Mental health help-seeking barriers, facilitators and interventions. A systematic review

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Abstract
Background: Increasing rates of mental health problems among adolescents are alarming. Teens who are most in need of mental health attention are reluctant to seek help. A better understanding of the help-seeking in this population is crucial to overcome this gap.
Methods: Five databases were searched to identify the principal barriers, facilitators and interventions targeting help-seeking for common mental health problems in adolescents aged 10-19 years. The search was performed in June 2018 and updated in March 2019. Two independent screening processes were made using the eligibility criteria. Quality assessment of each study was performed and findings summarised using a narrative synthesis.
Results: 90 studies meet the inclusion criteria for this review for barrier and facilitators (n=54) and interventions (n=36). Stigma and negative beliefs towards mental health services and professionals were the most cited barriers. Facilitators included previous positive experience with health services and mental health literacy. Most interventions were based on psychoeducation, which focused on general mental health knowledge, suicide and self-harm, stigma and depression. Other types of interventions included the use of multimedia and online tools, peer training and outreach initiatives. Overall, the quality of studies was low to medium and there was no general agreement regarding help-seeking definition and measurements.
Conclusion: Most of interventions took place in an educational setting however, it is important to consider adolescents outside the educational system. Encouraging help-seeking should come with the increased availability of mental health support for all adolescents in need, but this is still a major challenge for Child and Adolescent Mental Health Services. There is also a need to develop shared definitions, theoretical frameworks and higher methodological standards in research regarding help-seeking behaviours in adolescents. This will allow more consistency and generalisability of findings, improving the development of help-seeking interventions and ensuring timely access to mental health treatments.
Key Points
-This systematic review updates previous reviews on the barriers and facilitators to mental health
help seeking in adolescents and is the first to include interventions addressing this.

-Stigma was the main help-seeking barrier and previous experience with mental health services the most relevant facilitator.

-There are a wide range of interventions targeting help-seeking. Psychoeducation initiatives focused on addressing stigma and depression appeared the most promising.

-A number of methodological issues were identified in this review, affecting the overall quality of the findings.

-Addressing these methodological challenges, as well as considering the specific needs of adolescents will be crucial to improving help-seeking for mental health problems and developing interventions for this population.

Introduction
Young people present with the highest prevalence of mental health disorders compared to individuals at any other stage of the lifecycle [1], with up to 20% of adolescents likely to experience mental health disorders [2]. Around 50% of mental health conditions start before the age of 14 [3] and the onset of 75% of cases is before the age of 18 [4]. The most common diagnoses are depression and anxiety [4–5] and around 25% of young people experience psychological distress [6]. Depression is one of the principal causes of illness and disability in teenagers, and suicide is the third most common cause of death among older adolescents [3]. Mental health problems can significantly affect the development of children and young people [3] having an enduring impact on their health and social functioning in adulthood [7]. Adolescents experiencing mental health conditions may face several challenges such as isolation, stigma, discrimination and difficulty in accessing health services [2]. However, 75% of adolescents with mental health problems are not in contact with mental health services [8], the primary reason being reluctance to seek help [1–9–10].

Help-seeking for mental health problems necessitates communicating the need for personal and psychological assistance to obtain advice and support. Rickwood and Thomas’ (2012) define help-seeking for mental health problems as “an adaptive coping process that is the attempt to obtain external assistance to deal with mental health concerns” [11, p.180]. This includes both formal (e.g.,
health services) and informal (e.g., friends and family) sources of help. However, adolescents most in need of psychological help are those least likely to look for it [1-12]. One of the biggest challenges in adolescent mental health is ensuring that at-risk individuals are linked with the appropriate support [13]. Understanding barriers and facilitators to help-seeking is fundamental for the development of interventions and programmes to support adolescents with mental health problems. Rickwood et al., (2005), investigated the main barriers and facilitators of help-seeking for mental health problems in young people. They found that lack of emotional competence, negative beliefs about help-seeking and stigma were the most prominent barriers. Conversely, emotional competence, previous positive experiences with health professionals and mental health literacy, were the main facilitators [14]. Gulliver et al., (2010) performed a systematic review of the available literature at that time, finding similar results; however, they stated that stigma was the most prominent barrier for seeking for help in young people [1]. Another systematic review was made by Rowe et al., (2014), focused on in help-seeking for adolescent self-harm. They found that in addition to stigma, negative reactions from others related to confidentiality breaches and being seen as an “attention seeker” were the most relevant obstacles [9]. While interesting, these previous reviews do not address the help-seeking barriers and facilitators of most common mental health troubles among adolescents, nor include interventions targeting these. Rickwood, Deane et al., (2005) only included depressive symptoms, personal emotional problems and suicidal thoughts and Rowe et al. (2014), only focused on adolescent self-harm. The most complete review published by Gulliver and colleagues (2010) is almost ten years old and need of updating.

Adequate and effective interventions that promote help-seeking are necessary for enhancing prevention, early detection, timely treatment and recovery from mental health problems [13]. Previous systematic reviews on interventions targeting help-seeking reveal some promising results in regard to enhancing mental health literacy [15] and a significant positive overall effect of these interventions in improving help-seeking for mental health problems [16]. Nonetheless, these reviews do not focus on adolescent populations and only one includes randomised controlled trials (RCT). The primary aim of this review is therefore to provide an update of the literature on barriers and
facilitators of adolescent mental health help-seeking, with the inclusion of interventions targeted at improving this. We will focus on common mental health problems, including depression, anxiety, suicidal thoughts, self-harm, emotional distress, among other personal-emotional symptoms. The secondary outcome is to examine any significant differences between age and sex. Understanding the difficulties around help-seeking behaviours and facilitating access to timely and effective treatment is essential for preventing the escalation of mental health problems among adolescents.

