Kasetsart Journal of Social Sciences 45 (2024) 443–452

Kasetsart Journal of Social Sciences

journal homepage: http://kjss.kasetsart.org

Prevalence and factors associated with depression among junior high school students in Laksi district, Bangkok, Thailand

Mayurat Rukkiat*, Rungnapa Panitrat

Princess Agrarajakumari College of Nursing, Chulabhorn Royal Academy, Bangkok 10210, Thailand

Article Info

Article history:
Received 21 April 2023
Revised 31 July 2023
Accepted 22 August 2023
Available online 22 April 2024

Keywords:
depression,
junior high school,
prevalence,
risk factor,
student

Abstract

The purpose of this study was to (1) examine the prevalence of depression; and (2) the difference between depressive and non-depressive junior high school students on socio-demographic factors. Socio-demographic data and the Thai version of The Patient Health Questionnaire for Adolescents (PHQ-A) were used as data collection instruments. Percentage was utilized to identify the prevalence, while chi-square test was used to analyze the difference between the 2 groups. The results demonstrated that of 508 students, including male (52.6%) and female (48.4%) recruited from high schools located in Laksi district, Bangkok, approximately 32 percent were depressed with PHQ-A cutoff point ≥ 10. Among these, there were moderate (19.1%), severe (9.6%), and extremely severe depression (3%). Chi-square test demonstrated statistically significant difference between the depressive sample and the counterpart on gender ($\chi^2 = 23.937$, $p < .001$), anxiety about academic performance ($\chi^2 = 78.316$, $p < .001$), parental status ($\chi^2 = 10.764$, $p < .05$), the resident's father's education ($\chi^2 = 5.996$, $p < .05$), the father's occupation ($\chi^2 = 5.996$, $p < .05$), family financial problems, relationships between father and mother ($\chi^2 = 14.993$, $p < .05$), relationships between students and parents ($\chi^2 = 27.979$, $p < .001$), and relationships with friends ($\chi^2 = 14.566$, $p < .05$). Conclusion: adolescents in junior high school frequently experienced depressive symptoms. Early detection by screening depressive symptoms should be provided. Raising awareness on monitoring depression among teachers, parents, and health personnel is required to prevent their children suffering depression. Socio-demographics should be considered for screening procedure. School-based prevention programs including universal, selective, and indicated prevention are intervention recommended for children. Mental health programs or activities to prevent or decrease depression among adolescents should be developed through depression surveillance systems. Activities raising the quality of peer/parents' relationship with high school students may be required for buffering depression.

* Corresponding author.
E-mail address: mayurat.ruk@cra.ac.th (M. Rukkiat).
† Co-first authors.
E-mail address: rungnapa.pan@cra.ac.th (R. Panitrat).

https://doi.org/10.34044/j.kjss.2024.45.2.10
2452–3151/© 2024 Kasetsart University.

Introduction

Depression is a major mental health problem globally. Many previous studies in different countries reveal an increase in the number of adolescents with depression, for example in the United States the rate of adolescents with depression increased from 8.7 percent in 2005 to 11.3 percent in 2014 (Mojtabai et al., 2016). In Thailand, in 2016, the Department of Mental Health conducted a study on the prevalence of depression among adolescents aged 13–15 at the national level and found a prevalence of 2.0 (Ekasawin et al., 2016). A survey of schools in 13 health districts across the country in 2018 found that 17.5 percent of adolescents aged 11–19 years had depression and 49.8 percent had mild depression in each district. However, there is varied depression rate from 9.4 to 20.5 percent in each health district. The most depressive zones were health district 5 (the lower central region), health district 7 (the central northeastern region), and health district 13 (Bangkok), respectively.

Moreover, a wishing to die among adolescents was 20.5 percent, suicidal ideation 5.1 percent out of 22.5 percent of all adolescents at risk of suicide. (Panyawong et al., 2020) This is consistent with the study of depression among junior high school students in Ubon Ratchathani Province. The prevalence was 25.2 percent, and the risk of suicide was 16.8 percent. (Sukhawaha et al., 2020). In addition, those with severe and chronic depression are 15 times more likely to commit suicide than those without depression. (Hongsrisuwan, 2016)

According to the study of factors related to depression in Grade 5 students in Bangkok, it was found to correlate with poor self-esteem, dissatisfaction with academic performance, poor family relationship, suicidal thoughts, and low family income (Kaewpornsawan et al., 2012).

