

UNDERGRADUATE STUDENTS' DEPRESSION RISK VARIABLES IN UNIVERSITY OF ILORIN, NIGERIA*

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10.52846/AUCPP.2023.2.12

Abstract

The high rate of depression among undergraduate students has raised deep concerns among counselors and medical practitioners. Thus, this study examined university student depression risk variables. Moderating factors were gender, age, level of study, and parental occupation status. Survey research was descriptive. This survey covered all 55,000 undergraduates at the University of Ilorin. The study included 420 undergraduates sampled using purposive, proportional, and simple random methods. The study used the "Risk Factors for Depression Questionnaire" (RFDQ) to obtain data. Percentages were utilized for demographic data, while mean and rank-order were employed to answer the research question. The t-test and ANOVA were used to test the four null hypotheses at the 0.05 level. The data shows that academic family and psychological factors are the main risk factors for students' depression. The study found no significant differences in depression risk factors among undergraduates by level of study or parent occupation status, although gender and age revealed a significant difference. Based on the findings, undergraduates should be encouraged to receive adequate medical checkups to ensure cognitive and physical health wellness, regardless of gender, age, level of study, or parental occupation status, to address depression concerns. Mental health counselors should teach in-school adolescents depression prevention and management skills.

Key words: *Depression; Risk Variables; Adolescents; Students; Undergraduates.*

1. Introduction

Adolescence is a peak in physical, mental, and social development. Adolescence is a time of change, reflection, resistance, self-sufficiency, greater social expectations and peer pressure, and the formation of a unique self-identity.

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Between 12 and 18, kids should take risks and try new things. They may become irritated and agitated and retreat from their parents. Although not usually diagnosed and treated, teenage depression is ubiquitous, severe, and recurrent, with a high rate of morbidity and death, and is a major public health issue. Young individuals and teens are three times more likely to develop depressive symptoms than adults and older children, according to Roberts (2008).

Depression is a common mental illness that causes severe sadness, decreased enjoyment or interest, guilt or self-esteem, sleep or food disturbances, exhaustion, and concentration problems (World Health Organization, 2019). Depression is now the third most common health condition after heart and respiratory ailments. It contributes significantly to impairment (Ibrahim *et al.*, 2013). Depression involves more than simply sorrow or a bad mood. Depression is a state of low mood and unhappiness in which people see life as hopeless and overwhelming. It is a major health issue for all ages. This syndrome is characterized by anhedonia, or the inability to enjoy most activities. Depression affects an individual's emotions, cognition, and behavior (Jha *et al.*, 2017). Many nations, especially African ones, ignore depression and other mental diseases.

Research shows that depression adds to the burden of global illness, impacting people in many civilizations. Depression is the third biggest cause of disability and early death, behind heart and respiratory disorders (Ibrahim *et al.* 2012). Global concern has grown about the rise in depression among youth and students (Thapar *et al.*, 2012). Jane-Costello, Erkanli, and Angold (2006) showed that 5.6% of 13–18-year-olds have serious depressive disorders in a meta-analysis of 26 articles on teen mental health. In 2016, a survey was done among 9th–12th graders in 40 Bihar, India, schools. Jha *et al.* (2017) found that 49.2% of students had depressive symptoms. In Malaysia, 42.6% of secondary and higher school pupils are depressed. The research also found 21.5% had mild depression, 18.1% had moderate depression, and 3.0% had severe depression (AbdulLatiff, Tajik, & Ibrahim, 2016). Moeini, Bashirian, and Soltanian (2019) discovered depression in 72.6% of Western Iranian secondary school girls.

