

**Nursing Interventions on Adolescent and  
Childhood Depression in Primary Care**  
**A Literature Review**

Akiko Ichinose  
Yuet Yau Danya Fong

Bachelor's thesis  
November 2020  
Bachelor of Health Care  
Degree Programme in Nursing

Author(s)  Fong, Yuet Yau Danya Ichinose, Akiko	Type of publication Bachelor's thesis	Date November 2020  Language of publication: English
	Number of pages 37	Permission for web publication: x
Title of publication <b>Nursing Interventions on Adolescent and Childhood Depression in Primary Care</b> A Literature Review		
Degree programme Degree Program in Nursing		
Supervisor(s) Sinivuo, Riikka & Luotojoki, Tiia		
Assigned by -		
Abstract  <p>Depression among children and adolescents is a global health concern with various potential of consequences influencing one's entire life and costing economic burden of caring for the society. Additionally, depression is found to be the leading cause of suicidality of this age group. Due to the shortage of care resource in primary care and increasing prevalence of depression, the importance of primary care has been increased. Thus, it is important for healthcare workers working in primary care to gain understanding of the phenomena and of interventions so that the treatment can be initiated in a timely manner.</p> <p>The aim of the study was to synthesis available research in interventions for childhood and adolescent depression that are suitable for primary care setting. The purpose was to provide comprehensive knowledge and methods that could be adopted by nurses working in primary care in order to encourage nurses to take a proactive role in caring those young patients.</p> <p>A literature review was chosen as a research method for this study. Two databases, Cinahl Plus full-text and Medline, were utilized to collect the data. Overall, seven articles were selected, and data analysis was done in an inductive way.</p> <p>As a result, two main categories of interventions, which were detection and management, were identified through the analysis. The review indicated that identifying the need for mental health care through routine screening, assessing a patient in a wholistic manner, managing a care plan with other professionals and educational approaches could be implemented by nurses in primary care. Concerning further studies, there was an implication for conducting more region-specified studies in order to gain more concrete knowledge of practical interventions in a region.</p>		
Keywords/tags ( <a href="#">subjects</a> ) Childhood depression, adolescent depression, interventions, primary care.		
Miscellaneous ( <a href="#">Confidential information</a> ) -		

## Contents

<b>1</b>	<b>Introduction .....</b>	<b>3</b>
<b>2</b>	<b>Depression among Children and Adolescents .....</b>	<b>4</b>
2.1	Epidemiology of Depression among the Youth in Different Countries.....	4
2.2	Risk Factors of Depression in Children and Adolescents .....	5
2.3	Symptoms of Depression in Children and Adolescents .....	7
2.4	Treatment.....	8
2.5	Teen suicidality and its Management in Primary Care .....	10
2.6	Nursing Challenges in Treating Depression in Primary Care.....	10
<b>3</b>	<b>Aim, Purpose and Reerach Question .....</b>	<b>12</b>
<b>4</b>	<b>Methodology.....</b>	<b>13</b>
4.1	Litearature Review .....	13
4.2	Literature Search .....	13
4.3	Data Analysis .....	14
<b>5</b>	<b>Results .....</b>	<b>16</b>
5.1	Detection .....	18
5.1.1	Screening .....	18
5.1.2	Assessment.....	19
5.2	Management .....	20
5.2.1	Cooperation with other professionals and the community.....	21
5.2.2	Education .....	21
<b>6</b>	<b>Discussion .....</b>	<b>22</b>
6.1	Discussion of Results .....	22
6.2	Ethical Considerations and Limitations .....	24
6.3	Critical Appraisal.....	25
<b>7</b>	<b>Conclusions .....</b>	<b>25</b>
	<b>References.....</b>	<b>27</b>
	<b>Appendices .....</b>	<b>32</b>
	Appendix 1. Basic information of the reviewed articles (alphabetical order) .....	32
	Appendix 2. Critical appraisal of the articles (Beathge et al. 2019) .....	37

## Figures

Figure 1. Prevalence of children and adolescent depression (Global Health Data Exchange, 2020) .....	5
Figure 2. An example of Data Analysis .....	16
Figure 3. Categories and Subcategories generated through the analysis .....	17

## Tables

Table 1. Inclusion criteria .....	14
Table 2. Selection process .....	14

## 1 Introduction

Depression is recognized as one of the most common medical disorders among children and adolescents worldwide, in addition the first diagnostic age of depression has decreased. Potential consequences of untreated depression in young age can not only be serious on an individual level but cost the society long-term burden of caring. Depression hinders considerably various aspects of young person's functioning in life, which can result in, for example poor academic performance, substance abuse, early pregnancy, and social isolation. (Shia 2009; Richardson & Katzenellenbogen 2005). Adolescent depression is also associated with "*high risk of chronicity and recurrence,*" and "*risk of suicide*" (Wilkinson, Harris, Kelvin, Dubicka & Goodyer 2013).

Due to the increased prevalence of depression increased and the lack of available resources in pediatric and mental health specialists, Richardson and Katzenellenbogen (2005) highlighted that there is an increased need for primary care providers to be more confident in diagnosing and treating depression. However, most of the studies conducted about this issue were discussed mainly from a general physician's perspective, in other words, there was a limited number of studies from a nurse's point of view regarding this phenomena and primary care.

Thus, the authors intended to address interventions for nurses especially in primary care setting. The aim of the study is to provide a collection of interventions on childhood and adolescence depression in primary care setting focusing on a nurse's perspective. The purpose is to enhance nurses' confidence and encourage them in taking a proactive role in caring those young patients.

## 2 Depression among Children and Adolescents

### 2.1 Epidemiology of Depression among the Youth in Different Countries

Estimated 10 to 20 percent of children and adolescents experienced mental health disorder over the world. Depression as the leading illness, unfortunately, most cases remain undetected and untreated; the onset of half of mental health disorder begins at age 14 (WHO, 2019). We are, however, still lacking timely and timeless physical and mental health care to catch up with the rising needs (WHO, 2020).

In Hong Kong, cases of mental health illnesses had increased from 2011-2012 to 2015-2016 by 50%. Despite the low depression diagnosis among child and adolescent, 51.5% of secondary school students shown depressive symptoms (Baptist Oi Kuan Social Service, 2018). From Yuen (2019), youth experienced higher depressive symptoms than other ages in group. In Japan, it is reported that Japanese children and adolescents have greater depressive tendency (Silva, Silva, Ronca, Gonçalves, Dutra & Carvalho 2020; Denda et al. 2006). Japan recorded 157,000 hospitalization due to depression-caused-injury in 2015 (The Right Step, 2017).

In Finland, youth who born between 1994 and 2000 have most recorded depression diagnosis from specialized service (Filatova, Upadhyaya, Kronström, Suominen, Chudal, Luntamo, Sourander & Gyllenberg 2019). A national self-report study with youth aged between 14 and 16, indicated a raise of depressive cases among girls in year of 2010 to 2011; Diagnosis among boys varies depending on settings and backgrounds; adolescent depression doubled to whom parents were unemployed (Torikka, Kaltiala-Heino, Rimpelä, Marttunen, Luukkaala & Rimpelä 2014). England monitored 19,000 children who were born between 2000 and 2001 on depressive symptoms for 14 years, by regular survey on the experience of emotion difficulties. Result shown, 12% of boys and 18% of girls had experienced emotional problems; 9% of boys and 24% of girls reported the experience of high leveled depressive symptoms (National Health Services, 2017). Child and adolescent depression, the newest member of modern-day illness, is endangering young lives all over the world despite

the difference of culture, a timely intervention and timeless prevention must be done, starting from primary care. Figure 1 below showed the number of children and adolescent depression from 1990 to 2019 in Finland, United Kingdom, Japan and China.