A previous study has reported that the prevalence of depression varied over the study period, tools used in the study, and school context. In a study by Kongpet and Suntibenchakul (2015), the prevalence of depression and adverse behavior among adolescents aged between 10–15 years who receive services at the Baan Rajvithi Home for Girls is high. The Children's Depression Inventory (CDI) shows cut-off points equal to or greater than 15. A score of 21 or above indicates severe depression. The prevalence of depression is 52.9 percent, the adverse behavior is 12.6 percent, and the prevalence of depression and adverse behavior is 10.1 percent. Additionally, depression is correlated with adverse behaviors at a low level.

However, depression in adolescents is often ignored due to a lack of public cognition as well as awareness of depression in the healthcare system. In previous decades, the Department of Mental Health has implemented an intervention to prevent and solve depression problems at the national level. The intervention comprises the awareness campaign to promote an understanding of this mental disorder through various media, disease surveillance, screening and diagnosis, treatment, and psychosocial support.

Nevertheless, the accessibility to mental health services among adolescents remains low and due to the nature of the teenagers themselves, most are unfamiliar with visiting mental health professionals to resolve their problems. Therefore, prevention and surveillance of depression in adolescents at schools are the best places to monitor risk of depression among adolescents because school is a place that facilitates learning and teenagers' life each day (Kaewpornsawan et al., 2012; Wisitpongaree et al., 2014).

According to the strategic plan of the Department of Mental Health based on the 12th National Economic and Social Development Plan (2017–2021), Strategy 1: To promote and prevent mental health problems for people of all age groups, the indicator is the percentage of at risk adolescents with behavioral-emotional problems, targeting them to receive care and assistance of at least 75 percent (by the end of 2021) (Ministry of Public Health, 2017). Depression interchangeably represents sad/depressive mood, depressive symptomatology, or major depression disorders. Depressive mood is normal expression in daily living. Next, depressive symptomatology, the group of symptoms that identify depression, includes low mood and loss of pleasure in everyday activities that is beyond typical negative emotions that an individual would experience. (Ayuso-Mateos et al., 2010). It has been found to be a predisposing factor for major depressive disorders. That is, it is a symptom in the early stage of major depressive disorders. Lastly, major depressive disorders are diseases (Moriarty et al., 2015). In sum, depression in this study referred to depressive symptomatology. Therefore, the objectives of this study were to examine the prevalence and factors in relation to depression among junior high school students at Lak Si District School, Bangkok, Thailand.

Methodology

This study was a descriptive cross-sectional survey research that aimed to determine the prevalence and factors related to depression among junior high school students at Laksi District School, Bangkok, Thailand.

The population in this research were junior high students (grade 7–9) from 5 schools located in Laksi District, Bangkok. A G* power analysis at the significance level of 0.05 with medium effect size was calculated to determine the sample size and ultimately yielded 495 students. The inclusion criteria were: (1) adolescents studying in grade 7–9, presenting on the data collection day; (2) being consented by parent; (3) voluntarily participating and (4) being overtly physical and psychological healthy. Exclusion criteria were: (1) absent on the data collection day; (2) reporting any kind of chronic disease requiring prescribed medication; and (3) having any history of diagnosed mental illness.

The research instruments included Socio-Demographic and depressive symptomatology. Socio-Demographic Questionnaire consisting of age, gender, grade level, grade point average, religion, congenital disease, live experience of significant loss, perceived financial sufficiency, number of siblings and friends. In addition, parental education, marital status, parental occupation, the perceived relationship with their parents and their friends, and the relationship between their parents were included.

The Thai version of the Patient Health Questionnaire for Adolescents (PHQ-A) is 9-item self-reported question used to assess depression in the past 2 years. This version was developed by the Rajanagarindra Child and Adolescent Mental Health Institute (Rajanagarindra Child and Adolescent Mental Health Institute, 2018). This instrument is suitable for adolescents aged 11–20 years. It is scored using a 4-point Likert scale from none (0), some days (1), more than 7 days (2), and almost every day (3), with scores ranging between 0 to 27. The scores were categorized as normal (0–4), mild (5–9), moderate (10–14), severe (15–19) and extreme severe (20–27). The PHQ-A score of 10 was used as cutoff point for differentiating between individuals without depression and those with moderate to severe major depressive disorder (MDD) (Panyawong et al., 2020). Psychometric properties examined both criterion validity and internal consistency. Convergent validity was examined from correlations between the PHQ-A and the Children's Depression Inventory (CDI) and the Centre for Epidemiologic Studies-Depression Scale (CES-D). The internal consistency coefficient of the Thai version of the PHQ-A was 0.92. The sensitivity was 76.0 percent and the specificity was 81.0 percent. The correlation between the PHQ-A and both the CDI and the CES-D were 0.83 and 0.87, respectively. That is, convergent validity was high.