Methods
For the purpose of this review, help-seeking was defined as the action of actively searching for help for mental health problems, including informal (family, friends) or formal (GP, mental health professionals, etc.) sources, based on interpersonal and social abilities [11]. “Adolescents” were people aged 10 to 19 years, as defined by the World Health Organisation [3]. This review was prospectively registered on PROSPERO (CRD42018096917) and reported in accordance with the PRISMA guidelines [17]. The search terms were developed using the PICO structure, then expanded using MeSH terms and combined using Boolean operators. Four databases were selected including MEDLINE®, Embase, PsycINFO, and Web of Science, as well as the search engine Google scholar. Grey literature from the mentioned databases was also included and a search was carried in Open Grey. An initial version of the proposal for this study was reviewed by the McPin Foundation. The feedback was considered in the developmental stage, in order to evaluate the relevance and reception of the protocol by Patient and Public Involvement (PPI) organisations.

We included studies published in English, Spanish and French and focused on identifying barriers, facilitators and interventions targeting help-seeking behaviours for mental health problems in adolescents, specifically depression, anxiety, suicidal ideation, emotional distress and general symptoms of mental illness. Other mental health problems such as psychosis, anorexia, among others were excluded, because we decided to focus on most prevalent mental health problems which share a more similar help-seeking process. All study designs were considered, including feasibility studies and study protocols. We excluded studies that referred to young people over the age of 19 or children under 10 years old. When study populations included adolescents outside of the established age
range, the paper was included if over 50% of the individuals in the sample were within the 10–19 years category or if separate outcome data was provided for the participants in this age range. Studies meeting the inclusion criteria and including parents in their sample were also considered. Finally, other exclusion criteria were articles written in other languages, or if the intervention did not explicitly target help-seeking behaviours or was not related to mental health conditions (Appendix S1).

Once the search was performed, the results were exported to EndNote X8 and duplicates were removed. Titles and abstracts were screened by one author (AA) at the first stage. At a second stage, two authors (AA and IS) checked the full articles using the pre-determined inclusion and exclusion criteria. A third member of the research team (MJ) was available to solve discrepancies. Authors were when relevant information was missing or when we could not find the articles retrieved by the databases. Reference list of all included studies were screened in case we found other studies relevant to our review. Data were extracted using a predefined form, which allowed the research team to identify the main characteristics of each study. This process was executed by one author (AA) after a complete review of the included papers, and an independent data extraction process was performed for each of the two questions. For the first question, data extraction focused on identifying barriers and facilitators and for the second question, intervention and effect size when reported. We created an additional form to extract data regarding the secondary outcome (age and sex). For the quality assessment, we used the Joanna Briggs Institute Critical Appraisal Checklist [18] and the Mixed Methods Appraisal Tool (MMAT) [19], which were appropriate due to the variety of study designs included in this review; both have been previously validated [20-21]. The Joanna Briggs tool has a number of checklists to evaluate the main features of each study design. We used the checklist for cross-sectional studies, RCT, quasi-experimental studies and qualitative studies. Each checklist had a number of item to evaluate the most relevant aspect of the specific design (e.g: for RCT was allocation to treatment groups concealed? Were treatment groups similar at the baseline?). After completing the checklist an overall quality appraisal score was calculated to provide a measure (low, medium and high) of the quality of each study. The MMAT included a similar checklist but is specific to
mixed method design. Overall study quality was not used as an exclusion criteria because we opted to be overly inclusive and provide a thorough overview of help-seeking in adolescents. Results have been summarised using a narrative synthesis. We identified the most relevant features regarding help-seeking barriers, facilitators and interventions. These features were grouped into themes that capture the essential aspects regarding the main outcome of this review. Due to the heterogeneous nature of the studies included, a meta-analysis was not conducted.

Results
Two independent searches were carried out during June 2018 and then updated in March 2019. A total of 90 studies were included in this review, combining both barriers and facilitators (n = 54) and the intervention (n = 36) questions. PRISMA diagrams displaying the number of papers retrieved and the process of selection of the included studies is available in Figures 1 and 2. Regarding the inter-rater reliability for this review, the agreement between the researchers screening the papers was high, with a 85% accuracy and 95% precision (Kappa = 0.954). Disagreement on twelve studies was attributed mainly to differences concerning the definition and measurement of help-seeking, and was resolved in a discussion with a third author (MJ) not involved in the process of screening.

[Figure 1 and 2: Prisma flow chart for question 1 and 2]

Question 1: Help-seeking barriers and facilitators
Fifty-four studies that reported barriers and/or facilitators were included in the narrative synthesis (Table 1). The majority of the studies were cross sectional (n = 36) [22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57], thirteen studies were qualitative [58-59-60-61-62-63-64-65-66-67-68-69-70] and six used a mixed-method design [71-72-73-74-75-76]. Three PhD dissertations and one conference abstract were included in the grey literature. The sample size varied from 6 to 10,123 participants, and the age ranged from 8 to 26 years old. Three articles included adolescents and their parents, while one article included just adolescents’ mothers. Three studies focused on the rural population, and six studies on minority ethnic groups, refugees and immigrants.

The majority of studies were conducted in educational settings, such as schools (n = 24) and tertiary education (n = 11) focusing in non-clinical samples. Sixteen studies included participants from other
community settings and two studies were conducted in mental health care facilities. Among the studies that include actual help-seekers (n = 7), the most common reason for seeking help was suicidal ideation, self-harm, depressive symptoms, and general mental health concerns (e.g., anxiety/nervousness/fear). Therefore, the conclusion drawn by the majority of the articles were based on help-seeking intentions rather than actual behaviours, since the participants were not experiencing mental health problems and focused on hypothetical scenarios.

More than half of the included studies (n = 30) made reference to stigma and other negative attitudes towards mental health problems as the main obstacle to help-seeking behaviours in adolescents. Of these, twenty-five studies referred to stigma as the primary obstacle, describing it through different concepts such as, “stigma”, “fear of stigmatisation”, “community stigma”, “perceived stigma” and “self-stigma. Other negative attitudes towards mental health problems included shame, fear, and embarrassment. Moreover, fears of adverse reactions from others may also act as a prominent barrier. For instance, Ijadi-Maghsoodi and colleagues (2018), found that the fear of being judge as not being able of “handling your own problems” and being judge of being wimp and weak, prevented adolescents of seeking help for mental health problems [69].

