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Research Article

**THE PREVALENCE AND DETERMINANTS OF DEPRESSION
AMONG FEMALE ADOLESCENTS IN GOVERNMENTAL
SECONDARY SCHOOLS IN JEDDAH, 2018**¹Dr. Duaa Abo Marasa, ²Dr. Najlaa Mandoura,¹Family medicine resident, ²Community medicine consultant

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Abstract:

Background and objectives: Depression is an underdiagnosed disease especially in adolescent age group and it can lead to a serious psychiatric illness in the adulthood life, previous studies have shown a high rate of depression in multiple regions in Saudi Arabia and all over the world. This research was done to assess the prevalence and Determinants of depression among female adolescence in governmental secondary schools in Jeddah city.

Methods: A cross sectional multistage cluster sampling methodology was held on 472 secondary school female students. Psychometric evaluation of depression was done by Beck Depression Inventory scale.

Results: Out of the 472 participants, 43.6% were found to have depression, this percentage was divided as 20.2% as moderate depression, 13.4% as borderline clinical depression, 8.9% as severe depression, and 1.1% as extreme depression. There was a positive correlation between the presence of depression and the following associated factors: parents relationship, presence of chronic disease in the student, social problems with family and friends, and a family history of depression.

Conclusion: In this study we found that the prevalence of depression in female adolescents in Jeddah is higher than the prevalence of depression that was found in previous studies which was done on the same age group in other regions of the kingdom.

Early detection of depressive symptoms can prevent a lot of serious consequences later on adulthood life, thus a national screening programs in schools are needed in this age group for diagnosis, management and follow up of the detected cases.

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INTRODUCTION:

Depression is a common mental disorder characterized by persistent sadness and loss of interest in activities that used to be enjoyable to the person, accompanied by an inability to carry out daily activities for at least two weeks” (1) Early detection of depression in adolescents leads to prevention of complications that may affect them in the adulthood that can result in low productivity in their working environment and affect their social life. Adolescence is a transitional stage in the adolescent’s life due to the rapid changes in biological, psychological and social life that can be associated with mental health problems. Depression among adolescents is usually misdiagnosed and it requires further attention as it may lead to several harmful serious consequences such as suicide. Most of the psychiatric illness starts at this age group, and one of the most serious diseases is depression, and it cannot be ignored or misdiagnosed as it may lead to a lot of harmful consequences that will affect the person’s life later on. Number of cases in the primary health centers was misdiagnosed in female adolescents with a lack of knowledge of depressive symptoms among them.

RATIONALE:

Jeddah is one of the largest cities in the kingdom and have a large population, but there is lack of studies that shows the prevalence and determinants of depression among female adolescents.

As there is a lack of studies that were conducted in Jeddah about this topic, and the high prevalence of depression among females in secondary schools in some regions of the kingdom, the aim of this research is to estimate the prevalence and determinants of depression among female adolescents in governmental secondary schools in Jeddah.

AIM OF THE STUDY: To add to the knowledge about depression in female adolescents in the country in order to improve their mental health.

MATERIALS AND METHODS:

Study design: Cross sectional study was carried out on a sample of secondary school females in Jeddah City during the period from October 2018 to February 2019.

Participants: the subjects of the study were female students (14-19 years) enrolled in governmental secondary schools in Jeddah City in the 2018-2019

Sampling technique: A Multistage sample technique. **Stage one:** Administratively Jeddah is divided into four clusters based on the Educational Centers, Simple

random sampling technique was used to select one school from each region (North, South, Middle, and East) making a total of four schools included in the study.

Stage two: From each school three classes (of the three grades of secondary school) were randomly chosen, a total of one hundred students were taken from each school.

Instruments: Self-administrated questionnaire which consists of two parts; the first part was the Socio-demographic data (age, marital status, and school grade) of the participants and the associated factors related with the presence of depression in the students. It consisted of; parent's relationship, parents level of education, family monthly income, presence of chronic diseases, presence of family history of depression, Presence of parental chronic health condition requiring ongoing health care by family members, and presence of social problems with the surrounding family members and friends. The second part was the Beck Depression Inventory scale (BDI) which is validated tool and a widely used as a scale for the assessment of the presence and severity of depression. It consists of 21 items each item on the scale was scored from 0–3 according to the symptom severity and the total score ranged from 0 to 63. If the score is less than 16 is consider normal, while the degree of depression was determined as the following:

- 11-16: Mild mood disturbance
- 17-20: Borderline clinical depression
- 21-30: Moderate depression
- 31-40: Severe depression
- Over 40: Extreme depression

Selected Schools were approached after obtaining approval from the ministry of higher education and school administration. The researcher distributed the self-administrated questionnaire to the selected students. Confidentiality of the information was assured by not mentioning the names of the students. The researcher met the students in their classrooms in the activity and free classes to explain the questionnaire and to enhance their participation. Each school took approximately two to three visits to complete all the sample population required. The data was collected by the researcher immediately after being completed by the students, and reviewed on spot to make sure that all the questions were completed. After collection, all data were verified by hand and coded for entry.

Data entry and analysis:

Data were entered and analyzed by statistical package for social science (SPSS, version 25).