Ethical Considerations

This study received ethical approval from the Human Research Ethics Committee, Chulabhorn Research Institute 2020, project code 095/2020, and approval from the schools to approach students and parents for data collection. Consent was received from parents prior to assent from sample.

Data Collections

The data were collected after the study was ethically approved by the Human Research Ethics Committee, Chulabhorn Research Institute. The permission letter for data collection was sent to the school directors in Laksi District in asking for permission to collect the data. Moreover, the objectives of the study were informed and the samples' parents were asked to participate in the project. After permission was granted, the questionnaires were then distributed to the samples and they were asked to complete the questionnaire themselves. The data collection started from 7 December 2021 to 13 February 2022. There were 5 schools which contain junior high school in Laksi District. According to the Office of the Basic Education Commission (2565), there are three medium sized schools, containing 401–800 students. One was large, and another extra-large, containing 800–1500 and more than 1500 students, respectively. The medium sized schools had only one room for each grade level, while the large and extra-large schools had more than one room for each level. Consequently, in three medium sized schools, all students in each room from each grade level were recruited, except for the absences on the data collection day. For the other two schools, two rooms from each grade level were randomly selected to reach the sample size required. Students were informed that voluntarily participating was required. Also, the data were aggregately collected as a whole room all at once. In sum, 508 completed questionnaires were returned.

Data Analysis

Data analysis was done using the Package of Social Sciences (SPSS) for windows version 20. Descriptive statistics were reported for all variables. The Chi-square test was utilized to examine the relationships between selected factors and depression among junior high school students. A P value cut-off point of .05 was used to determine significance.

Results

Sociodemographic, Economic, and Personal Characteristics of Students and Their Families

A total of 508 students participated in the study. The participants were male 52 percent (n = 267) and female 47.4 percent (n = 241). The participants' age ranges from 12–17 years old. Most were 14 years (n = 174; 34.3%), an average of 13.79 years. The participants in grade 7 to grade 9 were 34.1 percent (n = 173), 33.3 percent (n = 169), and 32.7 percent (n = 166), respectively. The grade point average (GPA) ranged from 3.01–4.00 accounted for 48.8 percent (n = 248), followed by the range of 2.01–3.00, 30.7 percent (n = 156). Almost all the participants (89.0%; n = 452) reported no underlying disease. Approximately 37 percent (n = 190) and 34.4 percent (n = 175) reported that they had mild studying-related anxiety and moderate anxiety, respectively. Fifty eight percent (n = 295) reported that their parents lived together, and 52.4 percent (n = 266) lived with their parents. For the parent's educational background, 46.4 percent (n = 241) mentioned that their father graduated from secondary school/ vocational certificate and 50.0 percent (n = 254) mentioned that their mother graduated from secondary school. Father's and mother's occupation was mostly self-employed, accounting for 57.5 percent (n = 292) and 56.3 percent (n =286), respectively. Most participants (n = 305, 60.0%) reported that their family had a minor financial problem. The relationship between parents was good, without any quarrels 32.1 percent (n = 163), and sometimes quarreled 29.9 percent (n = 152). In addition, the relationship between students and parents was at a good level (28.1%, n = 143), while 27.2 percent (n = 138) and 21.1 percent (n = 107) referred to a moderate and excellent level of student-parent relationship, respectively. The relationship with friends was excellent, accounting for 35.6 percent (n = 181) and 32.3 percent (n = 164) was a good level, and 167 (32.9%) out of 508 students had experienced a significant loss in their lives (See Table 2).

Prevalence of Depression

Almost 32 percent (n = 161) of the participating students were found to have PHQ-A total scores of above cut-offs (PHQ ≥ 10) for depression. That is, the study reveals that prevalence was 31.7 percent. Additionally, it demonstrated that most participants (n = 201; 40 %) had mild depression, followed by moderate level (n = 97; 19.1%), 9.6 Severe (n = 49; 9.6%), and extremely severe (n = 15; 3.0%). Lastly, 28.7% (n = 146) was normal (See Table 1).

Table 1 Categories of depression levels among junior high school students

(n = 508)

Classification of depression	n	(%)	Depression with cut point ≥10	N	%
Normal (0–4 points)	146	28.7	No	347	68.3
Mild (5–9 points)	201	39.6			
Moderate (10–14 points)	97	19.1	Yes	161	31.7
Severe (15–19 points)	49	9.6			
Extremely severe (20–27 points)	15	3.0			

Table 2 Chi-square Number and percentage of students due to depression severity and classified by various factors

(n = 508)