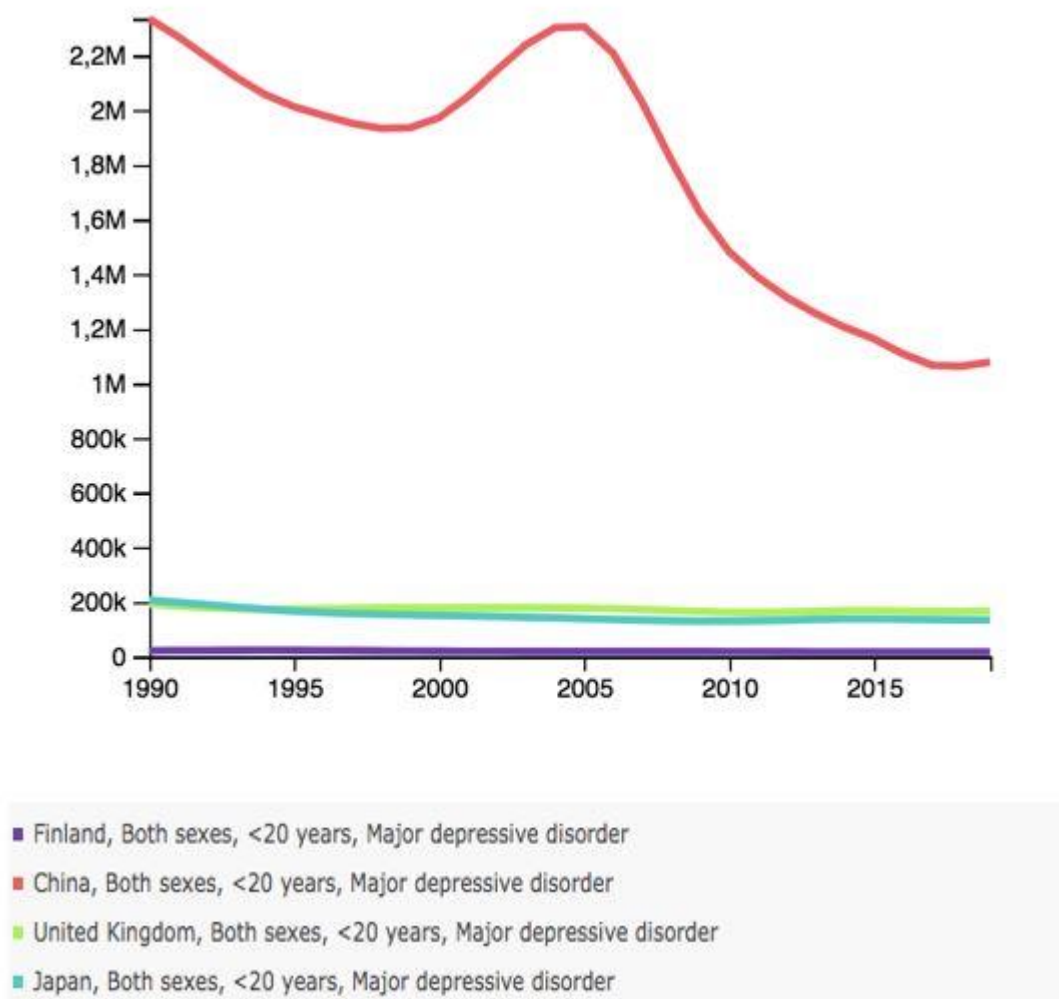


Figure 1. Prevalence of children and adolescent depression (Global Health Data Exchange, 2020)

## 2.2 Risk Factors of Depression in Children and Adolescents

The big portion of the risk factors of child and adolescent depression are connected to the concept of family relationships, indicating the importance of having secure relationships with caregivers on children's healthy development. Negative parenting has been reported as one of the most significantly associated factors with childhood depression; which includes a lack of affection or damage in the mother-child interaction,

child abuse, maternal rearing attitude, parental substance abuse, family criminality, family or marital conflicts and poor functioning of the family's daily life (Wilkinson, Harris, Kelvin, Dubicka & Goodyer 2013; Mendes, Loureiro, Crippa, Gaya, García-Esteve & Martín-Santos 2012; De Cuyper, Timbremont, Breat, De Backer & Wullaert 2004). Also, parental depression has found to be influencing their child's mental health. The findings indicated that the effect of parental depression is not limited to the development of child depression but also considered to be a risk factor for other psychiatric disorders as well. Some researchers argued that there might be a genetic contribute behind this association. (Wilkinson et al. 2013).

Other factors mentioned in the studies regarding the living environment were: single parenthood, the lack of social support from their family, partner and from the public health service, having a family member with a disorder, low socioeconomic status, being a minority in the community and neighborhood perceived as threatening or unsafe (Wilkinson et al. 2013; Mendes et al. 2012; Vitulano, Fite, Rathert, Gaertner, Wynn & Hill 2011; Kwak, Lee, Hong, Song, Kim, Moon, Moon, Seok, Jang, Park, Hong, Kim, Lee, Kim & Kim 2008; Hamrin & Pachler 2004). To be noted, Vitulano et al. (2011) found out that those children perceiving their neighborhood as relatively safe were not influenced negatively with their parents' substance abuse, while those who considered their neighborhood as threatening showed positive association with their parents' substance abuse and childhood depression. They discussed that children's feelings towards own neighborhood "*can impact the child's view of the world,*" resulting in making children feel uncomfortable, fearful and in increasing risk of developing depression particularly on those who do not feel safe in their home either (Vitulano et al. 2011). Furthermore, studies pointed out that a risk for developing depression may be high among adolescents due to their unique developmental stage in life. They may face stressors both internally and externally, for example through "*changes in roles and expectations, emerging sexuality, increased responsibilities and separation from parents.*" (Lenz, Coderre & Watanabe 2009).

Besides those factors mentioned above, the studies suggested that the followings were also risk factors for child and adolescent depression: comorbid medical or psychiatric conditions or attentional, behavioral or learning disorders, substance abuse of



a child such as cigarette smoking, stressful events, for example breaking up of a romantic relationship or loss of a parent or loved one, being a female (Hamrin & Pachler 2004; Kwak et al. 2008). According to Hamrin & Pachler (2004), the prevalence female-to-male ratio of depression in adolescents was approximately 2 to 1, favoring the ratio studied in adults' case with major depressive disorder. Additionally, through the research conducted in one Korean island, Kwak et al. (2008) found an interesting association of elementary students' subjective image of their own body and a risk of developing depression. Those students who were not satisfied with their body were more likely to develop depression than those with high body satisfaction. Importantly, the degree of students' obesity was not found to be relevant with a risk of depression. Kwak et al. (2008) mentioned that there has been a social obsession of having a skinny body, which may be pressuring those young students and triggering depressive symptoms.

### 2.3 Symptoms of Depression in Children and Adolescents

According to Harmin and Pachler (2004), the diagnostic criteria for assessing adult major depressive disorder (MDD) can be applied to children and adolescent cases. However, the researchers have repeatedly mentioned that children's exhibition of symptoms can be different in comparison with what is predominant in adults and vary across developmental stages of the individual. That is partly the reason why depression in this young population is challenging to be recognized. (Harmin & Pachler 2005; Harmin & Pachler 2004).

Due to having difficulties expressing complex feelings with words, pre-school children can express their depressive symptoms through complains about somatic symptoms, expression of anxiety or separation anxiety, irritated or unease mood, withdrawal from social activities, changes in appetite or in sleeping pattern. On the other hand, school-aged children are often being able to explain their symptoms verbally. The characteristic symptoms of depression among school-aged children are the followings: saddened mood, loss of pleasant feeling, *increased crying*, low self-esteem, poor school performance and suicidal thoughts. Adolescents express anger, lack of energy, apathy, "*feelings of hopelessness and guilt*," insomnia or hypersomnia, changes in

appetite and weight, *"difficulty concentrating,"* substance abuse and poor academic performance. (Lenz et al. 2009).

Irritability, isolation or withdrawing from social activities can be seen in all these age-groups of children with depression. Notably, both Gledhil & Hodes (2015) and Lenz et al. (2015) pointed out that irritability was more commonly expressed among children with depression rather than sadness. Especially adolescents with depression were observed to be *"intensely reactive, irritable and sensitive to criticism,"* while adults exhibited their sadness (Lenz et al. 2009).

## 2.4 Treatment

There are frequently mentioned two types of approaches in treating depression in children and adolescents, which are psychotherapies, such as cognitive-behavioural therapy (CBT) and interpersonal therapy (IPT), and pharmacotherapy. According to Hamrin and Pachler (2005), those psychotherapies should be considered to be the first option *"for the acute treatment of young people with the first noncomplicated episode of depression."* Studies have provided evidence of efficacy of both CBT and IPT on treating depression in children and adolescent (Gledhil & Hodes 2015; Hamrin & Pachler 2005). Family therapy was also studied, however studies suggested that involvement of the family was not generally effective in treating depression in adolescents compared to the other therapies mentioned above (Gledhil & Hodes 2015; Clark, Debar & Lewinsohn 2003 in Hamrin & Pachler 2005).