The second most mentioned barrier was associated to adolescents’ family beliefs toward mental health services and treatment (n = 15). Barriers related to problem with communication and distrust towards health professionals, negative past experiences with mental health services, and believing that the treatment is not going to be helpful. This was especially true for studies including immigrant and refugee populations, which referred to cultural barriers including mistrust of mental health diagnosis and practitioners, and lack of cultural sensitivity in services as a significant barrier.

Almost one-third of the articles (n = 14) referred to problems related to mental health literacy as a significant barrier, including poor recognition of mental health conditions (self and others) and lack of awareness of available sources of help. Adolescents’ attitudes towards help-seeking revealed a perceived need of self-sufficiency and autonomy were recognised as a relevant barrier in twelve studies, as well as fears of confidentiality breaches. Six studies focused on the relationship between symptomatology and help-seeking. These found that higher levels of psychological distress, suicidal
ideation and depressive symptoms were linked to lower help-seeking behaviours.

To a lesser extent, problems regarding service and personnel availability and other structural factors (such as cost, transportation and waiting times) were mentioned as obstacles to help-seeking ($n = 8$). Most of the studies did not identify these structural elements. However, it was a significant barrier for studies including rural and immigrant populations, and in studies that included parents in their sample.

Of the 56 included studies, 19 also referred to facilitators of help-seeking behaviours. Mental health literacy and prior mental health care were the most cited facilitators for help-seeking for mental health problems ($n = 10$). Specifically, timely access to mental health was facilitated by having a previous positive experience with mental health services or help-seeking, being familiar with the sources of help, and good symptom and problem recognition. Higher engagement with the community and having a trusting and committed relationship with relevant adults such as parents, school teachers and counsellors also facilitated seeking help among adolescents. Further details of the included articles are available in Table 1.

Secondary outcome

Few studies identified a significant difference when comparing younger and older adolescents in relation to barriers and facilitators to help-seeking, with no conclusive findings being reached. Some findings suggested that older adolescents tended to establish to feel more comfortable with people with mental health issues [77], and had less help-seeking fears [36]. In contrast, younger adolescents had greater knowledge about professional sources of help [30]. Only one study found a significant difference between ages regarding help-seeking, with younger adolescents reporting higher intentions of seeking help [56].

Twenty-four studies examined possible gender differences in help-seeking barriers and facilitators. Seven studies did not find significant differences between genders [65–35–38–42–24–36–47]. One study reported higher help-seeking intentions in males experiencing suicidal intentions [56] and two studies found that females perceived more overall barriers [54–22]. However, this may be related to higher rates of females seeking help for mental health problems compared to males [27–29–33–38–
Studies reviewed did not evidence convincing differences between gender in relation to help-seeking.

[Table 1]

Question 2: Help-seeking interventions

Thirty-six studies on interventions targeting help-seeking behaviour were included in the review (Table 2). All studies were conducted in educational setting including high school (n = 35) and college (n = 1). The majority of studies developed interventions for non-clinical samples, and their focus was the prevention of mental health problems and the promotion of healthy coping strategies via help-seeking behaviours. Outcomes varied between help-seeking intentions, attitudes and behaviours. Almost half of the studies focused on the effectiveness of the interventions, while sixteen were feasibility or pilot trials and study protocols. Most of the studies used a quasi-experimental design (n = 21) followed by randomised controlled trials (n = 15). The age of participants ranged from 11 to 19 years old, although one study that included participants under 29 years old was incorporated as more than half of the sample were adolescents. The sample size ranged from 14 to 6551 participants. Most studies had a comparison group (no intervention, waiting list and other interventions) and eight had no control group. Interventions were delivered using four main methods: psychoeducation, outreach interventions, multimedia tools and peer leader training.

Types of intervention

Psychoeducation

Most of studies (n = 23) used psychoeducation and classroom-based interventions. Although all the interventions focused on encouraging help-seeking behaviours, the emphasis and content differed among them, including general mental health topics, suicide and depression awareness and stigma. Psychoeducation interventions were based on the notion that promoting mental health awareness and wellbeing could enhance mental health literacy, promoting self-management and help-seeking. Five studies developed such programmes, helping adolescents to identify warning signs and sources of help when experiencing psychological and emotional distress [78–79–80–81–82].

Four interventions targeting help-seeking for suicide were identified within five studies. One was a suicide awareness programme [83], prompting adolescents to seek help from adults by focusing on
psychoeducation. Three suicide prevention programmes focused on increasing mental health literacy and providing guidance about formal sources of help [84–85–86–87].

Five interventions explicitly targeted help-seeking for depression in school-based settings their focus being to educate the school population about adolescent depression and thereby encourage help-seeking [88–89–90–91–92].

Two studies evaluated the effectiveness of an intervention combining depression awareness and a suicide prevention programme focused on providing general information about teen depression, including recognising early signs of suicide risk, help-seeking strategies for self and others, promoting early identification and self-referral [93–94].

Six classroom-based interventions addressing stigma were identified, two of which used psychoeducation to overcome myths regarding mental illness [95–96] and four focused on providing interpersonal contact with people with mental health conditions in order to improve acceptance and increase help-seeking intentions [97–98–99–100]. One intervention [99] had a particular focus on the male population within the school setting, working with male role modelling and normalisation of mental health problems.

Outreach interventions
Three studies used outreach interventions to target mental health help-seeking [101–102–103]. These aim to establish contact with adolescents who may be experiencing psychological and emotional distress in order to help them get the attention they need and increase their access to health services. They were based on the Building the Bridges to General Practice (BBGP) programme, developed by Wilson et al. (2005), a programme that aims to target help-seeking obstacles for physical and psychological problems by promoting contact between high school students and general practitioners [104].

Multimedia interventions
Six types of multimedia interventions have been developed to address some of the difficulties of reaching an adolescent population, such as fear of confidentiality breaches, stigma and self-reliance [77–105–106–107–108–109].

The interventions included interactive films to engage
students with mental health related topic and online platforms providing personalised information regarding the decision-aids process.