Western Nigerian researchers used the Center for Epidemiologic Studies Depression Scale (CES-D) to measure depression. According to Dabana & Gobir (2018), 25.2% of the population had moderate to severe depression, and 7% had severe depression. A further Enugu study found 23.3% depression prevalence. Additional research found that 8.3% of Nigerian university students had depression, with 5.6% having mild to moderate depression and 2.7% having severe depression (Peltzer *et al.*, 2013). Various nations have varying university student mental health rates. The prevalence is 37% among Egyptian university students. Different studies found 31.7%, 27.7%, and 23.6% among Ethiopian university students. Turkish and Omani university students had 27.1% and 27.7% prevalence rates, respectively. Yazd University students in Iran had a 50% prevalence rate, with 35.4%, 13.4%, and 1.2% mild, moderate, and severe instances. Vietnamese students have a 39% predominance, whereas Chinese students have 23.8%. The incidence percentage is 17.1% for Polish university students and 13.8% for American students at the

University of Michigan. Due to hormonal changes during adolescence, differentiating between typical mood swings and depressive symptoms is difficult (Mackenzie, Gover, Armstrong, & Mitchell, 2001).

Depression is often connected to poor health and social issues. Depression makes adolescents more susceptible to anxiety, behavior, and substance addiction issues. This population is also more likely to engage in dangerous sexual behaviors and other high-risk activities (Brooks, Harris, Thrall, & Woods, 2002). Depression among teenagers makes it harder to make friends and increases the likelihood of peer violence (Sweeting & West, 2003). The problems of peer interactions and the tendency to be aggressive are poorly understood. However, depressed adolescents and bullies share certain problems (Born, Shea, & Steiner, 2002). Teens 12 and older with depression have symptoms similar to those of adults. Importantly, depressive disorder has specific phenomenological aspects throughout this developmental period.

Bahls (2016) notes that depressed teens may not always feel sad. Their emotional states are mostly irritable and unstable. Their conduct may also include strong wrath. According to Scivioletto and Tarelho (2015), the current stage of life is marked by decreased academic performance, self-worth, suicidal thoughts, and serious behavioral problems, particularly those involving alcohol and drugs. Depressive disorders are more common in girls after puberty than in boys before adolescence. Fischer *et al.* (2003) found that women develop depressive illnesses twice as often as men in adolescence. Academic difficulties are linked to depression. Many young people develop depression throughout their undergraduate years, according to Heidi and Garret (2020). Each person may have different causes of depression. However, socioeconomic status has been linked to student depression in another research. A comprehensive cross-national study by Tsuda, Steptoe, and Tanaka (2017) examined the association between university students' socioeconomic position and depression. This 23-country study found that family and personal income levels, as well as family wealth, contributed to student sadness. Financial difficulties for students and their families impact academic achievement. In Egypt, Ibrahim *et al.* (2012) examined the relationship between socioeconomic position and depression among undergraduates. A negative correlation was found between student socioeconomic background and depressive characteristics.

In terms of the home environment, adolescents with low parental bonding and connectivity were 1.34 and 1.33 times more likely to experience severe depression, respectively. Depression is strongly and statistically correlated with family ties (Barrera & Garrison-Jones, 2012). According to an Oman-based study, inadequate familial bonds increase the risk of severe depression, especially in women. Thus, Mohamed (2014) observed that a negative parent-child relationship, characterized by strictness toward children, may increase teen depression risk. Kabiru *et al.* (2012) examined social and demographic factors that increase depressive symptoms. Three factors significantly increased depression symptoms, according to the study. This study examined financial happiness, parent-child connectedness, and peer-peer intimacy. Yap, Pilkington, Ryan, and Jorm (2014) found strong evidence that some parenting variables increase the risk of depression and anxiety. These include

decreased parental warmth, increased inter-parental conflict, excessive parental participation, and evasiveness. Parental control and less autonomy are depression risk factors.

Adolescent depression has been linked to older age, parental occupational status, marginalization, female gender, lower parental education, and living conditions affected by parental psychological or psychosocial factors (Nalugya-Sserunjogi *et al.*, 2016). These include family strife, a low socioeconomic level, and poor academic achievement. Depression among undergraduates and young people in Nigeria, particularly in Ilorin metropolis, may be due to stress from survival, education, and economic hardship. Depression throughout adolescence can disrupt important developmental processes, affecting socioeconomic status and interpersonal relationships. Aminu (2015) found many teen suicide attempts, suicidal ideation, and serious behavioral difficulties. Alcohol and drug abuse were connected to depression.