**Cognitive-Behavioural Therapy/CBT.** In short, CBT aims to identify individual's distorted cognitive patterns or believes triggering or affecting depressive symptoms, and to intervene those patterns to help the person build new thinking processes (Glendhil & Hodes 2015; Hamrin & Pachler 2005). In addition to that, CBT is also designed to encourage activities linked with the individual's positive mood and to teach problem-solving strategies (Hamrin & Pachler 2005). Most promising results of CBT influence on the treatment of depression was linked with the young population, especially the adolescent (De Cuyper et al. 2004). Although its efficacy was not

recognized in the treatment of severe cases, studies suggest that CBT alone can be a feasible intervention on mild to moderate depression (Gledhil & Hodes 2015).

**Interpersonal Therapy/IPT.** As its name itself describes, IPT can be utilized when a patient has repeatedly been experiencing depressive symptoms triggered by personal relationships with others. The aim of IPT is to encourage people to learn how to approach and communicate with others and also how to manage own intense emotions evoked within particular personal relationships such as grief and interpersonal disputes. (Gledhil & Hodes 2015; Hamrin & Pachler 2005). According to Gledhil and Hodes (2015), the approach of IPT may be especially applicable to the adolescent because the interpersonal relationships with significant others are considered to have a critical impact on the adolescent's depression, response to treatment and outcome of treatment. Additionally, studies reported that the adolescents who underwent IPT showed an improvement in self-esteem and communication skills, and a decrease in depressive symptoms (Mufson, Weissman, Moreau & Garfinkel 1999 in Gledhil & Hodes 2015; Rossello and Bernal 1999 in Hamrin & Pachler 2005). To be noted, IPT for adolescents with depression (IPT-A) has developed from IPT for adults, which focused interpersonal issues are the followings: grief, interpersonal role disputes, role transitions, and interpersonal deficits (Gledhil & Hodes 2015).

Meanwhile, pharmacotherapy needs to be considered in the following cases: *"if there is no improvement within 4 to 6 weeks"* (Harmin & Pachler 2005), for children and adolescents would be unable to reach desirable outcome through psychotherapies due to severe symptoms, for those who are not able to participate in psychotherapies, *"for those with psychosis, and those with chronic episodes of depression"* (Birmaher, Brent & Benson 1998 in Harmin & Pachler 2005). Based on available evidence on its efficacy, selective serotonin reuptake (SSRIs) are commonly prescribed to treat young patients with depression (APA 2000 in Harmin & Pachler 2005). However, there have been reports on its adverse effects, such as worsening depression, agitation and suicidal thoughts or attempts. The U.S. Food and Drug Administration (FDA) published a black-box warning to raise the awareness of those adverse effects in 2004. The warning recommends weekly monitoring of a patient particularly during the first

month of description of these medications for any signs of concerning changes in mood or behaviour. (Harmin & Pachler 2005).

## 2.5 Teen suicidality and its Management in Primary Care

Suicide, the third leading cause of death between 15 to 19-year-old, had approximately taken away 53,000 lives in 2016 (WHO, 2019). Although the completion of suicide seldom linked directly to depression, self-harming behavior yet often seen among youngsters with or without depression diagnosis (U.S. Department of Health & Human Services, 2014). From Consoli, Peyre, Speranza, Hassler, Falissard, Touchette, Cohen, Moro, Révah-Lévy (2013) a study recorded 7.5% of adolescents with depression, 16.2% claimed of having experienced suicidal ideations in past 12 months and 8.2% claimed of having lifetime suicidal attempt.

Self-report and interview with questionnaires, for instance, Guidelines for Adolescent Preventive Services and Strength and Difficulties Questionnaire (GLAD), Beck Depression Inventory, Kutcher Adolescent Depression Scale are methods which commonly used in initial primary care for suicide identification (Zuckerbrot 2006; Zuckerbrot 2007). Zuckerbrot (2007) stated, self-report had shown significant rise of suicide preventive service application and medical documentation. With the well-set criteria on suicide screening, primary care givers were able to retrieve detail information for further diagnosis. Moreover, education, such as safety planning, is offered to young patients and family for a risk-free living environment and actively engaged in treatment. Suicide risk factors and potential triggers are introduced and discussed with family, emergency contact, follow up plans are presented. Therefore, it is done to ensure that patients receive sufficient support outside hospital care (Zuckerbrot 2007).

## 2.6 Nursing Challenges in Treating Depression in Primary Care

**Limited time for screening and assessment.** In order to offer timely intervention, primary care nurses are responsible on screening for early identification. From Carnevale (2010), an effective diagnostic tool should be reliable, valid, economically friendly and

feasible in time. Despite four out of seven existing diagnostic tools in America are valid for adolescents and children depression screening, nurses expressed high inconvenience on extracting information to define depression. Novel version of Diagnostic and Statistical Manual (DSM-V) published by American Psychological Association, utilized the same criteria of adult depression on measuring adolescents and children depression. The criteria is set that if patient experienced depressive symptoms every day for no less than two weeks, under no influence of medication or underlying condition, resulted social, occupational and educational disability can be diagnosed as Major Depressive Disorder (MDD) (Chow, 2016). Although building a trustworthy relationship is a common approach for nurses to get an accurate anemia to fulfill the diagnostic criteria over sensitive and private matters, time is required for the establishment (Bjorkman 2019; Carnevale 2010). Unfortunately, the shortage of time has been a global dilemma on mental health system due to increasing demand of service. Nurses struggled to make decision because of failing to collect sufficient information in time to tick all boxes. They often forced to send cases back knowing patients are experiencing depression. Nurses should always be comfortable in making diagnosis (Chow 2016), in the same article proven existing screening tools is not in favor of initial screening due to inflexibility, infeasible in time and un-supportive for making an accurate measure.

**Inconsistency on Support Sysmtem.** The awareness of mental health prevention has shaped the care model in past decade to be more holistic. Multi-disciplinary cooperation is introduced to deliver a uniform care, interventions are no longer confined in medicine but expanded to social, education and politics. However, studies reported that nursing care was challenged by the inadequate support and lack of coordination in multi-disciplinary cooperation (Bjorkman 2019; Gladstone, Beardslee & O'Connor 2012; Hong Kong Mental Health Report, 2017). Nurses were described working with different professionals was “problematic” and “inadequate” (Bjorkman 2019). The support on referral is lacking which they cannot find proper responsible personnel to handle the cases. Furthermore, poor communication damaged the consistency of coordination. Iranjpour (2012) stated that professionals tended to keep their intervention personal to protect their own medical territory, which not only triggered conflict between professionals, also slow down treatment progress. Nurses

often become the peacemaker, filling the requirement from personnel to maintain team integrity.

**The Absence of Essence of Mental Health Nursing.** With receiving education of psychiatric and its care, the knowledge equipped nurses to contribute as a therapist, a counselor, to maintain, stabilize patient condition and prevent relapse on mental health nursing. However, nurses' responsibility nowadays leans on medication and documentation focused, the skills of mental health nursing have seldom been utilized in clinical setting (Sabella & Fay-Hiller 2014). In 2014, Sabella and Fay-Hiller stated that most nurses struggled to define their responsibility and role in the multi-disciplinary care field; some commented "useless" as to describe their work in field. Most patient-professional roles in the collaborative care have already been taken by psychiatrists, social workers, psychologist or volunteers, the involvement of nurses in care become answering the requests from professionals.

### **3 Aim, Purpose and Reerach Question**

The aim of the study is to provide comprehensive syntheses of the interventions on childhood and adolescent depression for nurses in primary health care settings. The purpose of the study is to encourage those nurses to be involved in the care of children and adolescent with depression. The research question is: What are the interventions on childhood and adolescent depression for nurses in primary care?

## 4 Methodology

### 4.1 Literature Review

Literature review is one method of creating a synthesis of existing research in order to obtain comprehensive understanding of a phenomena or in order to find answers to a defined question (Ruw 2010). Whitemore & Knaf (2005) mentioned that an integrative review allows researchers to combine both theoretical and empirical studies, indicating a great potential as a research method for nursing science. The authors chose this method of study since there are numerous research available regarding depression in children and adolescents.