Factors	Depression based on PHQ-A (%)						χ^2	p value
	Total (n = 508)		Depression (n = 161)		No depression (n = 347)			
	n	%	n	%	n	%		
Gender							23.937	.000
Male	267	52.6	59	22.1	208	77.9		
Female	241	47.4	102	42.3	139	57.7		
Age							8.065	.153
12	47	9.3	8	17.0	39	83.0		
13	156	30.7	51	32.7	105	67.3		
14	174	34.3	57	32.8	117	67.2		
15	122	24.0	41	33.6	81	66.4		
16	7	1.4	4	57.1	3	42.9		
17	2	0.4	0	0	2	100		

Table 2 Continued

(n = 508)

Factors	Depression based on PHQ-A (%)						χ^2	p value
	Total (n = 508)		Depression (n = 161)		No depression (n = 347)			
	n	%	n	%	n	%		
Educational grade							1.720	.423
1	173	34.1	49	28.3	124	71.7		
2	169	33.3	59	34.9	110	65.1		
3	166	32.7	53	31.9	113	68.1		
GPA							1.773	.621
≤ 1.0	28	5.5	9	32.1	19	67.9		
1.01–2.0	76	15.0	29	38.2	47	61.8		
2.01–3.0	156	30.7	48	30.8	108	69.2		
3.01–4.0	248	48.8	75	30.2	173	69.8		
Studying-related anxiety							78.316	.000
None	96	18.9	16	16.7	80	83.3		
Mild	190	37.4	35	18.	155	81.6		
Moderate	175	34.4	74	42.3	101	57.7		
Severe	47	9.3	36	76.6	11	23.4		
Health							0.006	.939
Healthy	452	89.0	143	31.6	309	68.4		
Unhealthy	56	11.0	18	32.1	38	67.9		
Parental status							10.764	.005
Live together	295	58.1	79	26.8	216	73.2		
Divorced or separated	191	37.6	70	36.6	121	63.4		
Passed away	22	4.3	12	54.5	10	45.5		
Residents							5.996	.050
Parents	266	52.4	73	27.4	193	72.6		
Father or mother	115	22.6	46	40.0	69	60.0		
Relatives (i.g., grandfather, grandmother)	127	25.0	42	33.1	85	66.9		
Father's educational							12.883	.045
No information	7	1.4	0	0	7	100		
Uneducated	8	1.6	3	37.5	5	62.5		
Elementary school	122	24.0	40	32.8	82	67.2		
High school	241	46.4	79	32.8	162	67.2		
Diploma	39	7.7	12	30.8	27	69.2		
Bachelor's degree	73	14.4	27	37.0	46	63.0		
Above bachelor's degree	18	3.5	0	0	18	5.2		
Mother's educational							6.050	.418
No information	2	0.4	0	0	2	0.6		
Uneducated	12	2.4	5	41.7	7	2.0		
Elementary school	98	19.3	30	30.6	68	69.4		
High school	254	50	82	32.3	172	67.7		
Diploma	36	7.1	11	30.6	25	69.4		
Bachelor's degree	83	16.3	30	36.1	53	63.9		
Above bachelor's degree	23	4.5	3	13.0	20	87		
Father's occupation							6.969	.073
Formal employee	143	28.1	36	25.2	107	74.8		
Self-employed	292	57.5	96	32.9	196	67.1		
Unemployed	17	3.3	9	52.9	8	47.1		
Unknown	56	11.0	20	35.7	36	64.3		

Table 2 Continued

(n = 508)

Factors	Depression based on PHQ-A (%)						χ^2	p value
	Total (n = 508)		Depression (n = 161)		No depression (n = 347)			
	n	%	n	%	n	%		
Mother's occupation							3.724	.293
Formal employee	140	27.6	36	25.7	104	74.3		
Self-employed	286	56.3	96	33.6	190	66.4		
Unemployed	35	6.9	11	31.4	24	68.6		
Unknown	47	9.3	18	38.3	29	61.7		
Financial problem in a family							41.473	.000
None	155	30.5	24	15.5	131	84.5		
Slightly	305	60.0	107	35.1	198	64.9		
Extremely	48	9.4	30	62.5	18	37.5		
Relationships between parents							14.993	.005
Good relationship	163	32.1	44	27.0	119	73.0		
Sometimes quarrel	152	29.9	49	32.2	103	67.8		
Always quarrel	31	6.1	19	61.3	12	38.7		
Always fight physically	29	5.7	7	24.1	22	75.9		
Unknown	133	26.2	42	31.6	91	68.4		
Relationships with parents							27.979	.000
Excellent	107	21.1	22	20.6	85	79.4		
Good	143	28.1	35	24.5	108	75.5		
Fair	138	27.2	49	35.5	89	64.5		
Poor	69	13.6	38	55.1	31	44.9		
Bad	51	10.0	17	33.3	34	66.7		
Relationship with Friends							14.566	.006
Excellent	181	35.6	49	27.1	132	72.9		
Good	164	32.3	42	25.6	122	74.4		
Fair	98	19.3	44	44.9	54	55.1		
Poor	38	7.5	15	39.5	23	60.5		
Bad	27	5.3	11	40.7	16	59.3		
Experience of a great loss							3.392	.066
Yes	341	67.1	99	29.0	242	71.0		
No	167	32.9	62	37.1	105	62.9		