The loss of significant relationships, academic underachievement, dissatisfaction in intimate partnerships, excessive academic demands, financial limitations imposed by parents, and an unfavorable home environment characterized by parental antagonism are among the many causes of depression in young people. According to the Rand Health Organization (2010), mental health issues like depression prevent many young people from fully preparing for their future. Depression is ubiquitous in society. However, this issue may be more prevalent among teens due to their developmental stage, socioeconomic status, academic environment, and other factors (Adeoye & Yusuf, 2011). Many studies have examined the occurrence and impact of depressive diseases, including demographics, culture, and worldwide implications. Adeoye and Yusuf (2011) researched depression among Osun State public officials and its causes. The study found that a substantial percentage of public officials exhibited depressive symptoms, indicating a high incidence in the civil service. The survey also indicated that women are more depressed than men. It also blamed job stress and low pay for federal official sadness.

Muhammed, Bayeti, and Salehi (2009) examined Iranian undergraduate depression and its factors. Their research shows significant student depression rates. They claimed that medical students were more likely than other students to experience the phenomenon, with female students being more vulnerable. Nasreen, Kahir, Forsell, and Edhborg evaluated depression and anxiety symptoms in pregnant Bagladesh women and their risk factors in 2011. Illiteracy, low home economics, a lack of financial help, physical partner aggression during pregnancy, and bad partner interactions were found to cause antepartum anxiety and depression.

As far as the researchers are concerned, no studies have worked on undergraduate students' depression risk variables at the University of Ilorin, Nigeria. We investigated this topic to address this gap.

2. Research Question

This study sought to provide answers to the following question:

What are the risk factors for depression among in-school adolescents in Ilorin metropolis, Kwara State?

2.1. Research Hypotheses

The following null hypotheses are formulated to guide the conduct of the study:

1. There is no significant difference in the risk factors for depression among in-school adolescents in Ilorin metropolis, Kwara State based on gender.
2. There is no significant difference in the risk factors for depression among in-school adolescents in Ilorin metropolis, Kwara State based on age.
3. There is no significant difference in the risk factors for depression among in-school adolescents in Ilorin metropolis, Kwara State based on academic level
4. There is no significant difference in the risk factors for depression among in-school adolescents in Ilorin metropolis, Kwara State based on parent's occupation status

3. Methods

3.1. Design

This study used a descriptive survey approach to data collection since it was based on a quantitative research design. Using a descriptive survey, a researcher can learn about the views of a statistically valid cross-section of the population being studied (Olayiwola, 2007). Since the researcher is interested in gathering data from a statistically valid sample of currently enrolled Ilorin metropolitan area teenagers, a descriptive survey methodology is deemed acceptable for this study.

3.2. Participants

The study's population included all adolescents attending school in Ilorin metropolis, Kwara State. The target population consisted of a specific group of undergraduate students from the University of Ilorin, picked from several faculties. The researcher selected undergraduate students from the University of Ilorin due to their classification as in-school teenagers who commonly encounter academic stress during the academic session. A sample size of 420 undergraduate students was utilized for this investigation. The researchers employed a purposive random selection strategy in order to choose participants from various faculties. The participants were chosen through the use of stratified sampling, which involved the consideration of many factors such as gender, age, level of study, and parent's occupational position. Hence, a sample size of 300 participants (420) was employed for the present research.

3.3. Instrumentation

This study used the self-designed "Risk Factors for Depression Questionnaire" (RFDQ). The questionnaire has two parts. The first component included demographic data such gender, age, degree of education, and parent job

position, whereas section B covered depression risk variables. Four-point Likert-Type Scale scoring: Specialists from the Department of Counsellor Education verified the instrument to remove unnecessary elements. Individual recommendations were incorporated into the final instrument. To evaluate instrument dependability, a test-retest technique was used. Pearson's Product Moment Correlation (PPMC) was used to correlate the scores, giving the instrument a reliability value of 0.78. Two trained research assistants obtained consent from 420 undergraduate students at the University of Ilorin in Ilorin city to distribute the questionnaire. The researchers personally gave respondents copies of the questionnaire to clarify any questions, which helped them build rapport. Questionnaire sections A and B are scored based on their format. Demographic data in Section 'A' was analysed using frequency and simple percentages. Section B, which covered social media's impact on academic performance, received points:

Section B: Strongly Agree (SA) - 4 points, Agree (A) - 3 points, D: Disagree - 2 points, Strong Disagree (SD) - 1 point

Section B of the test has four depression risk factor groups with four items each. The minimum mean cut-off marks for each item were 2.50. Category cut-offs were weighted mean scores of 10.0 (2.5 x 4). Thus, any component with a mean score of 10.0 or more was deemed a major depression risk factor, whereas those below 10.0 were less so.