The main stages of literature review are specifying a research question and criteria for the search, search of literature on database and data analysis and drawing findings from selected literature. To begin with, the researcher needs to specify a research question to set a proper range of limitations on search (Whitemore & Knaf 2005). Also, each stage is consisted of multiple steps that should be followed systematically in order to decrease bias and error, and also for the study to be replicable thus to verify the findings of the study. Search words used for literature collection should be stated clearly, and inclusion and exclusion criteria need to be stated in a precise manner along with reasons for each decision. (Ruw 2010).

### 4.2 Literature Search

Articles used in this literature review were collected from two databases: Cinahl Plus Full-text and Medline. The referenced articles were selected through Inclusion Criteria (Table 1), filtered by keywords "Intervention", "Child and adolescent depression", "Children and adolescent depression" and "Primary care," in order to retrieve the most suitable literature to review.

Table 1. Inclusion criteria

<b>P</b> (Population)	Children and Adolescents
<b>I</b> (Interest)	Interventions on depression
<b>CO</b> (Context)	Primary care nursing
<b>S</b> (Study design)	In English Peer reviewed Full-text access for JAMK students Academic journal Published from 2005 to 2020

Inclusion criteria was set to retrieve the most relevant articles to review. Boolean operators “AND”, “OR”, full access to databases, peer reviewed and academic journal which published between 2005 to 2020 were designed to achieve our goal. During the literature search, one article was found from both databases. Therefore, the total article chosen from database was seven, although the numbers in table 2 showed eight in total.

Table 2. Selection process

Database	Scope search	Based on inclusion criteria	Relevant study	Answered research question
Cinahl Plus Full-text	371	19	17	4
Medline	755	22	15	4

### 4.3 Data Analysis

Elo and Kyngäs (2008) describes content analysis as a research method for drawing a description of phenomena from either qualitative or quantitative data. The method consists of systematic and objective means, which enables its inference to be replicable and valid with a purpose of “*providing knowledge, new insights, a representation of facts and a practical guide to action.*” There are inductive and deductive approaches



of content analysis. Inductive analysis, in which the scope of the analysis shifts from the specific to the general, is preferred when previous knowledge about the target phenomena is not sufficient. (Elo & Kyngäs 2008). The authors chose an inductive approach for this study due to the lack of their former knowledge about the research topic.

The following steps were taken to conduct the study: open coding, creating categories and abstraction. Open coding process was to organize the collected data by writing short summaries of each article. Next, the authors created groups of extracted factors in order to gain understanding of aspects of the phenomena. Finally, in an abstraction stage, both categories and subcategories were formed through synthesizing those groups mentioned in the previous sentence, and each category was named based on its content's feature. (Elo & Kyngäs 2008). An example of the content analysis process of the study is demonstrated in figure 2 below, and the brief descriptions of all the selected literature was recorded in appendix 1.

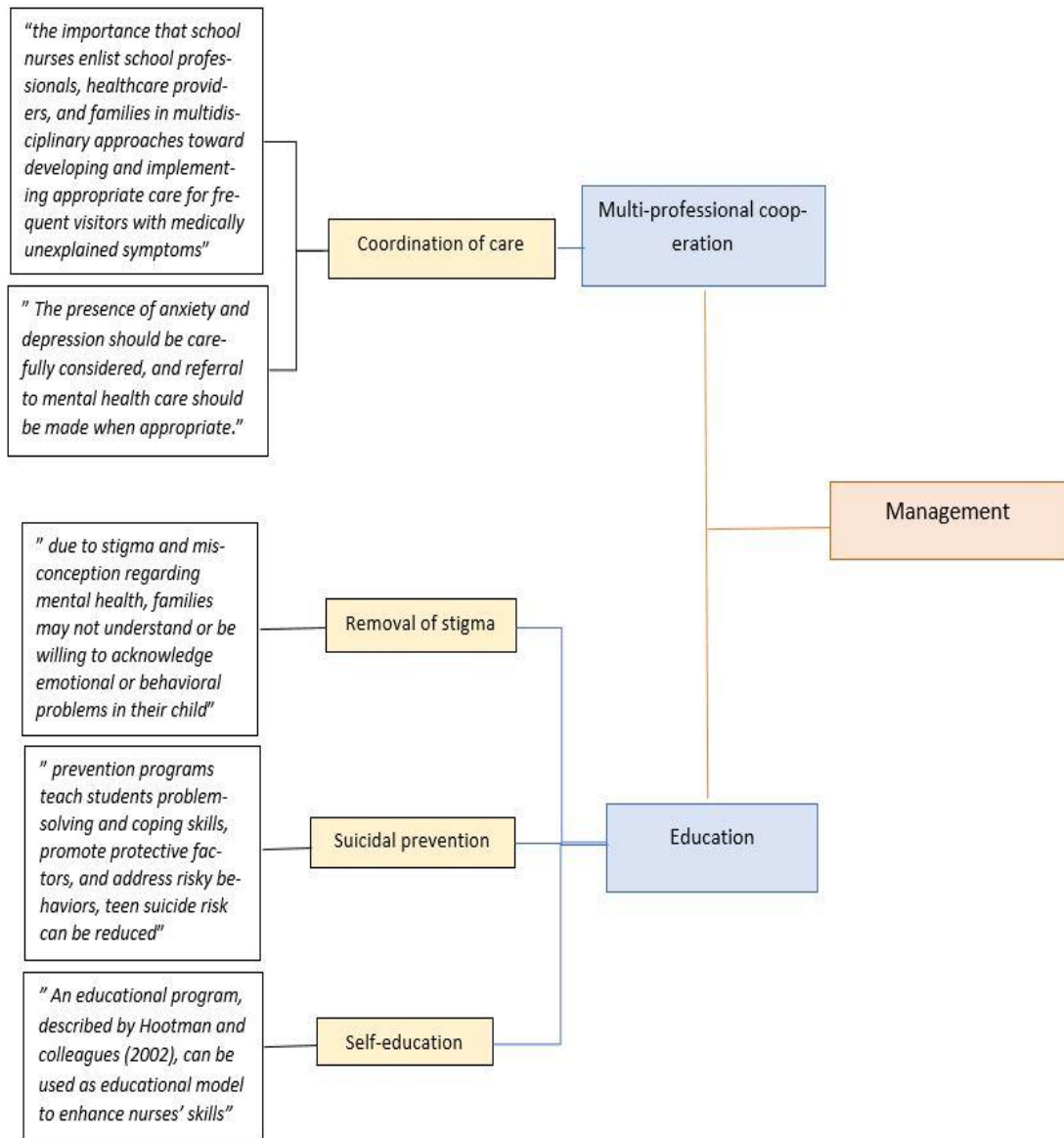


Figure 2. An example of Data Analysis

## 5 Results

Through the literature review, detection and management were identified as the main categories of nursing interventions on children and adolescents with depression in primary care settings. The detection theme consisted of two subcategories of interventions, which were screening and assessment. In this study the authors defined that the screening category included the interventions which were meant to identify any needs for further assessment of a child, while the assessment was consisted of those that

focuses on assessing a child's condition and risk factors to gain better understanding of the whole situation and thus for planning an individual care plan. Multi-profession corporation and education were belonging to the management category as subcategories. The first subcategory was identified as a timely intervention which maintains depression stability by making suitable care plans starting from primary care; the latter was a timeless intervention regarding suicide prevention and educating children and the public about depression to encourage help-seeking. Figure 3 below demonstrates the relationships of each category and subcategory.