Association between Socio-Demographic Factors and Depression

Gender (χ^2 = 23.937, p < .001), anxiety about academic performance (χ^2 = 78.316, p < .001), parental status (χ^2 = 10.764, p < .05), the resident's father education (χ^2 = 5.996, p < .05), the father's occupation (x^2 = 5.996, p < .05), family financial problems, relationships between father and mother (χ^2 = 14.993, p < .05), relationships between students and parents (χ^2 = 27.979, p < .001), and relationships with friends (χ^2 = 14.566, p < .05) showed association with depression among junior high school students. There was a statistically significant correlation with depression at the .05 level (Table 2).

Discussion

The overall prevalence of depression in this study was 31.7. Overall prevalence of depression of Panyawong et al.; Alharbi et al. was 24.1 percent and 40 percent, respectively. The prevalence of this study was in between that of the studies of Panyawong et al. (2020); Alharbi et al. (2019). PHQ – A was utilized in these 3 studies. In other words, overall, 1 out of every 3, 1 out of every 4, and 1 out of every nearly 2 adolescents could be found having depressive symptoms in this study, in Panyawong et al., and Alharbi et al., respectively. To additionally compare, the prevalence of moderate, severe, and extremely severe depression in this study was 19.1 percent, 9.1 percent,

and 3 percent, respectively while the Panyawong's study, the prevalence of moderate to severe depression levels was 17.9 percent, 5 percent, and 1.2 percent, respectively. Panyawong's study and this study were conducted in Thailand. The difference of prevalence between this study and prevalence in Panyawong's study may be because this study was conducted post COVID-19 epidemic while Panyawong et al.'s study was conducted before COVID-19 epidemic. The COVID-19 pandemic has brought major changes in the lifestyle of adolescents. The subjects in this study might be experiencing elevated mental health symptoms associated with the pandemic (Saurabh & Ranjan, 2020; Xie et al., 2020) due to the quarantine and social isolation occurring during earlier outbreaks. Loades et al. (2020) research finding showed that social isolation is associated with increased rates of depression in children and adolescents (Loades et al., 2020). Next, stress and stormy emotion, and less abstractness of thought are characteristics of early adolescence. Emotional-focused coping may be more likely used as a way of coping. Hussong et al. (2021) demonstrated that problem-focused engaged coping (involving the use of problem-solving skills and cognitive restructuring) might have a mitigating effect on depression (Hussong et al., 2021). In addition, long period economic shutdown might cause financial problems in the family. Financial problems might be a factor influencing family/marital relationships. Family relationship was found to be an important predictor of depression (OR = 3.66 for depression) (Cao et al., 2022).

The findings of Alharbi et al. (2019) showed overall prevalence of depression was higher than that of this study. Also, the prevalence of each level of depression of Alharbi et al. was higher than this study. The moderate, severe, and extremely severe depression in Alharbi et al.'s study was 24.6 percent, 10.4 percent, and 5 percent, respectively. Although the Alharbi et al.'s (2019) study was conducted prior to the COVID-19 pandemic, approximately 76 percent of subjects were aged more than 17 years old. Also, they were in the third year of secondary school. Therefore, the difference of overall prevalence and each level prevalence between this study and the Alharbi et al. (2019) study might be due to the differences of the sample age and level of education. It might also be related to hormonal changes. They had to deal with biological change more than the early adolescent. Additionally, the older sample progressed to higher grade level. They had to encounter many life events such as academic pressure increasing from junior to senior school, interpersonal challenges and so on.

Additionally, the prevalence of depression in this study was not congruent with the studies which used CDI (Jandee et al., 2021; Sukhawaha et al., 2020; Surawan, 2021), TMHS (Sangon et al., 2018), and 9Q (Keereesrijarua et al., 2019). The difference in the screening instrument and cutoffs would lead to difference of prevalence cross over studies. It was found that the prevalence of depression measured by PHQ-A was higher than those measured. This may be because the background and scope backing up the measurement differ.

