secondary schools.                                      | - The On The Level intervention provides tools to promote mental health to young people for mental health and well-being.                               |

Table 3 was prepared by the authors to summarize the data from each primary study included in the review, containing the following information: Author, Objectives, Summary of Results and Conclusions, Main strategies implemented in partnership with the primary care team that help promote the mental health of school adolescents. This table allowed the comparison and organization of data, according to their differences, similarities and the review question, which were critically analyzed and integrated.

Regarding the objectives of the studies, it was possible to reach the perception that of the 17 articles that make up this review, five (30%) of the articles (Bai et al., 2018; Amaro et al., 2022; Tissera & Tairi, 2020; Imran et al., 2022; Bisal et al., 2022) aimed to evaluate the impact, effectiveness and acceptability of interventions, three (18%) of the articles (Carlson et al., 2021; Bjørnsen et al., 2019; Teixeira et al., 2017) aimed to analyze the implementation, inclusion and barriers to promoting adolescent mental health, and also, three (18%) of the articles (Bjørnsen et al., 2018; Shahraki-Sanavi et al., 2020; Potrebny, et al., 2021) aimed to investigate the effect, result and association of interventions in school adolescents.

Regarding the main strategies implemented in partnership with the primary care team that help promote the mental health of school adolescents, it was identified that three (18%) of the articles were related to the theme referring to “relevance of the

Characteristics of Health Promotion Mental Health of School Adolescents in Partnership with the Primary Care Team”(Granrud et al., 2019; Bjørnsen et al., 2019; Lima et al., (2021), three (18%) of the articles were related to the theme “ Barriers to Promoting the Mental Health of School Adolescents in Partnership with the Primary Care Team” (Shahraki-Sanavi et al., 2020; Teixeira et al., 2017; Potrebny, et al., 2021), seven (41%) of the articles were related to the theme “Strategies for Promoting the Mental Health of School Adolescents in Partnership with the Primary Care Team” ((Bjørnsen et al., 2018; Long et al., 2018; Bai et al., 2018; Bhatta et al., 2018; Amaro et al., 2022; Imran et al., 2022; Bisal et al., 2022), four (24%) articles were related to the theme “Challenges for the Promotion of Mental Health in the School Adolescent in Partnership with the Primary Care Team” (Carlson et al., 2021; Marinucci et al., 2023; Skundberg-Kletthagen& Moen, 2017;Tissera & Tairi, 2020).

The main and Strategies for promoting the mental health of school adolescents highlighted were: MEST as a work strategy; Group interventions in partnership with teachers as facilitators; The “Good School Toolkit” helping with school mental health interventions; Positive school nurse mental health literacy; Educational intervention in moderate to severe mental health problems; Individual support for psycho-emotional demands; Cognitive-behavioral approach interventions adapted to adolescents; Collaborative care for psychosocial care for young people; Implementation of a protocol for screening depression among adolescents; Early intervention actions to prevent the onset of mental disorders; Educational interventions in mental health literacy among teachers; Carrying out home and school visits by primary health services; I use social media to expand mental health support to young people; “On The Level” provides mental health promotion and well-being to young people.

## **DISCUSSION**

The data analysis of this systematic review was carried out descriptively. With that, pFor a better organization of the data obtained from the creation of the table above, the results were divided into specific topics, grouping them according to the theme related to the information, with the aim of thematizing the discussions, as follows:

### **Relevance of the Characteristics of Promoting the Mental Health of School Adolescents in Partnership with the Primary Care Team**

The characteristics of promoting the mental health of school adolescents must be observed in the daily work process, especially in relation to the relevance given the applicability of actions in partnership with the primary care team in the activities carried out by each professional.

From this perspective, a qualitative research carried out with health nurses working in school health services in Primary Health Care in Norway found that they are considered important collaborators. However, to care for adolescents with mental health problems, public health nurses depend on the collaboration of other professionals in schools, but are not always included in interprofessional activities (Granrud et al., 2019).

It can then be understood that recognition, appreciation and interprofessional support are essential to strengthen the role and presence of public health nurses in schools, which can certainly benefit adolescents with mental health problems in high school.