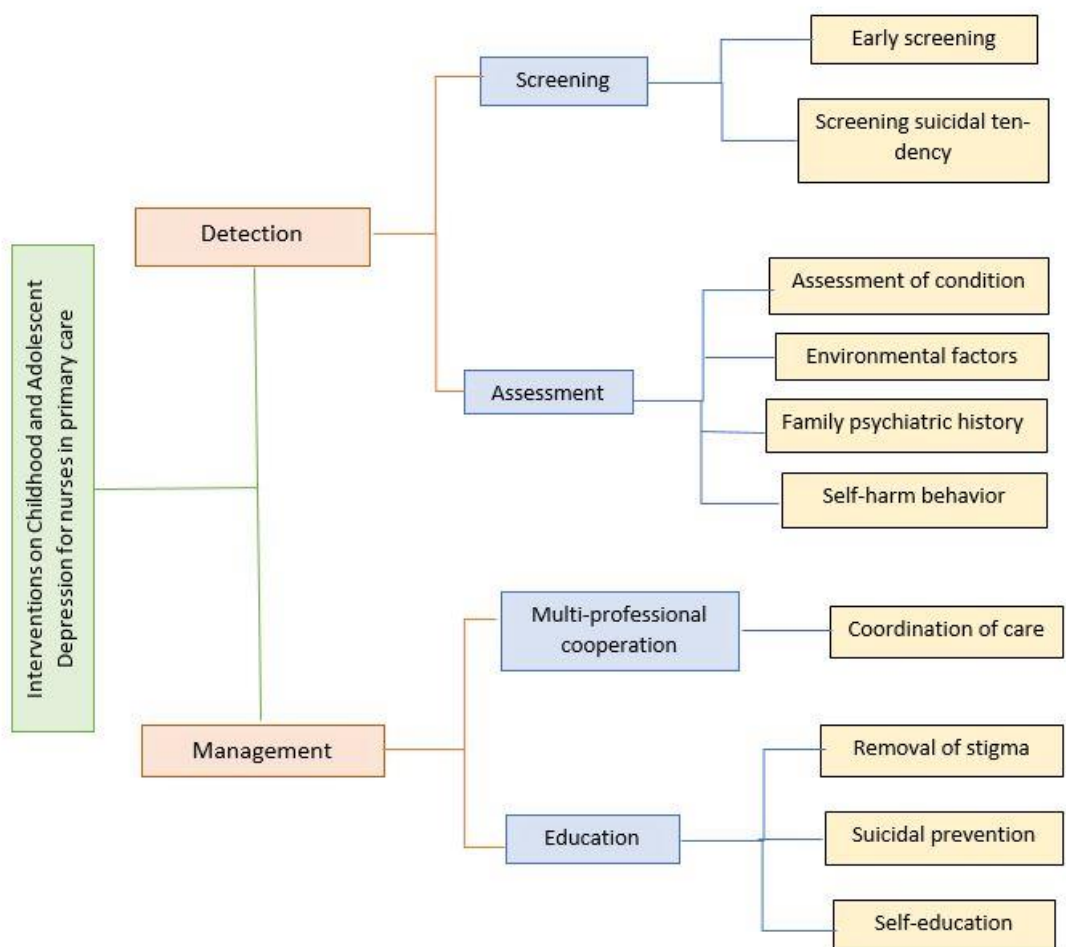


Figure 3. Categories and Subcategories generated through the analysis

## 5.1 Detection

According to Carnevale (2010), youth who showed depressive symptoms depressive symptoms often being undiagnosed. With high chance of causing life threatening events, detection must be done as early as possible. Therefore, to prevent extending the effects to adulthood (Davis, 2005).

### 5.1.1 Screening

Cook, Peterson and Sheldon (2009) stated identification as the most effective preventive strategy of child and adolescent depression, should be done at early stage. However, the limited appointment time and restricted social and financial resources access have challenged the identification of depression (Carnevale 2012; Nardi 2007). The aim of screening is to provide routine check-up. Therefore, to provide in-time care and prevent depression negative impacts and further affects to adulthood (Carnevale 2012; Davis 2005).

**Early screening.** In the limited appointment visit, asking simple open-ended questions, such as *“So how are things?”* and *“Getting enough sleep?”* and observation have found beneficial on retrieve information and sign for in-depth assessment from children and parents because young children may not express themselves openly (Cook et al. 2009; Nardi 2007; Davis 2005). It can also be done through phone conversations for a private and flexible scheduling. (Carnevale 2012; Shannon et al. 2010; Cook et al. 2009; Davis 2005).

**Screening for Suicidal Tendency.** Suicidal thoughts expressed by the youth must be taken seriously and a referral needs to be made immediately and appropriately (El-Radhl 2015; Davis 2005). The warning signs of suicide can be expressed through verbal phrases or through behavior or actions. Also, those who experienced stressful life events, for example changes in close relationships or a presence of other medical conditions, needs to be paid close attention to prevent adverse consequences from happening. (King & Vidourek 2012). Child’s parents or guardians and other personnel, such as teachers, needs to be informed about those warning signs of the youth when

necessary, while local regulations regarding the patient confidentiality being followed properly (Davis 2005).

### 5.1.2 Assessment

The aim of assessment is to provide depressive children the most holistic care plan through understanding the cause of unpleasantness. Besides evaluating risk factors from physical, social and mental health, assessment on study environment, family genetics and implementation of preventive program with caregivers are equally important (Shannon et al. 2010; Cook et al. 2009; Carnevale 2012).

**Assessment of condition.** Besides measuring tools, self-report, parents and teacher report, observation and background inspection have been found useful for depression assessment (Cook et al. 2009; Nardi 2007). Nurses should focus on depressive symptoms such as increased irritability, somatic complains, for instance, stomachache and headache, decline school performance and loss of pleasure which were found as distinct indication in child and adolescent depression (Carnevale 2012; Shannon et al. 2010; Cook et al. 2009; Nardi 2007; Davis 2005). Moreover, elimination of secondary cause such as, learning disability, visual and hearing disability and chronic illness are crucial due to its effect on concentration, school performance and similarity to depressive signs (El-Radhil 2015; Shannon et al. 2010; Nardi. 2007).

**Environmental factors.** Understanding background environmental factors is crucial for assessing a child's situation. Factors such as community violence, poverty, family violence, neglect, sexual abuse, divorce, and bullying at school were identified as stress-triggering which increase the risk of developing depression (Shannon et al. 2010; Cook et al. 2009; Nardi 2007; Davis 2005). Therefore, environmental factors should be included and assessed thoroughly in assessment process.

**Family psychiatric history.** The findings suggested that the assessment of parents' mental health was critical in caring children with depression and other mental illnesses. It showed a strong connection to children's development of mental issues. The studies showed that the youth with parental psychiatric history had a higher chance

of experiencing psychiatric illnesses, including depression (Cook et al. 2009; Davis 2005) found that detection and treatment of maternal depression reported as being effective ways of decreasing child's risk of depression (Davis 2005). Moreover, Cook et al. (2009) pointed out that those family psychiatric history was one indicating factor to differentiate a depressive episode of bipolar disorder from depression when a child presented the first depressive episode. Therefore, nurses should learn about parental psychiatric history and screen a current mental health of parents when assessing child's depression.

**Self-harming behavior.** Self-harm behavior can be managed through assessment, referral and treatment. During assessment, an evaluation on social, psychological and motive of self-harm is done to measure the urgency, understand condition, history and details of the behavior. In order to minimize any distress, nurses should be supportive, empathetic, pleasant while conducting the assessment. Moreover, a separate, quiet room with supervision on regular contact with a named member of staff to ensure safety. As children with self-harm tendency should be provided according to their needs, a separate interview between patient and family, retrieve information from teachers and people with close relationship. (El-Rahdl 2015). Cook et al. (2009) encouraged to address acute stressors during the interview, such as homicide thoughts, substance abuse or break up, since that have rather positive impact on relieving youths' stress. A referral must be done to cases which acute self-harm act had occurred before the visit.

## 5.2 Management

A successful depression management is, creating positive emotions by building up connection with family, school and society connection (King & Vidourek 2005). With children and adolescent, the management is done also to maintain peacefulness in school setting (Shannon et al, 2010), as well as to support community with reachable resources (Davis. 2005).

### 5.2.1 Cooperation with other professionals and the community.

**Coordination of care.** Making appropriate referrals to other professionals for further treatment or assessment was found as one of the main responsibilities of primary care nurses, especially school nurses (Shannon et al. 2010; Nardi 2007). A variety of other professionals were mentioned in the studies, which included physicians, psychiatric nurses, school nurses, social workers, special education teachers, occupational therapists. Professionals should be aware of school stress related triggers, such as, bullying, classroom noise and sufficiency of peer and teacher support. Shannon et al. (2010) commented that any of these professionals or personnel can cooperate with parents and the school community to alleviate stress and symptom triggers, screening can be arranged for child in need. The process of coordinating collaborating care with those professionals can differ among different countries and regions thus the range of nurse's responsibilities may differ significantly. Nevertheless, being aware of local resources enabled nurses to provide necessary information to young patients and their families (Davis 2005).

### 5.2.2 Education

Correcting concept of depression, suicide prevention and nurse's skill establishment were found effective to encourage help seeking and manage suicidal tendency among the youth (King & Vidourek 2012; Shannon et al. 2010). Carnevale (2010), Davis (2005), Shannon et al (2010) recommended, depression education is best done at school setting since children and adolescent spend majority of time at school.

