Original Article :

Prevalence of adolescent depression and its sociodemographic correlates among high school students in Majmaah, Saudi Arabia.

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Abstract

Background/Aim:
Depression is a condition that affects the quality of life of a considerable proportion of young people. From an individual perspective, depression might lead to social underperformance, violence, drug abuse, and suicide in adolescents. It is the felt need to understand the neurophysiological basis of depression among adolescents, who are living through crucial stages of their own psychological development. Our research aimed to study the prevalence of depression and its sociodemographic correlates among adolescent high school students.

Methods:
This is a cross-sectional observational study done on adolescent school children in Majmaah, Saudi Arabia. A pre-structured, pre-validated Questionnaire (PHQ-A) was used to collect the data and analyze the information.

Results:
Almost half of the adolescent participants had depression (49.5%). The associated factors for adolescents that were prominent were poor academic performance translated by the grade point average, low monthly income, smoking, and bullying.

Conclusion:
Depression is quite prevalent among this age group. It is widely underestimated and hence should receive specific attention as it can lead to devastating mental and even physical consequences.

Keywords:
Depression, mental illness, adolescents, school children, psychological problems,
Saudi Arabi.

Introduction

Depressive disorder is a frequent health issue among teenagers around the world, with a prevalence rate of 4–5% in late adolescents[1]. Adolescent depression is linked to suicidal ideation and the development of hazardous consequences. In this age group, it is the third-largest cause of death. Depressive disorder is a characterized by cluster of distinct symptoms that interferes with daily activities.. The condition has similar diagnostic features in adolescents and adults. Both sexes are affected equally during childhood, while females are impacted twice as often as boys in teenagers. Suicidal thoughts, hopelessness, social isolation, drug or alcohol abuse, overeating, oversleeping, and irritability are the most common signs and symptoms among adolescents aged 12 to 182. One of the leading causes of adolescent death is suicide. More than 264 million people worldwide suffer from depression, with about 800,000 individuals dying by suicide each year3. Mental health problems affect 10-20% of children and adolescents over the world. Half of all psychiatric illnesses start by the age of 14, and three-quarters start by the mid-twenties[4]. Among preschool children rate of depression is 0.3 percent, schoolchildren 2%, and prevalence of 4–8% among adolescents[5].

In the Gulf and Arab regions, the prevalence of depression varies substantially as reported in published studies. A relatively higher prevalence of depression is quoted by studies done in Saudi Arabia, in contrast with other Gulf and Middle East countries. There has been a paucity of studies estimating the prevalence of depression among adolescents in Saudi Arabia. In the Middle East and Africa range of depression ranges from 13 to 18 percent, according to epidemiological studies. 2 Several studies in Saudi Arabia have been undertaken to establish the prevalence rate of depression and have found a high prevalence rate. According to one study, 30–46% of individuals who visited primary health care centers had a psychological illness[6]. Another survey from Saudi Arabia's central region revealed anxiety and despair among 18 percent of adults[7].

A cross-sectional study conducted among college students in five different areas of Saudi Arabia by using Patient Health Questionnaire-9 (PHQ-9) showed the prevalence of mild, moderate, and severe depression as 18.2 %, 27.3%, and 22.5%, respectively. Gender and area have significant effect on the severity of depression8. Age, gender, marital status, education, immigration status, and income are all recognized relevant sociodemographic factors explaining the variation in of depression. Prevalence of depression is significantly

high among female gender. In comparison to men, women consistently have almost double to treble the prevalence rates for 12-month depression[9]. Loss of a parent, conflict in the parent-child relationship, and divorce were the most common stressors identified in children and adolescents with depressive disorders. Other stressors included single parenthood, physical or psychiatric illness in a parent, deprivation, long-term separations in the first year of life, low social status, and migration[10]. The development of behavioral, emotional, and mental issues was influenced by financial stress. Poverty, which makes it difficult to meet basic necessities, manage resources, educate oneself, and maintain one's health, can lead to depression11. A study from secondary school girls in Abha, Asir region Saudi Arabia, found significant prevalence of depression (41.5 percent) anxiety and stress (66.2 percent and 52.5 percent, respectively[12].

In a study done in Jizan city, Saudi Arabia, among two girls and two boys secondary schools selected randomly, (Out of 772 students, they found, 59% had anxiety symptoms, 39% had symptoms of stress, and 50% of them had depressive symptoms[13].

The recent death of a family member had an effect on psychological development (stress, anxiety, and depression) in adolescents; the study reported that mental health problems are greater in adolescents after family bereavement in comparison to non-bereaved[14]. Depression can become chronic, leading to substance abuse and other mental illnesses, which account for over 40 percent of disability-adjusted life years (DALYs) in children and adolescents[15]. Another study conducted in India found significant prevalence of depression in small families, owing to the fact that a small family may face greater duties and strain without the assistance of extended relatives[16]. Another study, on the other hand, found that families with more members were more likely to suffer from mental illnesses and despair[17].