Peer training interventions

Peer training interventions focused on the training of peers who act as active agents of change and social interactions incorporated into the daily activities within the school environment [110]. These interventions are based on the notion that most adolescents are more likely to seek emotional support from friends; therefore, targeting specific individuals within the school context could be crucial in terms of enhancing mental health literacy, social connectedness and appropriate help-seeking behaviours. All three programmes followed similar principles concerning improving the climate around mental health problems, promoting social connectedness, and challenging norms and behaviours associated with help-seeking [111–114–115–116]. “Peer leaders” acted as a link between the student population and mental health literacy, promoting the acceptability of seeking for help for mental health problems. Further details of the included articles are available in Table 2.

Secondary outcome

No studies referred to significant differences concerning the effectiveness of help-seeking interventions when comparing ages. No significant gender differences were identified regarding the effectiveness of the help-seeking interventions [83–95–97–105]. However, before the intervention females tended to have higher mental health literacy and more adaptive attitudes regarding mental health problems [85–105], including greater help-seeking knowledge and intentions [101–106–107].

[Table 2]

Effectiveness

The main goal of this review was to describe the interventions targeting help-seeking in adolescents and therefore did not include an analysis of their effectiveness. Almost half of the included studies were study protocols and feasibility studies, so effect sizes were not reported. However, some findings are worth mentioning.

Four studies which looked at effectiveness of the interventions focused on psychoeducation about depression found a significant effect in increasing help-seeking. King et al., [93] identified that there
was an increase in future help-seeking behaviours after the interventions and that this was maintained at three months’ follow-up \((t = 4.634/ p<.001)\). Strunk et al., [94] found a significant increase of help-seeking \((p0.0005)\); however, this was not sustained at follow-up \((p = 0.014)\). Robinson et al.,[89] found that the intervention group was more likely to seek help at post-test (Odds ratio \((95\% \text{ C.I}) = 3.48 \ (1.93, \ 6.29), \ p0.0001)\) and Ruble et al., [90] found increased intention of help-seeking from others after the intervention \((t = 13.658/ p0.0001).\)

The three studies that looked at the effectiveness of stigma reduction identified positive effects of the intervention on help-seeking. Two studies [95–98] found a significant reduction in self-stigma surrounding seeking help after the intervention \((p0.05)\) and one study [97] found a significant effect of the intervention in help-seeking intentions \((\text{Wilks’} =.942, \ F \ (4,417) = 6.428, \ p0.001)\).

Finally, all the studies that focused on outreach found a significant effect of the intervention in help-seeking intentions. One detected an increase in intentions at three months follow-up \((F(2,217) = 3.04/ p0.05)\) [102], Rughani [101] found short terms improvements in help-seeking intentions \((F \ (14,225) = 1.87 \ p <.03)\)and Wilson [103] found a significant effect in the intention of seeking help for psychological problems after the intervention \((F(2,598) = 4.31 \ p0.01)\).

Quality assessment

The majority of the studies were low to medium quality with moderate to high risk of bias. Most of the cross-sectional studies did not state a clear inclusion and exclusion criteria and did not consider possible confounders affecting the interpretation of the outcome. Regarding qualitative research, the most common problem was linked to sample size and the difficulty of providing a clear strategy to address the subjectivity of the authors in the interpretations of the data. Mixed method studies presented some inconsistencies in addressing specific components of both quantitative and qualitative traditions, and in the process of integrating both approaches. Regarding intervention studies, it was difficult to identify to what extent the groups were similar at baseline. Although some studies included baseline measures of demographic information, most of them did not consider confounders or other factors influencing effectiveness, and some studies did not have any baseline measures. Also, few studies included follow-up and the ones that did, had high attrition rates and
short follow-up periods (up to 6 months); therefore, it is not possible to attribute a long-lasting effect to the interventions. Quasi-experimental studies acknowledge possible selection and sample bias. Randomised controlled trials presented difficulties in terms of the blinding of the research team and participants at different stages of the process. Overall there was inconsistency regarding the measurements of help-seeking, with most of the studies focusing on help-seeking intentions, which is not necessarily related to future behaviours. Moreover, many studies did not use valid and reliable instruments for measuring help-seeking. This is especially true for the experimental studies since most of them developed tools focused on their intervention rather than standardised help-seeking measures. Finally, most of the studies only used self-report measures, increasing the risk of bias of the findings. We did not assess the quality of study protocol, feasibility studies and pilot studies.

Discussion

Question 1: Barriers and facilitators

This review focused on identifying barriers, facilitators and interventions targeting help-seeking behaviours in adolescents. Consistent with previous findings [1], the most prominent barrier identified was stigma. Negative attitudes and beliefs about mental health services and professionals was the second most prominent barrier. Trusted and strong relationships with possible gatekeepers (teachers, parents, GPs, health professionals, etc.) and prior positive help-seeking experience were the most cited facilitators.

Few studies related symptom severity with help-seeking. Of those that did, higher symptomatology was associated with lower help-seeking intentions and behaviours. This is in line with previous studies suggesting that teens who are most in need are less likely to seek help [1–10–12]. It is possible that the nature of mental health symptoms such as self-blame, emotional distress, difficulty in speaking to others and diminished cognitive ability contribute to lower help-seeking behaviours. Adolescents with higher symptom severity may be even more vulnerable experiencing difficulties with the help-seeking process in areas such as identifying the need for professional assistance or fear of stigmatisation. This could be due to higher rates of isolation and exclusion from their peers. Increasing mental health
literacy among this population may provide a way of improving social support between peers [115]. There are structural barriers affecting the help-seeking process that go beyond attitudes, for example, costs, waiting times and transportation. These barriers were not among the most prominent reasons cited in the research review; however, this may be related to the limited amount of studies that included parents’ perceptions. A previous review, which focused on the parents of children and adolescents, concluded that structural barriers were the most relevant [116]. This suggests that adolescents are less worried about the practical implications of accessing help for mental health problems and are more affected by being attitudinal barriers, but that structural barriers may be more relevant to parents.