In this sense, Bjørnsen et al., (2019) carried out a quantitative exploratory study that identified positive mental health literacy as a significant explanatory variable of adolescent mental well-being.

Therefore, it becomes possible to believe that the Primary Health Care school nurse is the profession with great relevance for providing positive mental health literacy education in schools.

Positive mental health literacy carried out by a Primary Health Care school nurse can then be suggested as an effective approach for adolescents such initiatives can positively influence their mental well-being.

Thus, for Lima et al., (2021), relevant aspects of the configuration of health care in Primary Health Care practices, which reveal, in everyday life, the configurations of mental health promotion actions through the presence of professionals in territories that require interprofessional collaboration such as schools, it sheds light on obscure fields where the topic of mental health, especially adolescent mental health, is inserted.

Therefore, the interaction of Primary Health Care teams with interprofessional collaboration, in addition to configurations of intersectoral articulations, must be provided with opportunities to enhance actions to promote adolescent mental health in all possible areas, especially at school.

## **Barriers to Promoting the Mental Health of School Adolescents in Partnership with the Primary Care Team**

Issues related to adolescents can be used to improve partnerships between schools and the primary care team in the most diverse areas, however, when it comes to promoting the mental health of adolescents at school, it is possible to see the existence of numerous barriers to their full health development.

With this, Shahraki-Sanavi et al., (2020) carried out a study whose results indicated that the Authorities and health policymakers must recognize that the large number of students suffer from serious mental health problems as an obstacle to be overcome. Therefore, identifying students' problems and cooperation between parents and teachers as well as consulting expert counselors can be effective in providing practical and effective solutions in this regard.

The results of the study described above showed that to provide mental health, the participation of professionals who work in Primary Health Care teams to promote the mental health of school adolescents in partnership with school counselors and parent education. In this sense, applying group training and individual counseling in schools tends to improve the quality of life for students with mental health problems.

It is in this context that it is worth highlighting the exploratory study, with a qualitative approach by Teixeira et al., (2017), which identified some of the main barriers to implementing mental health promotion actions, such as: lack of knowledge about the mode of care; problems related to the work process; and disarticulation of the intersectoral network with emphasis on the flow of partnership between school and Primary Health Care team.

Reflecting on the factors exposed above, it is possible to infer that the articulation of the intersectoral network assumes significant relevance in the context of psychosocial care for children and adolescents, considering the existence of a care gap in this field. Through this strategy, we seek to establish less fragmented care flows, allowing collaborative care to be recommended to improve the quality of psychosocial care aimed at this public.

From this perspective, the research conducted by Potrebny et al. (2021) investigated the barriers between the need and help-seeking behavior of young people who present high levels of psychological distress. It was observed that the pattern of use of services by young people with less suffering may indicate an excessive use of

services and activities to promote mental health, especially those offered in health establishments that are part of Primary Health Care.

Given this, it is essential that actors involved in promoting adolescent mental health understand the importance of addressing the psycho-emotional suffering that afflicts this age group. This approach must address the need for health care offered by Primary Health Care, especially in the school environment, which potentially encourages young people facing difficulties to seek appropriate help.

Understanding these aspects is an essential step towards improving psychosocial assistance, favoring the well-being and mental health of adolescents, as well as creating a more integrated and efficient care network.

### **Strategies for Promoting the Mental Health of School Adolescents in Partnership with the Primary Care Team**

The use of innovative strategies to promote the mental health of school adolescents as a tool used to facilitate the partnership between the school and the Primary Health Care team.

An example to be cited is a recently developed universal work strategy for school health services, especially Primary Health Care, which aims to promote positive mental health literacy and mental well-being in the adolescent population, is called MEST, in which the results of the studies point to MEST as a promising work strategy for school health services in promoting adolescent mental health (Bjørnsen et al., 2018).

In this way, it can be inferred that educational strategies such as MEST can be used as a basis for assessments and promotion of positive literacy in mental health, being considered a viable path and an important and effective instrument for Primary Health Care.