**Removal of stigma.** Depression stigma and disbelief to treatment have interrupted children seeking help. Depression in Asia is often seen as family disgrace, while Africans prefer first seek help from religions than sciences (Shannon et al. 2010; Davis, 2005). Davis (2005) accentuated, breaking stigma is a major mission for depression education. In order to re-introduce depression and its care strategy, nurses should familiarize with the culture of depression and available resources according to the place of service to create a more friendly approach (Shannon et al. 2010).

**Suicidal prevention.** Despite the high risk of suicide caused by depression (Carnevale 2012), only few would seek help from professional (Davis 2005). Education approaches such as, distributing mental health leaflets, organizing small group discussions, activities and sharing were found useful on providing children with counter stress strategies (King & Vidourek 2012). These methods not only encourage help seeking, they also prepare children to offer help to their struggling peers. Davis (2005) stated, red-flagged children are more willing to seek help to peers who had experience similar situation.

**Self-education of nurses.** Advocating acceptance for depression is the key to primary care nursing of depression (Shannon et al. 2010). Communication skills, interpersonal skill, interviewing skill, knowledge of somatic signs and ability to observe and identify suicidality are techniques which nurses at front-line should mastered (Cook et al. 2009). Taking regular education programs support nurses work on detecting, assessing and managing children and adolescent depression with quality (Davis 2005).

## 6 Discussion

### 6.1 Discussion of Results

This study reviewed seven articles in total aiming to identifying interventions for nurses on childhood and adolescent depression in primary care setting. Through the analysis, screening through asking simple, open-ending questions for early detection was identified as a critical nursing intervention regarding the phenomena (Cook et al. 2009; Nardi 2007; Davis 2005). Additionally, Cook et al. (2009) placed the importance on conducting screening as a routine practice. However, Shia (2009) reported that there were still a number of cases of depression remaining unrecognized in primary care due to existing stigma of patients and the lack of knowledge about physical symptoms of depression. Similarly, the findings of the analysis indicated that stigma and insufficient knowledge about a possible connection between somatic symptoms and depression were influenced the target population's behavior and recognition of



depression. Thereby removing possible stigma through educational approaches was reported as an effective intervention for children and adolescents with depression. (Shannon et al. 2010; Davis 2005). Additionally, it is important to screen for suicidality (King & Vidourek 2012). The suicidal idealization was found to be common among depressed people (Shia 2009), and depression has been the leading risk factor for children and adolescents' suicide (Richardson & Katzenellenbogen 2005).

The authors decided to include the interventions recommended particularly for school nurses as the findings for the research question, such as educational approaches. The decision of the inclusion was made, for the authors concluded that school nurses were one branch of the primary care nurses in the context of children and adolescent health care despite of possible regional differences on nurses' education and working environment. WHO (2019) defined the concept of primary health care with mainly three components, which are in short: *"meeting people's health needs through comprehensive promotive, protective, preventive, curative, rehabilitative, and palliative care throughout the life course; systematically addressing the broader determinants of health; (including social, economic, environmental, as well as people's characteristics and behaviours) through evidence-informed public policies and actions across all sectors; empowering individuals, families, and communities to optimize their health, as advocates for policies that promote and protect health and well-being."* As school nurses are in a unique position of being responsible for students' health holistically (Spring 2016), representing a corresponding aspect of nursing with the definition of WHO (2019), school nurses were discussed as a part of nurses in primary care setting in this study.

The gap in the literature was identified in the area of region-specified nursing interventions in treating children and adolescents with depression in primary care settings. The evidence from the review supported that the identified interventions were generally effective for caring children and adolescent with depression and suitable as nursing practice; however, those interventions were not discussed in terms of implementation in this study. The primary care systems are significantly influenced by local health care policies and available resources. Thus, it is possible that the results of the study are not applicable to actual practices due to

the variety of primary care environment surrounding nurses. Also, the responsibility of nurses in primary care can vary among working environment and nations. There has been ongoing reforming of primary care systems due to the shortage of general physicians in various countries including Finland, extending nurses' responsibilities and tasks in primary care. However, the progresses and courses of reforming varies significantly among nations. (Maier & Aiken 2016). Consequently, the results of the study remained rather general in the authors' opinion. Considering the difference of situations surrounding primary care in different nations, the authors believe that further studies regarding nursing interventions for this research topic are needed in a region-specified manner for more concrete suggestions for practice.

## 6.2 Ethical Considerations and Limitations

When ethical norms are properly taken into account in research, they promote the quality of research methodology, the value and accountability of research findings. Appropriate ethical considerations also enable researchers to ensure numerous other important social morals in relation to their studies. (Gajjar 2013; Vergnes, Christine, Nabet, Maret & Hamel 2010). Thereby ethical considerations are an essential aspect of a study in order to preserve the respect for the academic and for the societies.

In this study, the authors recorded the processes of literature search and data analysis in a precise manner in order to make the study applicable. To provide a visualized example of the analysis, the figure was included in the chapter of data analysis. To increase the reliability of the study, the results of the study were described with details and reasoned with the original articles (Elo & Kyngäs 2008). The authors acknowledged all the contributions by stating the references clearly both in-text and on the reference list, avoiding any violation of intellectual properties (Gajjar 2013). Also, six out of the seven articles selected for this study were based on previously published literature and data, and there was no mention of any individual subject in the contents. A composite case of an adolescent patient was discussed in the remaining one article, but the authors of the study stated clearly that the case was not based on an actual patient. Thus, the confidentiality of patients and research subjects were protected in this study.

The literature search was conducted in the two databases and targeted only for those articles that its full contents were available for JAMK students. Consequently, there was a potential of missing relevant studies that were either not in the databases nor not permitted an access. Also, this study had a potential of dismissing relevant studies due to the language limitation, as the search was targeted for the literature written in English. The authors did not have a conflict of interest regarding the study.

### 6.3 Critical Appraisal

A quality assessment had performed to all selected articles in this review with the use of SANRA tool (Baethge, Goldbeck-Wood & Mertens 2019). According to Baethge et al. (2019), literature review is often being criticized as unreliable due to lack of quality assessment tools. However, the SANRA scale which specifically written for literature review, secures the credibility of chosen articles by filtering from *feasibility; item-total correlation; internal consistency; reliability to criterion validity*. The tool supports review authors on article selection and readers for accessibility. The tool measure article from six items: importance of readership, statement of aims or question, description of literature search, referencing scientific reasoning and presentation of data with scoring system between 0 to 2; 0 = Poorly presented, 1= acceptable, 2 = well presented. The maximum score is 12 and minimum is 0 (Baethge et al. 2019). The assessment process of this study is presented in appendix 2.

## 7 Conclusions

As the result of the analysis, several interventions were identified as interventions for nurses in primary care in relation to children and adolescents with depression. Early detection was a critical in terms of providing needed treatment to the youth in order to minimize further progresses of the illness and its influences on their lives. Nurse can also enhance help-seeking behavior of the youth through educating them with appropriate knowledge. Additionally, improving nurses' own interpersonal

competences was applicable accounted as one intervention for nurses. A region-focused research is needed for identifying more timely, detailed interventions due to the changing nature of nursing responsibilities in primary care.