Materials and Methods

An observational cross-sectional study was conducted among male high schools' students aged between 16 to 19 years in Majmaah, Saudi Arabia. The study period was within 6 months after the ethical approval was obtained from the Deanship of Scientific Research, Majmaah University. Taking the prevalence of depression as 40% and 5% margin of error, the sample size was calculated as 384 upon using the formula N = (1.96)2 *p(1-p)/e2. Cluster sampling was done by dividing Majmaah city into clusters based on districts; then, out of those 12 clusters (districts), 3 clusters

were enrolled based on schools that have accepted our request, and all-male high schools in those clusters were included in the study. Al Andalus district: Al Towaijry educational complex high school, Al Marqab district: King Fahad high school, King Abdulaziz district: King Abdullah high school.

A pre-structured, pre-validated, modified for adolescents Questionnaire (PHQ-A)18, was translated to Arabic and used to gather demographic and variables data from the students. The students were instructed to fill up the forms within one day, and were collected next day. The students were informed that they're participation is voluntary, confidential and only for research purposes. Verbal consent was obtained.

All the data entered into the statistical software SPSS version 25.0, and tests of significance were used to find out numbers of students having depression, the associated factors were analyzed, and statistical tests were applied accordingly.

The inclusion criteria of the study were all male students within the age group of 16-19 years as defined for the adolescent group by World Health Organization.

Results

384 people were contacted randomly among these schools, but only 379 of them participated, and they were all males, the majority of which aged 16-18 (n=370, 97.6%). Majority of students were in 11th grade (n=141, 37.2%), non-repeaters (n=354, 93.4%) and their parents were alive and married (n=328, 86.5%).

Table 1: Characteristics of male high school students (n=379)

Variables	N (%)
Age	
16	135 (35.6)
17	141 (37.2)
18	103 (27.2)
Level	
10th Grade	129 (34)
11th Grade	141 (37.2)
12th Grade	109 (28.8)
Repeater	
Yes	25 (6.6)
No	354 (93.4)
Parental marital status	
Married	328 (86.5)
Divorced	15 (4)
Widowed	36 (9.5)
Family monthly income (SAR)	
<5000	38 (10)
5000-10000	85 (22.4)
10000-15000	96 (25.3)
15000-20000	95 (25.1)
>20000	65 (17.2)
Grade point average	
<85%	105 (27.7)
85-90%	80 (21.1)
90-95%	87 (23)
>95%	107 (28.2)
Domestic violence	
Yes	14 (3.7)
No	365 (96.3)
Smoker	
Yes	44 (11.6)
No	335 (88.4)
Bullied	
Yes	53 (14)
No	326 (86)

Table (2) shows the symptoms experienced by the participants in the last seven days. Feeling down, depressed, irritable, or hopelessness were the most prevalent symptoms among students (n=260, 63.9%), while thought of death wishes or suicidal ideations was the least experienced symptom (n=77, 20.3%).

Table 2: PHQ-9 answers given by male high school students (n=379)

Has he ever felt or experienced any of the following over the last 7 days.	Not at all n (%)	Several days n (%)	More than half the days n (%)	Nearly every day n (%)
Feeling down, depressed, irritable, or hopeless?	137 (36.1)	174 (45.9)	44 (11.6)	24 (6.3)
Little interest or pleasure in doing things?	215 (56.7)	116 (30.6)	34 (9)	14 (3.7)
Trouble falling asleep, staying asleep, or sleeping too much?	181 (47.8)	103 (27.2)	51 (13.5)	44 (11.6)
Poor appetite, weight loss, or overeating?	231 (60.9)	72 (19)	44 (11.6)	32 (8.4)
Feeling tired, or having little energy?	172 (45.4)	126 (33.2)	48 (12.7)	33 (8.7)
Feeling bad about yourself—or feeling that you are a failure, or that you have let yourself or your family down?	250 (66)	78 (20.6)	34 (9)	17 (4.5)
Trouble concentrating on things like school work, reading, or watching TV?	227 (59.9)	89 (23.5)	33 (8.7)	30 (7.9)
Moving or speaking so slowly that other people could have noticed? Or the opposite—being so fidgety or restless that you were moving around a lot more than usual?	295 (77.8)	54 (14.2)	15 (4)	15 (4)
Thoughts that you would be better off dead, or of hurting yourself in some way?	302 (79.7)	56 (14.8)	17 (4.5)	4 (1.1)

Table (3) shows the prevalence of depressive symptoms among participants. Each item shown in Table (2) is rated on a 4-point scale (0=Not at all; 1=Several days; 2=More than half the days; and 3=Nearly every day). The total score range from 0 to 27, and higher score indicates severity of depression. The prevalence of depressive symptoms among high school students was (n=184, 48.5%). Most of the depressed individuals were in the mild to moderate degree of depressive symptoms (n=154, 83,6%).