Key facilitators to help-seeking should be considered when creating new interventions such as trusted relationships with gatekeepers, and familiarisation with the help-seeking process. However, the lack of studies focusing on facilitators precludes many conclusion being drawn. The majority of studies used sub-clinical samples an/or hypothetical help-seeking scenarios rather than asking genuine help-seeker with mental health problems who could refer to the real circumstances leading them to ask for help. More research including young people who have sought help from services would be useful in understanding the idiosyncrasies of this process.

These findings provide a useful overall picture of the relevant factors influencing the help-seeking process in adolescents. However, the included studies did not share a clear definition and framework regarding help-seeking. A wide range of tools were used to measure help-seeking, varying in their validity and reliability, and also in the constructs they measured. This limits the generalisability of the findings and the our understanding of the help-seeking process. Rickwood & Thomas (2012) have proposed a framework regarding help-seeking, identifying the different parts of the process, sources of help, types of help and main concerns [11]. In the future, sharing such a framework could be a useful means to reach a general agreement regarding the definition of help-seeking and its components.

**Question 2: Interventions**

The types of interventions varied considerably and included classroom-based psychoeducation,
outreach interventions, multimedia and online-based interventions and peer training. Among classroom-based psychoeducation interventions, the most effective ones were those focused on prompting help-seeking through addressing depression and stigma. All peer outreach interventions had a significant effect in improving help-seeking intentions, thus showing promising results. In sum, addressing stigma, mental health literacy, and attitudes towards mental health services could be beneficial in terms of promoting help-seeking.

Most of interventions studies included on this review did not investigate mechanisms of change with regards to help-seeking behaviour. The relevance of studying underlying mechanisms and practical requirements related to the functionality of interventions has been previously discussed [117], and most of the interventions included in this review did not refer to these processes. Identifying such mechanisms could help understand how interventions work, enlightening and optimising the process of decision-making and design [87]. Adolescence is a period essentially characterised by emotional, behavioural, hormonal, and neuronal changes [118–119]. Interventions congruent with the developmental stages may be useful to target age-appropriate factors.

All interventions were conducted within an educational setting. Special attention should also be paid to young people outside of the educational system, who are particularly vulnerable in terms of economic and social deprivation [103]. Around one in five children and adolescents are out of school according to the UNESCO [121], with psychosocial factors appearing to obstruct traditional educational trajectories [122]. Health and mental health conditions have a relevant role in terms of absenteeism and truancy [123]. Adolescents experiencing symptoms of depression and anxiety or in charge of a chronically sick relative can be more prone to avoid school and stay at home. These children can be even more vulnerable and harder to reach, and there is a lack of collaborative effort attempting to overcome this situation. Encouraging partnerships between the health and educational systems, community settings, youth detention centres, among other institutions providing social care, should be promoted with the purpose of supporting mental healthcare and provision for young people [124].

Encouraging adolescents to seek help for mental health problems is a key priority however, this does
not resolve the discrepancy between needs and resources worldwide [124-125]. “Mental health services for children and adolescents have internationally been poorly understood, underfunded and even neglected by governments” [126, p.92]. This may be associated with the lack of a general understanding of this population’s needs (including developmental issues), and the “implementation gap”, referring to the challenges of translating evidence to health service development and practice [126]. Simultaneously, focusing on increasing help-seeking and service availability for children and adolescents is necessary to reduce the global burden of disease and protect the future health of this population [119-128].

Limitations
This review has a number of limitations. First, we included 5 databases and one search engine, so it is possible that some relevant articles were not captured by our search strategy. We addressed this by hand searching the reference lists of all included studies and developed an over-inclusive search strategy. Second, only one author performed the data extraction and critical appraisal of papers therefore the data analysis is at risk of some subjectivity. Third, there is an increasing debate regarding the age that adolescence comprises, with some suggesting the age should be extended to 10 to 24 years old [129]. However, we decided to follow the definition of adolescent stablish by international organisation including the OMS and UNICEF. A significant number of papers were excluded considering our age range (n = 104). Defining adolescence as a period between 10 to 19 years old could be a limitation to our study. Fourth, this review focused on common mental health problems such as depression, anxiety and emotional distress and excluded psychiatric conditions such as anorexia, schizophrenia and substance misuse, mainly due to the particular nature of the help-seeking processes. However, the exclusion of substance misuse problems could be seen as a limitation of this study due to its high prevalence in adolescence, making it a particularly sensitive issue during this period of life [130]. Finally, this review prioritised the overinclusion of studies to have an overall picture of the existing evidence regarding help-seeking for mental health problems in adolescents. As a result, low quality studies were included in the analysis and may affect the interpretation of the findings.
Conclusion
In conclusion, stigma and negative beliefs about mental health services appear as the most significant barriers to help-seeking, whereas previous positive experiences with services and good mental health literacy are the most relevant facilitators. There are a number of interventions being developed to promote help-seeking for mental health problems in adolescents, and most of them take place in high education settings. They include a range of delivery methods including psychoeducation, stigma and depression awareness campaigns, online tools and peer training. Since such initiatives are relatively new, there is a need for more trials, with longer follow-up periods and the use of reliable and validated tools focused in future help-seeking behaviour. Despite school seeming to be the ideal setting for deploying these interventions, it is important to consider adolescents outside the school system who may be in more need of attention for psychosocial and mental health problems.