## References

- Baethge, C., Goldbeck-Wood, S. & Mertens, S. 2019. SANRA – a scale for the quality assessment of narrative review articles. *Research Integrity and Peer Review*, 4. 5.
- Baptist Oi Kuan Social Service. 2018. 中學生抑鬱焦慮狀況調查 2018 [Survey on depression and anxiety of middle school students 2018]. Baptist Oi Kuan Social Service. Accessed on 13 October 2020. Retrieved from <https://www.bokss.org.hk/content/press/74/%E4%B8%AD%E5%AD%B8%E7%94%9F%E6%8A%91%E9%AC%B1%E7%84%A6%E6%85%AE%E7%8B%80%E6%B3%81%E8%AA%BF%E6%9F%A52018pdf.pdf>
- Bjorkman, A., Andersson, K., Bergström, J. & Salzmänn-Erikson, M. 2019. Increased Mental Illness and the Challenges; This Brings for District Nurses in Primary Care Settings. *Journal of Mental Health Nursing*, 39(12), 1023-1030.
- Carnevale, T. D. 2012. Universal Adolescent Depression Prevention Programs: A Review. *The Journal of School Nursing*, 29(3), 181-195.
- Carnevale T. 2010. An Integrative Review of Adolescent Depression Screening Instruments: Applicability for Use by School Nurses. *Journal of Child and Adolescent Psychiatric Nursing*, 24(1), 51-57.
- Clow, K. 2016. Management of Adolescent Depression in the Primary Care Setting: An Educational Program for Providers, *University of Massachusetts Amherst*, 62, 9-13.
- Cook, M. N., Peterson, J. & Sheldon, C. 2009. Adolescent Depression: An Update and Guide to Clinical Decision Making. *Psychiatry (Edgemont)*, 6(9), 17-31.
- Consoli, A., Peyre, H., Speranza, M., Hassler, C., Falissard, B., Touchette, E., Cohen, D., Moro, M-R. & Révah-Lévy, A. 2013. Suicidal behaviors in depressed adolescents: role of perceived relationships in the family. *Children & Adolescent Psychiatric Mental Health*, 7(1), 8. doi: 10.1186/1753-2000-7-8.
- Davis, N. M. 2005. Depression in Children and Adolescents. *The journal of School Nursing*, 21(6), 311-317.
- De Cuyper, S., Timbremont, B., Breat, C., De Backer, V. & Wullaert, T. 2004. Treating depressive symptoms in school children; A pilot study. *European Child & Adolescent Psychiatry*, 13, 105-114.
- Elo, S. & Kyngäs, H. 2008. The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107-115.
- El-Radhi, A. S. 2015. Management of Common Behaviour and Mental Health Problems. *British Journal of Nursing*, 24(11), 586-590.

Filatova, S., Upadhyaya, S., Kronström, K., Suominen, A., Chudal, R., Luntamo, T., Sourander, A. & Gyllenberg, D. 2018. Time trends in incidence of diagnosed depression among people aged 5-25 years living in Finland 1995-2012. *Nordic Journal of Psychiatry*, 73(8), 475- 481.

Food and Health Bureau. 2018. *Mental Health Review Report*. Hong Kong Special Administrative Region Government. 49-104. Accessed on 23 October 2020. Retrieved from [https://www.fhb.gov.hk/download/press\\_and\\_publications/otherinfo/180500\\_mhr/e\\_mhr\\_full\\_report.pdf](https://www.fhb.gov.hk/download/press_and_publications/otherinfo/180500_mhr/e_mhr_full_report.pdf)

Gajjar, N. B. 2013. Ethical Consideration in Research. *International Journal for Research in Education*, 2(7), 8-15.

Gladstone, T. R. G., Beardslee W. R. & O'Connor E. E. 2012. The Prevention of Adolescent Depression. *Psychiatric Clinic North America*, 34(1), 35-52.

Gledhil, J. & Hodes, M. 2015. Management of depression in children and adolescents. *Progress in Neurology and Psychiatry*, 28-33.

Global Health Data Exchange. 2019. Research Tools. *Global Health Data Exchange*. Assessed on 3 November 2020. Retrieved from <http://ghdx.healthdata.org/gbd-results-tool>.

Hamrin, V. & Pachler, M. C. 2004. Depression in Children & Adolescents; The latest evidence-based psychopharmacological treatments. *Journal of Psychosocial Nursing*, 42, 10-15.

Harmin, V. & Pachler, M. C. 2005. Child & Adolescent Depression; Review of the Latest Evidence-based treatments. *Journal of Psychosocial Nursing*, 43, 54-63.

Irajpour, A., Alavi, M., Abdoli, S. & Saberizafarghandi, M. 2012. Challenges of interprofessional collaboration in Iranian mental health services: A qualitative investigation. *Iranian Journal of Nursing Midwifery Research*, 17(2), 171-177.

King, K. A. & Vidourek, R. A. 2012. Teen Depression and Suicide: Effective Prevention and Intervention Strategies. *Prevention Researcher*, 19(4),15-17.

Kwak, Y-S., sLee, C-I., Hong, S-C., Song, Y-J., Kim, I-C., Moon, S-H., Moon, J-H., Seok, E-M., Jang, Y-H., Park, M-J., Hong, J-Y., Kim, Y-B., Lee, S-H., Kim, H. J. & Kim, M-D. 2008. Depressive symptoms in elementary school children in Jeju Island, Korea: prevalence and correlates. *Eur Child Adolesc Psychiatry*, 17, 343-351.

Lenz, K., Coderre, K. & Watanabe, M.D. 2009. Overview of depression and its management in children and adolescents. *Formulary*, 44, 172-180.

Maier, C. B. & Aiken, L. H. 2016. Task shifting from physicians to nurses in primary care in 39 countries: a cross-country comparative study. *The European Journal of Public Health*, 26(6), 927-934.

Mendes, A. V., Loureiro, S. R., Crippa, J. A., Gaya, C. D. M., García-Esteve, L. & Martín-Santos, R. 2012. Mothers with Depression, School-aged Children with Depression? A Systematic Review. *Perspectives in Psychiatric Care*, 48, 138-148.

Nardi, D. A. 2007. Depression: Assessment & Early Intervention. *Journal of Psychosocial Nursing*, 45(3), 48-51.

National Institute for Health and Care Excellence (NICE). 2019. *Depression in Children and Young People: Identification and management*. NG134. Accessed on 6 August 2020. Retrieved from <https://www.nice.org.uk/guidance/ng134>

National Health Services. 2017. *Many teenagers reporting symptoms of depression*. Accessed on 18 October 2020. Retrieved from <https://www.nhs.uk/news/mental-health/many-teenagers-reporting-symptoms-depression/>

The Right Step. 2017. *Teen depression & High suicide rate in Japan: The Cause & the factors*. Accessed on 3 November 2020. Retrieved from <https://www.rightstep.com/rehab-blog/teen-depression-high-suicide-rates-japan-causes-factors/>

Torikka, A., Kaltiala-Heino, R., Rimpelä, A., Marttunen, M., Luukkaala, T. & Rimpelä, M. 2014. *Self-reported depression is increasing among socioeconomically disadvantaged adolescents-repeated cross-sectional surveys from Finland from 2000 to 2011*. BMC Public Health. Accessed on 13 October 2020. Retrieved from <https://bmcpublihealth.biomedcentral.com/articles/10.1186/1471-2458-14-408#citeas>

Rew, L. 2010. The systematic Review of Literature: Synthesizing Evidence for Practice. *Journal for Specialists in Pediatric Nursing*, 16, 64-69.

Richardson, L. P. & Katzenellenbogen, R. 2005. Childhood and Adolescent Depression: The Role of Primary Care Providers in Diagnosis and Treatment. *Curr Probl Pediatr Adolesc Health Care*, 35(1), 6-24.

Sabella, D. & Fay-Hiller, T. 2014. Challenges in mental health nursing: current opinion. *Dove Press Journal*, 4, 1-6.

Shannon, R. A., Bergren, M. D. & Matthews, A. 2010. Frequent Visitors: Somatization in School-Age Children and Implications for School Nurses. *The Journal of School Nursing*, 26(3), 169-182.

Spring, S. 2016. *The role of the 21st century school nurse (Position Statement)*. A page on National Association of School Nurses (NASN) website. Accessed on 4 November 2020. Retrieved from <https://www.nasn.org/advocacy/professional-practice-documents/position-statements/ps-role>

Shia, N. 2009. The role of community nurses in the management of depression. *Nurse Prescribing*, 7(12), 548-554.