Data was analysed using descriptive and inferential statistics. Frequency and percentage were used to assess Section A demographic data. To test the null hypotheses, Section B data was examined using means scores and inferential statistics like ANOVA and t-test. The significance threshold was 0.05 for all hypotheses.

4. Results

4.1. Research Question: What are the risk factors for depression among in-school adolescents in Ilorin metropolis, Kwara State?

Table 1. Mean and Rank Order Analysis of the Respondents' Risk Factors for Depression

Item No	I feel depressed as a result of:	Mean	Weighted Mean	Rank
Academic Factor				
1	examination anxiety	2.86		
2	academic failure	2.66		
3	much of academic work load	2.61		
4	lack of textbooks and other educational materials	2.67	10.80	1 st
Family Related Factor				
5	parental health challenges	2.42		
6	parental neglect	2.73		

7	parental separation or divorce	2.52		
8	poverty	2.60	10.27	2 nd
Social Factor				
9	public disgrace	2.91		
10	break up relationship	2.36		
11	rejection by peer group	2.18		
12	disappointment in relationship	2.36	9.81	4 th
Psychological factor				
13	self-guilt	2.73		
14	death of loved one	2.64		
15	negative thinking patterns	2.45		
16	sexual disorder	2.34	10.16	3 rd

Table 1 presents the mean and rank order of the respondents' risk factors for depression. The table indicates that academic factors (examination anxiety, academic failure, much of academic work load, & lack of textbooks and other educational materials) which has the mean grand total of 10.80 ranked 1st. Family related factor (parental health challenges, parental neglect, parental separation or divorce & poverty) ranked 2nd with a grand mean total of 10.27. Psychological factor (self-guilt, death of loved one, negative thinking patterns & sexual disorder) ranked 3rd with a mean score of 10.16 while social factor (public disgrace, break up relationship, rejection by peer group & disappointment in relationship) ranked 4th with a mean score of 9.81. Since three out of four factors have weighted mean score that is above 10.0, then it can be said that academic, family and psychological factors are the main risk factors for depression among in-school adolescents in Ilorin metropolis.

4.2. Hypotheses Testing

Four null hypotheses were formulated and tested for this study. The hypotheses were tested using t-test and ANOVA statistical methods at 0.05 level of significance.

Hypothesis One: *There is no significant difference in the risk factors for depression among in-school adolescents in Ilorin metropolis, Kwara State based on gender*

Table 2. Mean, Standard Deviation and t-value of the Respondents' Risk Factors for Depression Based on Gender

Gender	N	Mean	SD	df	Cal. t-value	Crit. t-value	p-value
Male	191	38.98	11.49	410	3.68*	1.96	.000
Female	221	42.83	9.71				

*Significant, $p < 0.05$

Table 6 shows that the calculated t-value of 3.68 is greater than the critical t-value of 1.96 with a corresponding p-value of .000 which is less than 0.05 alpha level of significance. Since the calculated t-value is greater than the critical t-value, the null hypothesis is rejected. This indicates that there is significant difference in the risk factors for depression among in-school adolescents in Ilorin metropolis, Kwara State based on gender.