Research demonstrated among a large sample of elementary school teachers that a brief online role-play simulation increased teachers' preparedness, likelihood, and self-efficacy to respond to the mental health needs of students, youth, and adolescents. The training was effective in increasing helping behaviors, including increasing the number of conversations addressing mental health issues with students, parents, and colleagues (Long et al., 2018). This research has a potential impact on partnerships with schools to promote the mental health of school adolescents served by Primary Health Care.

Because Primary Health Care is an important environment that can provide preventive mental health care to young people, an educational psychosocial health intervention was carried out that produced benefits in reducing depressive symptoms. These results highlight the importance of monitoring health risk behaviors and depression (Bai et al., 2018).

When carried out in the context of Primary Health Care in partnership with schools, the designed educational interventions can reduce health risk behaviors among patients, school adolescents with depressive symptoms and health risk behaviors.

Research carried out by Bhatta et al., (2018) examined the implementation of routine screening performed with the Patient Health Questionnaire (PHQ-9) among school-aged adolescents attended by pediatric primary health care clinic services to identify adolescents at potential risk for major depressive disorder (MDD). In this regard, the implementation of the PHQ-9 depression screening protocol identified a substantial rate of major depressive disorder among school adolescents accessing Primary Health Care clinic services (Bhatta et al., 2018).

This early identification of major depressive disorder among school adolescents presents a high possibility of facilitating referrals to mental health professionals, potentially improving morbidity and mortality among adolescents.

Research carried out by Amaro et al., (2022) aimed to carry out training on child and adolescent mental health, aimed at doctors and technicians in Primary Health Care, where it was found that the primary health care team is a privileged area of articulation, with the potential to promote prevention and mental health promotion strategies, identify problems early, intervene in less serious cases and refer to specialized services in advance (Amaro et al., 2022). The mental health team must collaborate with different community structures, in consultancy, training, coordination or catalyzing initiatives, or projects, among which the school stands out.

The study carried out by Imran et al., (2022) showed that the interventions carried out led to a significant improvement in mental health literacy among teachers, which was largely sustained over time. This study also showed promising results in the context of mental health promotion, prevention and early intervention in schools.

Therefore, schools in partnership with Primary Health Care teams have an important role in promoting the physical and psycho-emotional health and well-being of

children, adolescents and young people, where mental health literacy of all interested parties, especially teachers.

In their research, Bisal et al., (2022) evaluated the implementation of an online mental health intervention program called On The Level, finding that this intervention had good feasibility and acceptability. Because of this, researchers supported offering this mental health intervention in UK secondary schools to educate teenagers and young adults about mental health and wellbeing and provide them with the tools they need to support their mental health.

In this sense, there is a need for innovative school-based mental health interventions to promote mental health with healthy coping strategies and engagement with support services such as Primary Health Care teams.

### **Challenges for Promoting the Mental Health of School Adolescents in Partnership with the Primary Care Team**

The implementation of activities in partnership with the Primary Health Care team still presents several challenges in improving the promotion of adolescent mental health at school.

Because of this, the implementation of interventions for the mental health of children and adolescents at school presents a major challenge for society, especially for Primary Health Care teams due to the potential advantages offered by school culture and environment (Carlson et al., 2021). However, there is a need to understand the implementation context and strategies for providing school mental health interventions, as some children and adolescents do not have easy access to psychosocial health services, making interventions for mental health problems difficult. .

In this context, the results of exploratory qualitative and quantitative research carried out by, indicated that school staff feel less competent to provide mental health literacy content and perceive that their training did not address mental health education compared to healthcare professionals allies (Marinucci et al., 2023). In this regard, a major challenge highlighted is the provision of training to address issues such as

seeking help and coping skills addressed in a school mental health literacy program that could be offered in partnership with Primary Health Care teams. .

As challenges, the need for nurses, especially those who make up Primary Health Care teams, to offer support and supervision to be able to assist and strengthen the mental health of school children and adolescents can be highlighted. To this end, school nurses must be considered professionals in the best possible position to offer early mental health identification to young people (Skundberg-Kletthagen& Moen, 2017).