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Tables

| 1st author, year, country | Study design            | Sample size (n=) | Age and setting                  | Barriers                      |
|----------------------------|-------------------------|------------------|----------------------------------|-------------------------------|
| Bates, 2012, Canada        | Cross sectional survey  | n=193 students   | 11 to 15 years old high school students | Students: “r help”, stigma sufficiency, coercion. |
| Study                                      | Design               | Sample Size | Sample Characteristics                                                                 | Findings                                                                 |
|-------------------------------------------|----------------------|-------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Boyd, 2011, Australia                     | Cross sectional      | n=201       | 11 to 18 years old students in rural high school                                        | Perceived limited service availability, social proximity and gossip, travel and cost of service, limited knowledge of sources of help, fears of confidentiality |
| Buttigieg, 2016, Malta                     | Mixed Methods        | n=494       | 14-15-year-old high school students                                                      | Need for autonomy, embarrassment, poor mental health literacy, stigma, higher levels of depressive symptoms |
| Charman, 2010, Australia                  | Qualitative          | n=20        | 16-26 (mean 17.7 years) members of community groups                                       | Confidential concerns and stigma, high confidentiality                     |
| Chen, 2017, Malaya                        | Cross sectional      | n=277       | 13-20-year-old high school students                                                      | Stigma, fear, lack of courage, doubt about counsellor competency          |
| Cheng, 2013, United Kingdom               | Cross sectional      | n=67        | Parents of Chinese students in language school living in England.                       | Knowledge about help-seeking, language barriers                            |
| Cramer, 2017, United States               | Cross sectional      | n=396       | 14-17-year-old high school students                                                      | Stigma, higher levels of emotional difficulties, personnel and service availability |
| Curtis, 2010, New Zealand                 | Mixed Methods        | n=1896      | 18-24 years old (60.2% under 20) university                                             | Stigma and need for self-reliance                                        |
| Czyz, 2013, United States | Cross sectional | n=157 | 18-22-year-old (77.1% under 20) college students at elevated suicide risk | Perception that treatment is needed, lack of time, self-management and stigma |
|--------------------------|-----------------|-------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Dardas, 2017, Jordania   | Cross sectional | N=2349 | 12-17 year-old high school students                                                               | Higher depressive symptoms, levels of stigma                              |
| De Anstiss, 2010, Australia | Qualitative     | n=85  | 13-17 years old, refugee adolescents living in Australia                                           | Low priority health, poor health literacy, distrust in services, stigma |
| Doyle, 2017, Ireland     | Mixed methods   | n=856 | 15-17-year-old students in post-primary school                                                    | Dislike of dual role of counsellor/teacher, confidentiality concerns.     |
| Fukuda, 2016, Brazil     | Cross sectional | n=1,030 | 8-21-year-old school students receiving mental health treatment                                  | Fear of stigmatisation and problem denial                                |
| Flink, 2013a, The Netherlands | Qualitative   | n=41  | Mother of teen daughters (aged 12-20) from different ethnic backgrounds                            | Negative attitudes to GP, inaccessible mental health services by daughter |
| Flink, 2013b, The Netherlands | Qualitative   | n=50  | 12-20-year-old female adolescents from different ethnic backgrounds                              | Minority ethnic groups: fear of negative judgements and gossiping.      |
| Study | Design | Sample Size | Key Findings |
|-------|--------|-------------|--------------|
| Gonzlaves, 2012, Portugal | Qualitative | n=39 | 12-17 years old immigrant attending to school, parents, teachers and health professional. |
| | | | Adolescents on self-support, shyness, fear, language gap. |
| Family: fees, legal issues |
| Professionals: non-recognition of the problem |
| All: stigma |
| Gulliver, 2012, Australia | Qualitative | n=15 | 16-23-year-old elite athletes (66.7% aged under 19). |
| | | | Stigma, lack of mental health literacy, negative past experiences of help-seeking. |
| Haavik, 2017, Norway | Cross sectional | n=1249 | Adolescents from Norwegian upper schools (mean=17.6) |
| | | | Mental health delay in making contact, stigma. |
| Hasset, 2017, United Kingdom | Qualitative | n=8 | 16-18-year-old males who entered CAMHS following self-harm or suicidal ideation and where engaged in therapy |
| | | | Want to maintain an independent self. |
| Hernan, 2010, Australia | Cross sectional | n=74 | 14 to 16 years old high school students from rural and metropolitan towns |
| | | | Personal factors with communication with mental health professionals, problem recognition, shame, confidentiality breach. |
| Study (year, country) | Method/Design | Sample Size | Sample Description | Main Findings/Variables |
|-----------------------|---------------|-------------|--------------------|-------------------------|
| Ijadi-Maghsoudi, 2018, United States | Qualitative | N=76 | 11-18 years old school students | Embarrassment, fear of judgement, confidentiality, mental health literacy |
| Jennings, 2015, United States | Cross sectional | n=246 | 18-24 (73.3% aged 18-19) college students | Perceived stigma, high reliance |
| Kahi, 2012, Lebanon | Cross sectional | n=521 | 17-21 years old student (53.8% aged 17-18) undergoing a preventive medical visit at University centre | Confidential embarrassment about the professionalism, knowledge of services, and logistical factors (money, transport, contact) |
| Labouliere, 2015, United States | Cross sectional | n=2145 | 14-18-year-old high school students | Extreme self-reliance |
| Linsdey, 2010, United States | Mixed-method | n=69 | 13 to 18 years old African American boys with high levels of depressive symptoms | Shame and distrust of mental health professionals |
| Lubman, 2017, Australia | Cross sectional | n=2456 | 14-15-year-old high school students | Self-reliance and embarrassment |
| Lynn, 2014, United Kingdom | Cross sectional | n=175 adolescents n=95 parents | 14-18-year-old adolescent | Adolescents being independent, reduced mental health literacy in parents |
| Maioulo, 2019, Australia | Cross sectional | n=1582 | 16-18 years high school students | Not assessed |
| Mariu, 2012, New Zealand | Cross sectional | n=9699 | 12-18 years old secondary students (years 9 and 10) | Not assessed |
| Authors                  | Study Design          | Sample Size | Data Description                                                                 |
|--------------------------|-----------------------|-------------|-----------------------------------------------------------------------------------|
| Maritnez-Hernaes, 2014, Spain | Cross-sectional       | n=105       | 17-21 year old (84.3% aged under 19) participating in longitudinal survey          |
| McLean, 2013, United Kingdom | Qualitative           | n=90        | 10-15-year-old secondary school students                                           |
| Murry, 2011, United States | Mixed Methods         | n=163       | African American mothers of adolescents (mean=14) living in rural Georgia          |
| Nearchou, 2018, Ireland | Cross-sectional       | N=722       | 12-16 years old school student                                                     |
| O’Connor, 2014, Australia | Cross-sectional       | n=180       | 17-25-year-old (74.16% aged 18-19) college students                                |
| Pisani, 2012, United States | Cross-sectional       | n=2,737     | 14-17 years old high school students in rural communities                           |
| Recto, 2018, United States | Qualitative           | n=20        | 15-19 years adolescents with perinatal depression                                  |
| Rughani, 2011, Australia | Cross-sectional       | n=778       | 13-18 years old high school students (years 9 to 12) in rural towns                |
| Samuel, 2014, United States | Qualitative           | n=54        | 15-17-year-old African American males who received mental health                    |
| Study (Year, Country) | Study Design | Sample Size (n) | Age Group | Key Findings |
|-----------------------|--------------|----------------|-----------|--------------|
| Sawyer, 2011, Australia | Cross-sectional | 5,362 | 12-14 years old school students | Higher depressive symptoms |
| Seamark, 2018, United Kingdom | Qualitative | 6 | 17-18-year-old college psychology students | Gender role: expectation, awareness of help, fear and rejection |
| Sharma, 2017, India | Cross-sectional | 354 | 13-17-year-old school students | Feeling ashamed, uncomfortable |
| Shechtman, 2018, Israel | Cross-sectional | 238 | 14-18-year-old school students | Self-stigma |
| Sylwestrzak, 2015, United States | Cross-sectional | 10,123 | 13-18-year-old adolescents | Self-reliance, mental health literacy, fear of stigma, usefulness of treatment |
| Tharaldsen, 2017, Norway | Qualitative | 8 | 17-18-year-old students | Limited knowledge, stigma |
| Thomas, 2013, Australia | Cross-sectional | 289 | 18-25-year-old (59.9% aged 18-19) students enrolled in first year psychology classes | Not assessed |
| Wang, 2018, United States | Mixed methods | 19 | Asian immigrants parents | Mental health literacy, structural barriers, cultural barriers (stigma, lack of cultural sensitivity of services) |
| Watsford, 2014, Australia | Cross-sectional | 102 | 12-18-year-old presenting mild to moderate mental health concerns | Not assessed |
| Wilson, 2010a, Australia | Cross-sectional | 109 | 18-25 years old (78% age 18-19) college students* | Higher levels of psychological distress, negative beliefs about mental health services |
Table 2: Help-seeking interventions