Hypothesis Two: *There is no significant difference in the risk factors for depression among in-school adolescents in Ilorin metropolis, Kwara State based on age*

Table 3. Analysis of Variance (ANOVA) showing the Respondents' Risk Factors for Depression Based on Age

Source	SS	df	Mean Square	Cal. F-ratio	Crit. F-ratio	P-value
Between Groups	9215.86	2	4607.93	49.38*	3.00	.000
Within Groups	38165.34	409	93.31			
Total	47381.21	411				

*Significant, $p < 0.05$

Table 3 shows the calculated F-ratio of 49.38 is greater than the critical F-value of 3.00 with a corresponding p-value of .000 which is less than 0.05 alpha level of significance. Since the calculated F-ratio is greater than the critical F-value. The null hypothesis is rejected. Hence, there is significant difference in the risk factors for depression among in-school adolescents in Ilorin metropolis, Kwara State based on age. In order to ascertain where the significant difference lies, Scheffe Post-Hoc was carried out and the output is shown on Table 4.

Table 4. Scheffe post-hoc where the significant difference lies based on Age

Age	N	Sub set for Alpha = 0.05		
		1	2	3
15-20 years	230	36.93		
21-25 years	153		42.72	
26 yrs and above	29			46.90
Sig.		1.000	1.000	1.000

Table 4 shows that respondents who were between 15-20 years had the mean score of 36.93 (in subset 1), 21-25 years had the mean score of 42.72 (in subset 2), while 26 years and above had the mean score of 46.90 (in subset 3). This implies that the mean score of respondents who were 26 years of age and above is greater than the mean scores of other age groups, thus, contributed to the significant difference.

5. Discussion

The study found various depression risk factors among Ilorin-based undergraduate adolescents. These risk factors include academic, family, and psychological. According to Adeoye and Yusuf (2011), a considerable number of school-aged teens report depression due to academic underachievement or high academic pressures. According to Birmaher, Brent, Bernet, Bukstein, Walter, and Benson (2007), familial and societal variables contribute to student depression. Raphael (2000) identified a link between depression and stress-inducing life events such as family disturbances, poverty, and the loss of a loved one. Yap, Pilkington, Ryan, and Jorm (2014) found strong evidence linking familial features to student depression. Also, Nasreen, Kahir, Forsell, and Edhborg (2011), skewed self-perception and worldview, low self-esteem, bereavement, and negative cognitive processes might cause depression among in-school teens.

The study found a gender-specific difference in depression risk indicators among university undergraduates. This shows that male and female respondents' depression risk factor statements differed. The present study's findings support Maag and Irvin (2005), who found that female teens have greater depression rates. Females may be more emotionally receptive than males.

Adolescents in university had different depression risk characteristics, with age being the main factor. This suggests that respondents' expressions about depression risk factors differed by age. According to Scheffe post-hoc study, individuals 26 and older contributed significantly to the observed disparities. The present study contradicts Akume, Igbo, and Saawua (2008), who found no statistically significant changes in depression expression among age groups. They said that depression can occur at any age, however symptoms vary by age group.

When considering respondents' study level, the study found no statistically significant difference in depression risk indicators. This shows that participants' conceptions of depression risk factors were similar regardless of education. This contradicts Cassady, Pierson, and Starling (2019), who found that first-year college students with greater education levels are more depressed. Kebede Anbessie and Ayano (2019) found that medical students in their first and second years were more likely to experience depression. Academic stress during a program may increase the incidence of depression among Ilorin adolescents, independent of academic competence.

Finally, the results showed no statistically significant difference in depression risk factors based on parents' work. This suggests that respondents' depression risk variables did not change by their parents' work. This study supports Moeini, Bashirian, Soltanian, Ghaleiha, and Taheri (2019), who found no statistically significant differences in student depression based on parents' living condition, father's education and occupation, mother's education and occupation, and family size. Schoolchildren may be depressed regardless of their parents' socioeconomic status.

6. Conclusion

According to the findings of the study, the most significant risk factors for depression among respondents of this study are those connected to their academic performance, their relationships with their families, and their mental health. The study also found that there were no statistically significant differences in the risk factors for depression among the respondents while taking into consideration the degree of education their parents had and the occupations, they held themselves. However, when the factors of gender and age were included, it was found that there were significant differences. This research has only predicted the risk variables for depression among teenagers in Nigeria who are enrolled in undergraduate programs. This study has the potential to be expanded in the future so that it can determine the degree of depression experienced by students. As a result of the fact that many socio-demographic and other factors have a significant impact on the likelihood that a student may suffer from depression, the participants in this study each had their own unique features.