The school nurse, as part of Primary Health Care, needs appropriate assessment tools, knowledge and adapted interventions. To achieve this, school nurses need to be confident in their knowledge and skills regarding mental health issues.

In this direction, another major challenge is the fact that there is still potential to further improve the mental health literacy levels of adolescents to multiply knowledge about mental disorders and appropriate treatments in partnership with part of Primary Health Care . This will ensure early recognition of mental illnesses, leading to appropriate and timely help-seeking behaviors and improved quality of life (Tissera & Tairi, 2020).

## **CONCLUSION**

Various strategies can be incorporated into the education sector partnership with the participation of Primary Health Care to promote the mental health of adolescent students.

For this to occur, the various barriers that emerge from everyday life in schools, as well as in Primary Health Care, must be overcome. This overcoming of setbacks can occur thanks to the application of innovative strategies to promote mental health among teenagers. These actions must be based on experience, creativity and scientific evidence that are part of the professional framework of these workers who must seek to work in partnership.

In this regard, it is worth noting that the numerous challenges that end up emerging are gaining more and more prominence on the global stage, in many cases, due to the relevance of the characteristics of promoting the mental health of school adolescents in partnership with the primary health care team.

Thus, it becomes possible to identify the potential of the actions and strategies undertaken by the practice of education and primary health care professionals, reinforcing the need for investment in spaces, materials and training of professionals to promote mental health of teenagers.

## REFERENCES

- Amaro , R. , Pinto , S. V. , Ribeiro , C. G. , Magalhães , M. F. , Duarte , N. A. , Sanchez , J. , Silva , P. C. da , Amaro , R. , Pinto , S. V. , Ribeiro , C. G. , Magalhães , M. F. , Duarte , N.A. , Sanchez , J. , & Silva , P.C. (2022).Let's talk about child mental health? A study of the impact of specialized child mental health training for primary care physicians and technicians. *Portuguese Journal of General and Family Medicine*, 38(6), 631–638. <https://doi.org/10.32385/rpmgf.v38i6.13096>
- Bai, Zeledon, D'Amico, Shoptaw, Avina, LaBorde, Anderson, Fitzpatrick, &Asarnow. (2018). Reducing Health Risk Behaviors and Improving Depression in Adolescents: A Randomized Controlled Trial in Primary Care Clinics. *Journal of Pediatric Psychology*, 43(9), 1004–1016. <https://doi.org/10.1093/jpepsy/jsy048>
- Bhatta, S., Champion, J. D., Young, C. A., & Loika, E. A. (2018). Outcomes of Depression Screening Among Adolescents Accessing School-based Pediatric Primary Care Clinic Services. (n.d.). *Journal of Pediatric Nursing*, 38, 8–14. <https://doi.org/10.1016/j.pedn.2017.10.001>
- Bisal, N., Miller, J. G., Cox, C., Carey, S., & Levita, L. (2022). Feasibility of a secondary school-based mental health intervention: Represents' On The Level..*Child and Adolescent Psychiatry and Mental Health*, 16(1), NA-NA. <https://doi.org/10.1186/s13034-022-00534-2>
- Bjørnsen, H. N., Espnes, G. A., Eilertsen, M.-E. B., Ringdal, R., & Moksnes, U. K. (2019). The Relationship Between Positive Mental Health Literacy and Mental Well-Being Among Adolescents: Implications for School Health Services. *The Journal of School Nursing*, 35(2). <https://doi.org/10.1177/1059840517732125>
- Bjørnsen, H.N., Ringdal, R., Espnes, G.A., Eilertsen, M.-E. B., & Moksnes, U. K. (2018). Exploring MEST: a new universal teaching strategy for school health services to promote positive mental health literacy and mental wellbeing among Norwegian adolescents.*BMC Health Services Research*, 18. <https://doi.org/10.1186/s12913-018-3829-8>
- Carlson, C., Namy, S., Nakuti, J., Mufson, L., Ikenberg, C., Musoni, O., Hopson, L., Anton-Erxleben, K., Naker, D., &Wainberg, M. L. (2021). Student, teacher, and caregiver perceptions on implementing mental health interventions in Ugandan schools. *Implementation Research and Practice*, 2. <https://doi.org/10.1177/26334895211051290>