- Silva, S., Silva, S., Ronca, D., Gonçalves, V., Dutra, E. & Carvalho, K. 2020. Common mental disorders prevalence in adolescents: A systematic review and meta-analyses. *PLOS ONE*, 15.4. Accessed on 22 October 2020. Retrieved from <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0232007>
- Supper, I., Catala, O., Lustman, M., Chemla, C., Bourgueil, Y. & Letreliart, L. 2014. Interprofessional collaboration in primary health care: a review of facilitators and barriers perceived by involved actors. *Journal of Public Health*, 37(4), 716-727.
- U.S. Department of Health & Human Services. 2014. *Does depression increase the risk for suicide*. Accessed on 30 October 2020. Retrieved from <https://www.hhs.gov/answers/mental-health-and-substance-abuse/does-depression-increase-risk-of-suicide/index.html>
- Vergnes, J-N., Christine, M-S., Nabet, C., Maret, D. & Hamel, O. 2010. Ethics in systematic reviews. *Journal of Medical Ethics*, 36(12), 771-774.
- Vitulano, M. L., Fite, P. J., Rathert, J., Gaertner, A., Wynn, P. & Hill, R. 2011. The influence of neighborhood safety on the relation between caregiver alcohol use and child symptoms of depression. *Journal of Substance Use*, 16(5), 359-366.
- Whittemore, R. & Knafl, K. 2005. Methodological Issues in Nursing Research. The Integrative Review: Updated Methodology. *Journal of Advanced Nursing*, 52(5), 546-553.
- Wilkinson, P. O., Harris, C., Kelvin, R., Dubicka, B. & Goodyer, I. M. 2013. Associations between adolescent depression and parental mental health, before and after treatment of adolescent depression. *Eur Child Adolesc Psychiatry*, 22, 3-11.
- World Health Organization. 2020. *Depression. Fact Sheets*. Assessed on 2 July 2020. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/depression>
- World Health Organization. 2019. *Primary health care*. Accessed on 4 November 2020. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/primary-health-care>
- World Health Organization. 2019. *Suicide. Fact Sheets*. Assessed on 9 August 2020. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/suicide>
- Yuen, W. Y., Liu, L. & Tse, S. 2019. Adolescent Mental Health Problems in Hong Kong: A Critical Review on Prevalence, Psychosocial Correlates, and Prevention. *Journal of Adolescent Health*. 64(6), 73-85.
- Zuckerbrot, R., Cheung, A., Jensen, P., Stein, R. & Laraque, D.; and the GLAD PC steering Group. 2007. Guidelines for Adolescent Depression in Primary Care (GLAD-PC): I. Identification, Assessment, and initial management. *Pediatrics*, 120(5), 1299-1312.



Zuckerbrot, R. & Jensen, P. 2006. Improving Recognition of Adolescent Depression in Primary Care. *Archives of Pediatrics and Adolescent Medicine*, 160(7), 694-704.

## Appendices

Appendix 1. Basic information of the reviewed articles (alphabetical order)

Author(s) (year) Title of the study/article.	Purpose of the study/article	Keywords	Key findings	Other comments
Carnevale, T. D. (2012)  Universal Adolescent Depression Prevention Programs: A Review.	The purpose of the study: <i>“to systematically review previously implemented adolescent depression prevention program studies that can be administered by school nurses in school setting”</i>	Adolescent depression; childhood; prevention programs; health promotion; school-based; interventions and school nurses	School nurses have a key role in implementing and developing prevention programs for adolescent depression. Through the review, barriers for successful implementation of prevention programs were identified, such as limited time for interaction and students’ uncomfortableness for dealing with mental health issues due to stigma, as one of the themes surrounding the implementation of prevention program in school setting.	
Cook, M. N., Peterson, J. & Sheldon C. (2009)	The purpose of the study: to present <i>“an overview of optimal prevention, assessment, and clinical decision-making</i>	Adolescent; depression; suicide; treatment	Depression and suicidality in adolescents are serious issue. Preventive strategies targeted at-risk adolescents, including routine screening of depression in primary settings, indicated to be	

<p>Adolescent Depression: An Update and Guide to Clinical Decision Making.</p>	<p><i>strategies for managing depression in adolescents"</i></p>		<p>an effective intervention. Some of the medications also demonstrated its efficacy in treating adolescent depression, however psychotherapeutic treatments/therapies were reported to the most effective treatment method for adolescent depression. The studies suggested the relation between the successful treatment of depression and suicidal behavior of the adolescent, thus effective, timely treatment of depression is an intervention on reducing suicidality among the youth.</p>	
<p>Davis, N. M. (2005) Depression in Children and Adolescents.  (This article was found in both Cinahl Plus Full-text and Medline)</p>	<p>The purpose of the study: <i>"to describe risk factors for depression, diagnostic criteria, medications, psychosocial interventions, and implications for school nursing practice"</i></p>	<p>Adolescents; children; depression; risk factors; suicide  Literature review</p>	<p>Childhood and adolescent depression are serious health issue, which is often undiagnosed and untreated. The consequences of that can continue in adulthood, and suicide is the most serious consequence of depression. School nurses can play a significant role in managing and educating the community about this issue. Educational interventions are critical in removing stigma of mental</p>	

			illness and promote support systems for those who suffer from mental illness in the community. Also, <i>“school nurses are in an optimal position to identify those students who are at risk for depression. Daily interaction with students provides the opportunity to assess for depressive symptoms.”</i>	
El-Radhl, A. S. (2015)  Management of common behaviour and mental health problems.	The purpose of the article: to discuss <i>“the most common behavioural problems”</i> and mental health problems that have an impact on children	Behavioural; conduct; emotional problems; children	Self-harm is commonly thought with the context of suicide; however, the definition of self-harm does not contain the intention of suicide, and the study reported that most of the young people who presented self-harm did not have an intention of committing suicide. <i>“Self-harm can be managed through assessment, referral and treatment.”</i> The social, psychological and motivational factors of the children with self-harming behavior need to be evaluated, also current suicidal intent, hopelessness and both mental-health needs and social needs should be assessed. Finally, it is important to assess how likely	

			the young person with self-harm repeat the problematic behavior.	
King, K. A. & Vidourek, R. A. (2012)  Teen Depression and Suicide: Effective Prevention and Intervention Strategies.	The purpose of the article: <i>“to address the extent of adolescent depression and suicide and the connection between the two,”</i> emphasizing on the <i>“importance of identifying warning signs and risk factors for depression and suicide among teens.”</i>	(Not documented in the article)	Untreated depression was found to be a leading cause of suicide among the adolescents. <i>“Youth showing warning signs of depression and/or suicide need to be detected early and then referred to appropriate mental health professionals.”</i> It is crucial for both the youth themselves and the adults working with the adolescent to be aware of those early warning signs so that further interventions can be implemented when needed. Additionally, the key components to successful prevention of depression and suicide were indicated to have <i>“positive social and emotional connections”</i> among adolescents as a protective factor, and support from adults.	
Nardi, D. A. (2007)	(Not a clear sentence in the article)	(Not documented in the article)	Identifying and assessing child’s depression risk is significant early interventions on	Judging from its title and contents, the authors considered that to discuss the

<p>Depression: Assessment &amp; Early Intervention.</p>			<p>childhood depression. A three/pronged approach is reported to be a financially effective, safe, front-line method for assessing clinical depression among children. It is important for primary care providers or school nurses to routinely look for any indication of childhood depression in every patient visit. A careful assessment of maternal depression, environmental factors such as community violence, comorbid visual, hearing, and learning disorders need to be included in assessing child's risk of developing depression.</p>	<p>importance of early interventions and assessment on depression among school-aged children is the purpose of the article.</p>
<p>Shannon, R. A., Bergren, M. D. &amp; Matthews, A. (2010)</p> <p>Frequent Visitors: Somatization in School-Age Children and Implications for School Nurses.</p>	<p>The purpose of the study: <i>"to examine the clinical presentation, associated variables, and implications for school nurses regarding children who are frequent school health office visitors with somatic symptoms"</i></p>	<p>Somatization; school nurse; frequent visitors; health office visits; children</p> <p>Literature review</p>	<p>The significance of students' somatic complains with medically unexplained reasons were often underestimated by school nurses, staffs and their parents. However, studies suggested that there may be an unrecognized serious problem behind the complains, such as family dysfunction, mental health issues. Therefore, those students deserve to be taken seriously</p>	

			and to be assessed to understand an underlying situation of the symptoms.	
--	--	--	---------------------------------------------------------------------------	--

Appendix 2. Critical appraisal of the articles (Beathge et al. 2019)

Author(s) (year)	Importance of readership	Statement of aims or questions	Description of literature search	Referencing	Scientific reasoning	Presentation of data	SANRA score in total
Carnevale, T. D. (2012)	1	2	1	2	2	2	10
Cook, M. N., Peterson, J. & Sheldon C. (2009)	2	2	0	2	1	2	9
Davis, N. M. (2005)	2	2	0	2	1	1	8
El-Radhl, A. S. (2015)	1	1	0	2	1	2	7
King, K. A. & Vidourek, R. A. (2012)	1	1	0	2	2	1	7
Nardi, D. A. (2007)	2	1	0	2	1	1	7
Shannon, R. A., Bergren, M. D. & Matthews, A. (2010)	2	2	2	2	2	2	12