The results showed that there were factors leading to differences between those who reported more depressive symptoms and their counterpart. Girls reported more depressive symptoms than boys ($\chi^2 = 23.937$, $p < .001$). This was congruent with the study by Keereesrijarua et.al (2019); Koenig et al (2021); Sangon et al. (2018); Sukhawaha et.al (2021). There was a combination of factors that push girls to be more vulnerable to depression. Firstly, the biological factors such as hormonal changes at puberty, and body changes. At this age, their body dramatically changes, which may influence body image. Surawan (2021) found that being unsatisfied with their appearance was related to depression (adjusted OR = 1.97, 95% CI = 1.09–3.57). Also, girls had social expectations or culture which may influence their gender roles and self-identity (Surawan, 2021).

Next, academic performance anxiety ($\chi^2 = 78.316$, $p < .001$) was related to depressive symptoms. The result was similar to the research result of Kaewpornsawan and Tuntasood (2012), which indicated that the individual with more depressive symptoms was more likely to feel underachievement (OR = 12.1, $p < .005$). Feeling down with the academic performance may threaten the feeling of the self-worthiness or self-esteem (Chuntana, 2011; Kaewpornsawan & Tuntasood, 2012)

Third, the poor relationship between parents ($\chi^2 = 14.993$, $p < .05$) and parental marital status ($\chi^2 = 10.764$, $p < .05$) indicated that there were differences between the depressive individual and the counterpart. It is congruent with the research results of Jandee et.al, (2021) (Jandee et al., 2021), which found that family connectedness influenced depression (ß = -.53, $p < .001$). Additionally, Kaewpornsawan et.al (2012) found that the relationship between their parents was different between individuals with more depressive symptoms ($\chi^2 = 41.492$, $p < .001$). Incongruence between parents may lead to a negative atmosphere. Being a witness to a quarrel constantly can create negative feelings, teach helplessness, and hopelessness. Those experiences could lead to a depressive mood.

Forth, having financial problem (x^2 = 41.473, p < .001) was another factor related to depressive symptoms. This finding was congruent with Surawan (2021), which found that an individual with family income insufficiency was more likely to have depressive symptoms (adjusted OR = 2.15, 95% CI = 1.18–3.92). Similar to Surawan's study (2021), Kaewpornsawan et al.'s study (2012) showed that an individual with low family income was more likely to have depressive symptoms (OR=2.8, p < .01). Family income insufficiency was a major factor, especially after the Covid-19 epidemic. Loss of a job or suddenly being unemployed could be a significant stressor. While losing a job, family expenses continue. Also, there were additional necessities such as masks, alcohol, etc. Such prices increased dramatically. Losing income and increasing expenses could lead to stress.

Fifth, poor relationship with their parent constantly related to depression (χ^2 = 27.979, p < .001). The finding was congruent with the study of Jandee et.al, (2021), which found family connectedness related to depression (ß = -.53, p < .001). Also, Kaewpornsawan et al.'s study (2012) found parent-child relationship problem (OR = 6.1, p < .001). Additionally, the result of the meta-analysis found moderate associations (r = 0.31) between attachment security and depression in children and adolescents, indicating that insecure attachment to close caregivers is associated with depression. Early relationship experiences with parents, who were the close caregivers, lead to generalized hope about the self, the world, and others.

Lastly, in this study, the poor relationship with friends (χ^2 = 14.556, p < .05) was found to be different between individuals with depression and their counterparts. It was congruent with the result of Jandee et al. (2021), which found friendship intimacy (ß = -.23, p < .001). Also, such relationship from the study of Sangon, et.al. (2018) indicated that there was a statistically significant relationship between friend intimacy and depression (r = -.112, p < .05). At this age, the relationship with a friend is significant. They spend time with peers most of each day. Peers are providers of social support and companionship. The quality of friend relationships is one important factor in adolescents' social environment. Therefore, being accepted by friends and being loved promoted self-esteem and self-worth, which function as a protective factor against depression.

Conclusion

In summary, this study's findings demonstrated that depressive symptoms are frequently experienced by adolescents in junior high school. Although only one third was found with moderate to extremely severe depression and the need to meet profession personnel, screening depressive symptoms is necessary to find risk groups. The differences between depression and non-depression groups on socio-demographic data such as academic performance-related anxiety, financial problems, gender, relationship with their parents, and relationship with their friends are informative for school personnel, parents, and health care professionals. The main limitations of this study included cross-sectional design, which limited the possibility to find the causes of depression, and utilization of self-report measures. Moreover, although the research instruments were simple and user friendly to answer, the results of analysis were rather crude because of the level of measurement of variables measured. Lastly, data collection in this study was conducted after lockdown period post COVID-19 pandemic. The possibility to compare with pre-pandemic data is limited. Despite the limitations, the current findings highlight mental health among adolescents, and present the development of mental health strategies for adolescents to prevent depression.