Table 3: Prevalence and severity of depression among male high school students (n=379)

Depressive state (using PHQ-9 Categorized score)	N (%)
None (0-4)	195 (51.5)
Mild (5-9)	103 (27.2)
Moderate (10-14)	81 (13.5)
Moderately severe (15-19)	21 (5.5)
Severe (20-27)	9 (2.4)

Table (4) shows the bivariate association between depressive symptoms and characteristics of the total sample size (n=379). Monthly income, smoking, grade point average, and bullying had a significant as-

sociation with depression; those who had low income, poor academic performance, smokers, and had been bullied were more likely to encounter depressive symptoims in adolescence. Surprisingly, victims of domestic violence and students who were repeating weren't significantly associated with depression.

Table 4: Distribution of socio-demographic correlates with depression (n=379)

		None	Mild	Moderate	Moderately severe	Severe	Total	p value
Grade	10th	58 (44.9%)	40 (31.2%)	18 (13.9%)	9 (6.9%)	4 (3.1%)	129 (100%)	p = 0.068
	11th	88 (62.4%)	29 (20.5%)	19 (13.4%)	4 (2.8%)	1 (0.7%)	141 (100%)	
	12th	49 (44.9%)	34 (31.1%)	14 (12.8%)	8 (7.3%)	4 (3.6%)	109 (100%)	
Repetition	Yes	14 (58.3%)	4 (16.6%)	5 (20.8%)	1 (4.1%)	1 (4.1%)	24 (100%)	p = 0.626
	No	181 (51.1%)	99 (27.9%)	46 (12.9%)	20 (5.6%)	8 (2.2%)	354 (100%)	
Domestic violence	Yes	3 (21.4%)	4 (28.5%)	5 (35.7%)	1 (7.1%)	1 (7.1%)	14 (100%)	p = 0.053
	No	192 (52.6%)	99 (27.1%)	46 (12.6%)	20 (5.4%)	8 (2.1%)	365 (100%)	
Family monthly income (SAR)	<5000	16 (42.1%)	8 (21%)	7 (18.4%)	6 (15.7%)	1 (2.6%)	38 (100%)	p = 0.021
	5000-10000	36 (42.3%)	25 (29.4%)	16 (18.8%)	7 (8.2%)	1 (1.1%)	85 (100%)	
	10000-15000	54 (56.2%)	22 (22.9%)	13 (13.5%)	4 (4.1%)	3 (3.1%)	96 (100%)	
	15000-20000	61 (64.2%)	25 (26.3%)	7 (7.3%)	1 (1%)	1 (1%)	95 (100%)	
	>20000	28 (43%)	23 (35.3%)	8 (12.3%)	3 (4.6%)	3 (4.6%)	65 (100%)	
Grade point average	<85%	43 (40.9%)	26 (24.7%)	17 (16.1%)	13 (12.3%)	6 (5.7%)	105 (100%)	p < 0.001
	85-90%	35 (43.7%)	20 (25%)	19 (23.7%)	4 (5%)	2 (2.5%)	80 (100%)	

Discussion

There were 379 participants in this study, all of them were males and high school students from which (n=214, 49.5%) had depression ranging as follows; mild (n=103, 27.2%), moderate (n=51, 13,5%), moderately severe (n=21, 5.5%) and severe (n=9, 2.4%). Monthly income, smoking, grade point average, and bullying had a significant association with the prevalence of depression.

A study has been done in Jazan city, Saudi Arabia, reported out of 772 students, 50% had symptoms of depression[13], which is

very similar to our study despite not including females who have a nearly 2:1 ratio of depressive symptoms[19].

A similar study done in Kuwait showed that families of larger size are more vulnerable to depression[17], which wasn't the case in our study as depression and family number weren't significantly associated (p=.146), may be due to cultural differences in Saudi Arabia.

Our study revealed that smoking is associated with depression (p<0.001), supporting another study that showed that smoking could be a risk factor for depression in adolescents, or depressed adolescents may begin to smoke as a stress coping stratgy[20].

Our study results supports the hypothesis that childhood poverty correlates with risk of depressive symptoms as low monthly income was significantly associated with the risk of depressive symptoms in the present study (p=0.021), also reported in a similar study from Hispanics[11].

Conclusion

This study tried to identify the prevalence of depression among adolescent school students' and its associated variables. It was found that depression is quite prevalent. A positive association was found between widely consistent risk factors such as bullying, low income, and poor academic performance with depression.

We recommend to screen adolescents regularly for common mental disorders especially depression. Further, health education should also be given to the parents of children on how to identify mental disorders and get appropriate treatment from the healthcare services. Counseling sessions should be arranged by school authorities and healthcare professionals to deal with depression, bullying, and smoking. This will help in improving the social functioning and psychological wellbeing of adolescents. Follow-up study should be done afterward to find out the impact of the interventions recommended.

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Nil

Conflict of interest

Nil

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