| 1st Author, year, country | Sample size | Inclusion criteria | Design | Setting and intervention | Comparison group | Primary outcome |
|---------------------------|-------------|--------------------|--------|--------------------------|-----------------|----------------|
| Berridge, 2011, Australia  | 182         | 10th grade students (aged 14-16) | Post-test design Feasibility trial | MAKING the LINK. School-based. Five class room activities provided by teachers who received specialised training. | No control group | Accept and feasibility of the program |
| Casañas, 2019, Spain       | .           | 13-14 year old high school student | Clustered randomised controlled trial. | EspaiJOVE, 14 hours of psychoeducation | Waiting list | Help seeking behaviors |
| Study protocol | n and activities with the scholar community. | Waiting list | Help seeking behaviors |
|----------------|---------------------------------------------|--------------|------------------------|
| Lubman, 2016, Australia | - | Cluster RCT | MAKINGthe LINK. Five class room activities provided by teachers who received a training. |
| Perry, 2014, Australia | 208 | Cluster RCT | HeadStrong, school based intervention with educational practical modules during 5 to 8 weeks. |
| Sharpe, 2016, United Kingdom | 6551 | Hierarchical cluster RCT. | Student booklet designed fomenting help-seeking and self-management support. |

**Psychoeducation-Depression**

| Study protocol | n and activities with the scholar community. | Waiting list | Help seeking behaviors |
|----------------|---------------------------------------------|--------------|------------------------|
| Joyce, 2011, Australia | 32 | Secondary students (aged 14-16) | School based. Information sheet based on evolutionary perspective | Informative sheet about depression |
| King, 2011, United States. | 416 | 9th to 12th grade high school students | Quasi experimental design | No control group |

Piloting the sheet.
| Study | Sample Size | Sample Description | Design | Intervention Details | Control Group | Outcome Measure |
|-------|-------------|-------------------|--------|----------------------|---------------|-----------------|
| Robinson, 2010, Australia | 246 | Boys school students (aged 14-16) | Pre-test, post-test design | School-based developed in one-off, 2-h workshop focused on depression definition, coping skills and help-seeking. | Waiting list | Help-seeking behaviors |
| Ruble, 2013, United States | 593 | High school students | Pre-test and post-test design | School-based, 3 hour curriculum designed to educate students, teachers, and parents about depression and help-seeking. | No intervention | Attitudes toward treatment seeking |
| Strunk, 2014, United States | 158 | Emotionally troubled teens in 9th and 12th grade | Pre-test and Post-test design | Surviving the Teens is school based programme. Four 50 minutes session focused on psychoeducation. | No control group | Help-seeking behaviors |
| Beaudry, 2019, United States | 481 | High school students | RCT. | Interactive classroom curriculum and | Waiting list | Help-seeking related |
| Study | Year | Country | Participants | Design | Intervention | Help-seeking Intentions |
|-------|------|---------|--------------|--------|--------------|------------------------|
| Howard, 2019, Australia | 327 | 16-19 year old students | Three-arm, pre-posttest, double-blind RCT. | Focus group with parent, students and teachers. | Neutral information about depression |
| Cear, 2017, Australia | - | 11 and 12 grade male students (15-18 years of age) | Two arm cluster RCT. Study protocol | Silence is Deadly. School based, focused in males. Included classroom presentation (1 hour), and supporting website and social media messages. | Help-seeking Intentions |
| Hart, 2016, Australia | 241 | High school students (aged 15-17) | Pre-test, post-test design Feasibility trial | Teen Mental Health First Aid program. School based, 3 sessions, delivered to students, parents and teachers. | No control group |
| Rickwood, 2004, Australia | 457 | School students (aged 14-18) | Solomon four-group design (pre-and post-intervention). | School based, interactive presentation by former mental health | No intervention |
| Study | Year | Country | Sample Size | Design | Intervention Details | Control Group | Outcome(s) |
|-------|------|---------|-------------|--------|----------------------|---------------|------------|
| Saporito, 2013, United States | 156 | Adolescents from Public High School | RCT. | School based Interactive 1 hour session, providing basic mental health and video with case example. | Educational presentation with content unrelated to mental health. | Reduct Stigma help-se |
| Yang, 2018, United States | 14 | High school students “at risk” of mental health conditions. | Quasi-experimental Pilot study | InSciEd-oOut. School based, 20-day anti-stigma classroom activities | No control group | Help-se behavi |
| Young, 2013, Canada | 254 | High school students (aged 14-18) | Pre and Post intervention survey design | School based, combining classroom sessions and talk with person with schizophrenia | No control group | Self-sti help-se |