Recommendation

1. Early detection strategies for adolescent depression are needed in schools.
2. School-based preventive programs such as universal, selective, and indicated prevention could be intervention for students in junior high school.
3. Promoting the quality of peer and/or parents relationship among high school students may be required for buffering depression.
4. Research on risk factors merit further investigation. Factors such as the quality of relationship between adolescents and their parentsand friends, anxiety level, and so on, may complete deep understanding on depression among early adolescents. Instruments which measure a quality of those factors should be utilized.
5. Qualitative research and/or mixed methods on factors influenting depression could be more informative.

Acknowledgments

We would like to thank the Faculty of Nursing Prince Chulabhorn College of Medical Sciences, the Office of the Science Promotion Commission Research and Innovation (TSRI) that has supported and provided the funding for the current study research. We would like to also thank the administrators, teachers, and schools that assisted us to collect the data. Lastly, thanks to all collaborators who contributed to this research study.

Conflict of Interest

The authors declare that there is no conflict of interest.

References

Alharbi, R., Alsuhaibani, K., Almarshad, A., & Alyahya, A. (2019). Depression and anxiety among high school student at Qassim Region. *Journal of Family Medicine and Primary Care*, *8*(2), 504–510. https://doi.org/10.4103/jfmpc.jfmpc_383_18

Ayuso-Mateos, J., Nuevo, R., Verdes, E., Naidoo, N., & Chatterji, S. (2010). From depressive symptoms to depressive disorders: The relevance of thresholds. *The British Journal of Psychiatry*, *196*(5), 365–371. https://doi.org/10.1192/bjp.bp.109.071191

Cao, C., Wang, L., Fang, R., Liu, P., Bi, Y., Luo, S., Grace, E., & Olff, M. (2022). Anxiety, depression, and PTSD symptoms among high school students in china in response to the COVID-19 pandemic and lockdown. *J Affect Disord*, *296*, 126–129. https://doi.org/10.1016/j.jad.2021.09.052

Chuntana, R. (2011). Predictive factors influence depression among secondary school students, regional education office, Chiang Rai Province. *Thai Journal of Nursing Council*, *26*(2), 42–56. https://he02.tci-thaijo.org/index.php/TJONC/article/view/2674/2042 [in Thai]

Ekasawin, S., Phothisut, C., & Chomchuen, R. (2016). The prevalence of psychiatric disorders in Thai students aged 13-17 year. *J Ment Health Thai*, *24*(3), 141–153. https://he01.tci-thaijo.org/index.php/jmht/article/view/79460/63495 [in Thai]

Hongsrisuwan, N. (2016). Depression. *HCU Journal*, *19*(38), 105–118. https://anyflip.com/cpqlz/xqke [in Thai]

Hussong, A. M., Midgette, A. J., Thomas, T. E., Coffman, J. L., & Cho, S. (2021). Coping and mental health in early adolescence during COVID-19. *Research on Child and Adolescent Psychopathology*, *49*(9), 1113–1123. https://doi.org/10.1007/s10802-021-00821-0

Jandee, P., Vatanasin, D., & Hengudomsub, P. (2021). Factors Influencing Depression among Secondary School Students in Extended Educational Opportunity Schools. *Journal of Health and Nursing Research*, *37*(1), 252–265. https://he*01*.tci-thaijo.org/index.php/bcnbangkok/article/view/*249300/168896* [in Thai]

Kaewpornsawan, T., Kaewpornsawan, K., & Tungjittiporn, T. (2012). Factors Affecting the mindfulness in Thai adolescents. *Journal of the Psychiatric Association of Thailand*, *57*(4), 403–412 . https://www.psychiatry.or.th/JOURNAL/57-4/03-Titawee3.pdf [in Thai]

Kaewpornsawan, T., & Tuntasood, B. (2012). The prevalence of depression in 2nd year high school students in Bangkok. *J Psychiatr Assoc Thailand*, *57*(4), 395–402. https://www.psychiatry.or.th/JOURNAL/57-4/02-Titawee1.pdf [in Thai]

Keereesrijarua, W., Pimpa, N., & Phorawat, R. (2019). *Depression among adolescents in Mueang District, Kamphaeng Phet Province*. Report from the 6th National Academic Conference, Research and Development. https://research.kpru.ac.th/research2/pages/filere/9792020-01-10.pdf [in Thai]

Koenig, L. R., Blum, R. W., Shervington, D., Green, J., Li, M., Tabana, H., & Moreau, C. (2021). Unequal gender norms are related to symptoms of depression among young adolescents: a cross-sectional, cross-cultural study. *Journal of Adolescent Health*, *69*(1, Supplement), S47–S55. https://doi.org/10.1016/j.jadohealth.2021.01.023