7. Recommendations

Based on the findings of this study, it is recommended that:

1. Appropriate medical intervention should be made to savage the depression issues among in-school adolescents by providing adequate medical check-ups for students to confirm if they are cognitively and physically sound, irrespective of their gender, age, level of study, and parent occupation status.
2. It is important for mental health counselors to train in-school adolescents on different strategies to adopt to prevent and cope with depression.
3. Teachers or lecturers need to allocate time for mental health support to relieve students' concerns and worries and mitigate depression.
4. Sporting activities in and outside the school system, eating a balanced diet, and relaxation at appropriate times should be encouraged among students to shield them from unwarranted emotional challenges. These will go a long way in preventing all sorts of depression and helping their victims cope adequately with depressive conditions.

REFERENCES

1. AbdulLatiff, L., Tajik, E. & Ibrahim, N. (2016). Depression and its associated factors among secondary school students in Malaysia. *Southeast Asian J Trop Med Public Health*, 47, 131–41.
2. Adeoye, E.A & Yusuf, A.F. (2011). Prevalence and causes of depression among civil servants in Osun State: Implication for counselling. *Edo Journal of Counselling*, 4(1&2), 92-101.
3. Akume, G.T., Igbo, H.I. & Apeon T.S. (2008). *Element of guidance, counselling and psychopathology*. Makurdi: Lord Sharks Communication Ltd.
4. Aminu, H. P. (2015). *Perceived causes and manifestations of depression among undergraduates of universities in Kwara state, Nigeria*. Unpublished M.Ed. dissertation submitted to the University of Ilorin.

5. Bahls, S. C. (2016). *Epidemiologia de sintomas depressivos em adolescentes de uma escola pública em Curitiba, Brasil. Rev Bras Psiquiatr, 24(2)*, 63-67.
6. Birmaher, B., Brent, D., Bernet, W., Bukstein, O., Walter, H. & Benson, R. (2007). *Practice parameter for the assessment and treatment of children and adolescents with depressive disorders. J Am Acad Child Adolesc Psychiatry, 46(11)*, 1503-1526.
7. Born, L., Shea, A. & Steiner, M. (2002). *The roots of depression in adolescent girls: is menarche the key? Curr Psychiatry Rep, 4*, 449-460.
8. Brooks, T. L., Harris, S. K., Thrall, J. S. & Woods, E. R. (2002). Association of adolescent risk behaviours with mental health symptoms in high school students. *Journal of Adolescent Health, 31*, 240-246.
9. Cassady, J. C., Pierson, E. E. & Starling, J. M. (2019). Predicting student depression with measures of general and academic anxieties. *Frontiers in Education, 4*, 11-17.
10. Dabana, A. & Gobir, A. A. (2018). Depression among students of a Nigerian university: Prevalence and academic correlates. *Arch Med Surg, 3*, 6-10.
11. Fischer, F. M., Martins, I. S., Oliveira, D. C., Teixeira, L. R., Latorre, M.D.O.R. & Cooper, S. P. (2003). Acidentes do trabalho em estudantes do ensino fundamental e médio do estado de São Paulo. *Rev Saude Publica, 37(3)*, 351-356.
12. Heidi, S. S., & Garret, J. W. (2020). Depression among college students: A review of the literature. *Journal of College Student Development, 61(3)*, 385-400.
13. Ibrahim, A. K., Kelly, S. J. & Adams, C. E. (2013). A systematic review of studies of depression prevalence in university students. *J Psychiatr Research, 47*, 391-400.
14. Ibrahim, A. K., Kelly, S. J., Glazebrook, C. (2012). Analysis of an Egyptian study on the socioeconomic distribution of depressive symptoms among undergraduates. *Social Psychiatric Epidemiology, 47(6)*, 927-937.
15. Jha, A. K., Sinha, S., Singh, V. K., Yadav, K., & Kumar, V. (2017). Prevalence of depression and associated factors among adolescent students in an urban area of Bihar. *India. Indian Journal of Psychological Medicine, 39(3)*, 292-297.
16. Kabiru, C., Mojola, S., Beguy, D. & Okigbo, C. (2012). Growing Up at the “Margins concern Aspiration and Expectations of Young People Living in Nairobi’s Slums. *Journal of Research on Adolescence, 23(1)*, 81-94.
17. Kebede, M.A., Anbessie, B. & Ayano, G. (2019). Prevalence and predictors of depression and anxiety among medical students in Addis Ababa, Ethiopia. *Int J Ment Health Syst* 13, 30. <https://doi.org/10.1186/s13033-019-0287-6>
18. Maag, J. W, Irvin, D.M. (2005). *Alcohol use and depression among Caucasians adolescents. Adolescence, 40(157)*, 89-101.
19. Mackenzie, D., Gover, A., Armstrong, G. & Mitchell, O. (2001). *A national study comparing the environments of boot camps with traditional facilities for juvenile offenders*. National Institute of Justice.
20. Moeini, B., Bashirian, S., Soltanian, A R., Ghaleiha, A. & Taheri, M. (2019). Prevalence of depression and its associated sociodemographic factors among Iranian female adolescents in secondary schools. *BMC Psychology, 7*, 25.