Doyle, A. M., Mchunu, L., Koole, O., Mthembu, S., Dlamini, S., Ngwenya, N., Ferguson, J., & Seeley, J. (2019). Primary healthcare and school health service utilisation by adolescents and young adults in KwaZulu-Natal, South Africa. *BMC Health Services Research*, 19(1), NA-NA. <https://doi.org/10.1186/s12913-019-4559-2>

Galvão, C. M.. (2006). Levels of evidence. *Acta Paulista De Enfermagem*, 19(2), 5–5. <https://doi.org/10.1590/S0103-21002006000200001>

Galvão, T. F., Pansani, T. de S. A., & Harrad, D.. (2015). Key items to report Systematic reviews and meta-analyses: The PRISMA recommendation. *Epidemiology and Health Services*, 24(2), 335–342. <https://doi.org/10.5123/S1679-49742015000200017>

Granrud, M. D., Anderzén-Carlsson, A., Bisholt B., & Kjersti, A. (2019). Public health nurses' perceptions of interprofessional collaboration related to adolescents' mental health problems in secondary schools: A phenomenographic study - PubMed. *Journal of Clinical Nursing*, 28(15–16). <https://doi.org/10.1111/jocn.14881>

Imran, N., Rahman, A., Chaudhry, N., & Asif, A. (2022). Effectiveness of a school-based mental health intervention for school teachers in urban Pakistan. *Child and Adolescent Psychiatry and Mental Health*, 16(1), NA-NA. <https://doi.org/10.1186/s13034-022-00470-1>

Lima, A. M. de J., Andrade, E. Iola G., Perillo, R. D., & Santos, A. de F. dos. (2021). Views on Mental Health assistance in Primary Care at small cities: emergence of innovative practices. *Interface: Communication Health Education*, 25, 1w–1w. <https://doi.org/10.1590/interface.200678>

Lindow, J. C., Hughes, J. L., South, C., Abu Minhajuddin, Gutiérrez, L. H., Bannister, E., Trivedi, M. H., & Byerly, M. J. (2020). The Youth Aware of Mental Health Intervention: Impact on Help Seeking, Mental Health Knowledge, and Stigma in U.S. Adolescents. *Journal of Adolescent Health*, 67(1), 101–107. <https://doi.org/10.1016/j.jadohealth.2020.01.006>

Long, M. W., Albright, G., McMillan, J., Shockley, K. M., & Price, O. A. (2018). Enhancing Educator Engagement in School Mental Health Care Through Digital Simulation Professional Development. *Journal of School Health*, 88(9), 651–659. <https://doi.org/10.1111/josh.12670>

Marinucci, A., Grové, C., & Allen, K.-A. (2023). Australian School Staff and Allied Health Professional Perspectives of Mental Health Literacy in Schools: a Mixed Methods Study. *Educational Psychology Review*, 35(1). <https://doi.org/10.1007/s10648-023-09725-5>

Martinez , D. J. C. , Roa , J. A. S. , Dulčić , F. J. L. , & Ossandon , N. D. M. (2018). Subjective theories in teachers about learning and socioemotional development: A case study. *Journal Education*, 42(2), 250–271. <https://doi.org/10.15517/revedu.v42i2.25659>

Ministry of Health [M.S.]. (2023, June 6). National Primary Care Policy/Ordinance No. 2,436, of September 21, 2017. [https://bvsmms.saude.gov.br/bvs/saudelegis/gm/2017/prt2436\\_22\\_09\\_2017.html](https://bvsmms.saude.gov.br/bvs/saudelegis/gm/2017/prt2436_22_09_2017.html)

Oberto, M. G., Mamondi, V., Ferrero, M., & Sánchez, R. J. (2020). Report of a health promotion experience in schools: promoting hand washing. *Education Magazine*, 44(2), 360–385. <https://doi.org/10.15517/revedu.v44i2.37581>