Kongpet, S., & Suntibenchakul, S. (2015). Prevalence of depression and conduct behaviors for adolescents (10–15 years old), at Rajvithi home for Girls. *Chulalongkorn Medical Journal*, *59*(1), 103–114. https://digital.car.chula.ac.th/cgi/viewcontent.cgi?article=4523&context=clmjournal [in Thai]

Loades, M. E., Chatburn, E., Higson-Sweeney, N., Reynolds, S., Shafran, R., Brigden, A., Linney, C., McManus, M. N., Borwick, C., Crawley, E. (2020). Rapid Systematic review: The impact of social isolation and loneliness on the mental health of children and adolescents in the context of COVID-19. *Journal of the American Academy of Child and Adolescent Psychiatry*, *59*(11), 1218–1239.e3. https://doi.org/10.1016/j.jaac.2020.05.009

Ministry of Public Health. (2017). *Department of mental health strategic plan during the 12th national economic and social development plan*. https://www.dmh.go.th/intranet/p2554/Strategic_2017_Plan_2017-2564.pdf.

Mojtabai, R., Olfson, M., & Han, B. (2016). National trends in the prevalence and treatment of depression in adolescents and young adults. *Pediatrics*, *138*(6), e20161878. https://doi.org/10.1542/peds.2016-1878

Moriarty, A. S., Gilbody, S., McMillan, D., & Manea, L. (2015). Screening and case finding for major depressive disorder using the Patient Health Questionnaire (PHQ-9): A meta-analysis. *General hospital psychiatry*, *37*(6), 567–576. https://doi.org/10.1016/j.genhosppsych.2015.06.012. Epub 2015 Jun 18. PMID: 26195347.

Panyawong, W., Pavasuthipaisit, C., & Santitadakul, R. (2020). Validation of the Thai version of the patient health questionnaire for adolescents (PHQ-A) in adolescent psychiatric patients. *International journal of child development and mental health*, *8*(1), 30–40. https://he01.tci-thaijo.org/index.php/cdmh/article/view/222261

Panyawong, W., Santitadakul, R., & Pavasuthipaisit, C. (2020). Prevalence of depression and suicidal risks in Thai adolescents: A survey in schools from 13 Public Health Region. *Journal of mental health of Thailand*, *28*(2), 136–149. https://he01.tci-thaijo.org/index.php/jmht/issue/download/16591/3912 [in Thai]

Sangon, S., Nintachan, P., & Kingkaew, J. (2018). Factors influencing depression in Thai disadvantaged adolescents in a province in the central region. *The Journal of Psychiatric Nursing and Mental Health*, *32*(2), 13–38. https://he02.tci-thaijo.org/index.php/JPNMH/article/view/138675 [in Thai]

Saurabh, K., & Ranjan, S. (2020). Compliance and psychological impact of quarantine in children and adolescents due to Covid-19 Pandemic. *The Indian Journal of Pediatrics*, *87*(7), 532–536. https://doi.org/10.1007/s12098-020-03347-3

Singh, S. (2017). Parenting style in relation to children's mental health and self-esteem: A review of literature. *Indian Journal of Health & Wellbeing*, *8*(12), 1522–1527. https://www.proquest.com/scholarly-journals/parenting-style-relation-childrens-mental-health/docview/1986552675/se-2?accountid=39758

Sukhawaha, S., Kenbubpha, K., Saguanrum, K., Pianthong, K., Thongbenjamas, S., & Hasook, P. (2020). Prevalence of depression and its association with suicide risk in junior high school students of Ubon Ratchathani Province. *Journal of the Psychiatric Association of Thailand*, *65*(1), 15–24. https://he01.tci-thaijo.org/index.php/JPAT/article/view/240783/163879 [in Thai]

Surawan, W. (2021). Prevalence and factor relating to depression of junior high school students in Nam Phong District Khon Kaen Province. *Journal of the Psychiatric Association of Thailand*, *66*(4), 403–416. https://he01.tci-thaijo.org/index.php/JPAT/article/view/247409 [in Thai]

Wisitpongaree, C., Kolkijkovin, V., & Techakasem, P. (2014). Depression in primary school student in Dusit District, Bangkok. *Vajira Medical Journal*, *58*(3), 43–53. https://he02.tci-thaijo.org/index.php/VMED/article/view/25041 [in Thai]

Xie, X., Xue, Q., Zhou, Y., Zhu, K., Liu, Q., Zhang, J., & Song, R. (2020). Mental health status among children in home confinement during the coronavirus disease 2019 outbreak in Hubei Province, China. *JAMA Pediatrics*, *174*(9), 898–900. https://doi.org/10.1001/jamapediatrics.2020.1619