**Psychoeducation- Suicide +self-harm**

| Study | Year | Country | Sample Size | Design | Intervention Details | Control Group | Outcome(s) |
|-------|------|---------|-------------|--------|----------------------|---------------|------------|
| Aseltine, 2004, United States | 2100 | Students in high schools | Cluster RCT | SOS programme, school based interactive intervention based on teaching materials and discussion guide, plus a screening instrument. | Health and social studies classes | Help-se behavi |
| Study                        | Sample Size | Participants | Design       | Intervention Details                                                                                                                                                                                                 | Outcome Measures                        |
|------------------------------|-------------|--------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| Aseltine, 2007, United States | 3837        | Students in high schools in Hartford and Columbus. | Cluster RCT  | SOS programme, school based interactive intervention based on teaching materials and discussion guide, plus a screening instrument.                                                                                       | Health and social studies classes        |
| Freedenthal, 2010, United States | 142 staff 146 student | Staff and students in High school in Denver area. | Pre and Post intervention survey Pilot study | Yellow-ribbon. School based, 25 minutes training, card with hotline numbers and t-shirt with mental health messages.                                                                                                     | No intervention Help-seeking behaviors   |
| Kalafat, 1994, United States  | 253         | 10th grade high school students | Solomon four-group design | School based suicide awareness program. 3 psychoeducation sessions.                                                                                                                                                   | Physical education classes Help-seeking attitudes |
| Schimdt, 2015, United States  | 5,949       | High school students (aged 10-18) | Pre and Post intervention design. Feasibility trial | Yellow-ribbon. School based, 25 minutes training, card with hotline numbers and t-shirt with mental health messages.                                                                                                     | No control group Help-seeking behaviors  |
| Outreach interventions | | | | | | |
|------------------------|---|----------------|----------------|----------------|----------------|----------------|
| Deane, 2007, Australia | 506 | 9th and 10th grade high school students | Post-test design | The Building Bridges to General Practice, school based. GP deliver one session to improve students perception. | No intervention | Help-seeking intentions |
| Rughani, 2011, Australia | 260 | Year 11 high school students | RCT | Promoting Access to support seeking. School based, two 50 min sessions for building relationships with mental health professionals. | Alternative presentation | Help-seeking intentions |
| Wilson, 2008, Australia | 291 | Year 11 students from 3 high schools in New South Wales | Quasi-experimental Nested design | The Building Bridges to General Practice, school based. GP deliver one session to improve students perception. | No intervention (year 10 students) | Help-seeking intentions |

| Multimedia/Online interventions | | | | | | |
| Conrad, 2014, Germany | 532 | High school Students without history of mental health care | Quasi-experimental | Film festival aiming to give a podium to the topic mental health. | No control group | Help-seeking attitudes |
| Study | Year | Country | Sample Size | Study Design | Intervention | Outcome Measures |
|-------|------|---------|-------------|--------------|--------------|------------------|
| Nicholas, 2004, Australia | 243 | High school students aged 13 to 18. | Post-test design Feasibility trial | School based, classroom presentations of ReachOUT! Website. | No control group | Help-seeking behaviors use if the website. |
| Rowe, 2018, United Kingdom | 23 | Teens (aged 12-18) who had self-armed (last 12 months) and basic English speaker. | Two group parallel arm, single blind RCT. Feasibility trial. | My self-help tool. School based, web-personalised decision aid intervention designed to help identify help-seeking alternatives for self-harm. | General information about mood and feelings. | Help-seeking intentions. |
| Santor, 2007a, Canada | 388 | Grade 8th high school students | Pre-post test design | School based help seeking workshop + Information website called “YooMagazine” | No intervention | Help-seeking attitudes. |
| Santor, 2007b, Canada | 455 | Grade 7th to 12th students | Pre and Post intervention survey design Feasibility trial | Information website called “YooMagazine” | No control group | Help-seeking behaviors. |
| Wiljer, 2016, Canada. | - | Youth (16-29) college students | Two arm RCT. Study protocol | Thought Spot. College based, web and mobile platform | Usual care | Self-efficacy for mental health help-seeking. |
| Study Authors | Year | Country | Study Design | Intervention Details | Control Group | Outcome Measures |
|---------------|------|---------|--------------|----------------------|---------------|------------------|
| Calear, 2016, Australia | - | Australia | 7 to 10 grade students (aged 12-15) | Two arm cluster RCT. Study protocol | Waiting list (24 months). | Help seeking intentions |
| O'reilly, 2016, Ireland | 30 | Ireland | Teens aged 15-17 with interest in mental health, speaking skills. | Pre and Post intervention survey design Feasibility trial | No control group | Stigma help-seeking behavi |
| Parihk, 2018, United States | 878 | United States | High school students | Quasi-experiment | No control group | Help seeking intentions |
| Wyman, 2010, United States | 2675 | United States | High school students (aged 14 to 18) | RCT. | Waiting list | Acceptability of seeking help |

**Figures**
PRISMA 2009 Flow Diagram

Question 1: Help-seeking barriers and facilitators

Figure 1

flow diagram
PRISMA 2009 Flow Diagram
Question 2: Help-seeking interventions

Figure 2
flow diagram

Supplementary Files
This is a list of supplementary files associated with this preprint. Click to download.
appendix1,2.docx