21. Mohamed, O. M. (2014). Prevalence of depressive symptoms and associated factors among Banha Faculty of Medicine Students. *Medical Journal of Cairo University*, 82, 445-453.
22. Mohammad, B.A; Bayati A; Salehi, M. N. (2009). Depression prevalence and related factors in Iranian students. *Pakistan Journal of Biological Sciences*, 12(20), 1371-1375.
23. Nalugya-Sserunjogi, J., Rukundo, G. Z, Ovuga, E., Kiwuwa, S. M, Musisi, S. & Nakimuli-Mpungu, E. (2016). Prevalence and factors associated with depression symptoms among school-going adolescents in Central Uganda. *Child Adolescent Psychiatry Ment Health*, 10, 39.
24. Nasreen E.A, Kabir N.Z, Forsell Y., & Edhborg M. (2011). *Prevalence and Associated Factors of Depressive and Anxiety Symptoms During pregnancy: A population based study in Rural Bangladeshi*. Retrieved on December 14, 2013 from <http://www.biomedcentral.com/i472-6874/11/22>.
25. Olayiwola, O. A. (2007). *Procedures in educational research*. Kaduna: Hanijam Publications.
26. Peltzer, K., Pengpid, S., Olowu, S. & Olasupo, M. (2013). Depression and Associated factors among university students in Western Nigeria. *Journal of Psychology Africa*, 23, 459-466.
27. Raphael, B. (2000) Unmet need for prevention. In: Andrews, G. H. *Unmet need in psychiatry: Problems, resources and responses*. London: Cambridge University Press.
28. Roberts, R. E. (2008). Depressive symptoms in children and adolescents. In R. E. Roberts (Ed.), *Depressive disorders in children and adolescents: Diagnosis, assessment, and treatment* (pp. 1-23). Guilford Press.
29. Scivioletto, S. & Tarelho, L. G. (2015). Depressão na infância e adolescência. *Rev Bras Med*, 59(8), 555-558.
30. Sweeting, H. & West, P. (2003). Sex differences in health at ages 11, 13 and 15. *Soc Sci Med*, 56, 31-39.
31. Thapar, A., Cooper, M., Jefferies, R., & Stergiakouli, E. (2012). *What causes attention deficit hyperactivity disorder?* Oxford University Press.
32. Tsuda, A., Steptoe, A. & Tanaka, Y. (2007). Depressive symptoms, socioeconomic background, sense of control, and cultural factors in university students from 23 countries. *International Journal of Behavioral Medicine*, 14(2), 97-107.
33. Yap, M. B., Pilkington, P. D., Ryan, S. M., & Jorm, A. F. (2014). Parental factors associated with depression and anxiety in young people: A systematic review and meta-analysis. *Journal of Affective Disorders*, 156(1-2), 8-23.
34. ***Rand Health Organization (2010). *The teen depression awareness project: Building an evidence base for improving teen depression care*. California: Santa Monica.
35. ***World Health Organization. (2019). *Depression*. Retrieved from <https://www.who.int/health-topics/depression>.