Ojio, Y., Mori, R., Matsumoto, K., Nemoto, T., Sumiyoshi, T., Fujita, H., Morimoto, T., Nishizono-Maher, A., Fuji, C., & Mizuno, M. (2020). Innovative approach to adolescent mental health in Japan: School- based education about mental health literacy. *Early Intervention in Psychiatry*, 15(1), 174–182. <https://doi.org/10.1111/eip.12959>

Potrebny, T., Wiium, N., Haugstvedt, A., Sollesnes, R., Wold, B., & Thuen, F. (2021). Trends in the utilization of youth primary healthcare services and psychological distress. *BMC Health Services Research*, 21(1), NA-NA. <https://doi.org/10.1186/s12913-021-06124-w>

Rebello, M. I., Tavares, C. M. de M., Silva, T. N., & Tavares, M. de M. (2022). Nursing in Promoting the Mental Health of School Adolescents. *Pró-Universus Magazine*, 13(Special), 63–70. <https://doi.org/10.21727/rpu.v13iEspecial.3401>

Shahraki-Sanavi, F., Ansari-Moghaddam, A., Mohammadi, M., Bakhshani, N.-M., & Salehiniya, H. (2020). Effectiveness of school-based mental health programs on mental health among adolescents. *Journal of Education and Health Promotion*, 9. [https://doi.org/10.4103/jehp.jehp\\_421\\_19](https://doi.org/10.4103/jehp.jehp_421_19)

Silva, T. N. S., Silva, L. S. A. H. da, Rebello, M. I., Moccellini, M. C., Tavares, M. de M., & Tavares, C. M. de M. (2022). Importance of Knowledge of Relational Technologies in Adolescent Care in Primary Care: Theoretical Reflection. *Pró-Universus Magazine*, 13(Special), 112–118. <https://doi.org/10.21727/rpu.v13iEspecial.3421>

Skundberg-Kletthagen, H., & Moen, Ø. L. (2017). Mental health work in school health services and school nurses' involvement and attitudes, in a Norwegian context. *Journal of Clinical Nursing*, 26(23–24), 5044–5051. <https://doi.org/10.1111/jocn.14004>

Tavares, C. M. de M., & Barros, S. (2022). Training Programs in Adolescent Mental Health in the School Context: Literature Review. *Pró-Universus Magazine*, 13(Special), 29–39. <https://doi.org/10.21727/rpu.v13iEspecial.3430>

Teixeira, M. R., Couto, M. C. V., & Delgado, P. G. G. (2017). Primary care and collaborative care in psychosocial care for children and adolescents: facilitators and barriers. *Science & Public Health*, 22(6), 1933–1942. <https://doi.org/10.1590/1413-81232017226.06892016>

Tissera, N., & Tairi, T. (2020). Mental Health Literacy: New Zealand Adolescents' Knowledge of Depression, Schizophrenia and Help-Seeking. *New Zealand Journal of Psychology*, 49(1), 14–22. [https://www.psychology.org.nz/application/files/5815/9538/4269/Tissera\\_and\\_Tairi\\_14-21.pdf](https://www.psychology.org.nz/application/files/5815/9538/4269/Tissera_and_Tairi_14-21.pdf)

De Oliveira, M., Lima, V. M., Yamashita, S. M. A., Alves, P. S., & Portella, A. C. (2018). Experimental planning factorial: a brief review. *International Journal of Advanced Engineering Research and Science*, 5(6), 264164.

Vicari, T., Lago, L. M., & Bulgarelli, A. F. (2022). Realities of Family Health Strategy practices as forces establishing access to SUS health services: an Institutional Analysis perspective. *Health in Debate*, 46, 135–147. <https://doi.org/10.1590/0103-1104202213209>

WHO, World Health Organization(2013). *Mental health action plan 2013 - 2020*. <https://www.who.int/publications/i/item/9789241506021>

WHO, World Health Organization(2018). Adolescent mental health: Fact sheets, 2018. <https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health>

UNDER PEER REVIEW