Categorical data were presented in the form of frequencies and percentages. Continuous data were presented as means and standard deviations, we obtained. The p- value through two statistical tests: the first one is the t-test, which was used with the questions that have two variables, and the other test was ANOVA test, which was used with the questions that have more than two variables.

P-value of less than 0.05 was considered as a level of significance.

RESULTS:

This study was conducted on 372 female secondary stage students who responded to the Beck Depression Inventory scale questionnaire describing their level of depression, and the added questions to describe the Socio-demographic data of students as well as associated factors for depression.

Table 1 Out of 372 participants the total number of depressed students is 162 which represent a percentage of (43.6%).

This percentage was divided as: 20.2 % who have a total score of 21-30 that represent a moderate depression level, 13.4% have score of 17-20 which

levels of depression is borderline clinical depression, 8.9 % have score of 31-40 that shows severe depression, and 1.1 % have score of more than 40 that shows extreme depression.

The rest of the students which represent a total number of 210 out of 372, (56.4 %) had a score levels ranging from 1-16 which consist of ups and downs, and mild mood disturbance that is considered normal.

Table 2 shows that there were highly significant positive correlations between the presence of depression in students and the following associated factors: parents marital status, presence of chronic disease in the students, presence of family history of depression, presence of parental chronic health condition requiring ongoing health care by family members, and presence of social problems with the surrounding family members and friends. Those differences have statistical reference at the level ($P<0.01$).

Age, school year, marital status of the student, father's and mother's level of education, and the monthly income of the family did not show any significant association with depression.

Table 1: Prevalence of depression among female adolescents in governmental secondary schools.

Total Score	students number	students %	Mean	Std. Deviation	Levels of Depression
1-10	118	31.7%	5.68	3.12	These ups and downs are considered normal
11-16	92	24.7%	13.32	1.68	Mild mood disturbance
17-20	50	13.4%	18.54	1.09	Borderline clinical depression
21-30	75	20.2%	24.84	2.56	Moderate depression
31-40	33	8.9%	34.36	2.87	Severe depression
over 40	4	1.1%	43.50	1.73	Extreme depression
Total	372	43.6%	16.11	9.82	

Table 2: Associated factors of depression among female adolescents in governmental secondary schools

Characteristics(n=372)	Mean	SD	P
age:			
<16 year	14.4	10.66	0.341
16-17 year	16.2	9.87	
>17 year	17.0	8.91	
school year:			
First	15.7	10.62	0.849
second	16.4	10.12	
third	16.2	8.00	
Marital status (student)			
Single	16.1	9.79	0.955
Married	16.3	12.75	
Level of education(mother)			
Illiterate	17.1	13.27	0.528
primary School	17.1	10.20	
Intermediate School	15.1	9.23	
High School	15.3	9.63	
Bachelor	17.3	9.64	
PhD / Master	18.4	11.50	
Level of education(father)			
Illiterate	15.0	13.08	0.887
primary School	17.4	11.66	
Intermediate School	15.9	9.38	
High School	15.5	9.53	
Bachelor	16.3	9.52	
PhD / Master	17.1	10.43	
parents marital status			
Married	15.5	9.59	0.005 **
Divorced	22.2	10.19	
either parents is dead	18.0	10.66	
Monthly income for family:			
<10000	15.7	9.27	0.290
1000-20000	16.0	10.71	
>20000	18.1	9.65	
Presence of chronic diseases			
yes	19.1	10.16	0.006**
no	15.4	9.63	
Presence of family history of depression in the family.			
yes	21.6	8.84	0.003 **
no	15.7	9.78	
Presence of parental chronic health condition requiring ongoing health care by family members			
yes	19.3	9.05	0.002 **
no	15.4	9.85	
Presence of social problems with (family-Relatives-Friends)			
yes	22.1	9.51	0.001 **
no	13.2	8.60	

DISCUSSION:

This study found that 43.6% out of the total number of respondents were discovered suffering from depression. This was considered a high percentage compared to the earlier studies conducted in other regions of the Kingdom which recorded lower than the present study (6,7,8,9,10). This high percentage of depression maybe due to family statuses, parents of these families are preoccupied with work, all why striving to make their goals reality, which can make their relationship with their adolescent very weak, this is mostly possible in Jeddah more than other cities as it is one of the most opportunistic and accepting cities.

The prevalence of depression in our study is near to the prevalence of depression in the study that was conducted in Al Taif city which represented 42.9% of depressed female adolescents (9). These two convergent percentages are likely to be due to the fact that both cities are located on the western region, and also because of similar characteristic cultures between the two cities.

Findings show that out of the total number of depressed students, 20.2 % are moderately depressed, 13.4% have borderline clinical depression, 8.9 % have severe depression and 1.1 % has extreme depression. Result of the current research was also comparable to the preceding study result conducted in India (11). In their findings, the frequency of depression in the selected students was found to be 49.2%, wherein the prevalence of severe depression was 7.7%, followed by moderate depression (18.1%), and mild depression (23.4%). In this study the presence of chronic disease in the students has a significant positive relation to the occurrence of depression among students; this correlation may be because the presence of chronic illness causes a psychological pressure on the student and affect his daily functioning activities like studying, working, and playing. As compared to the study of Arslan and colleagues (22), the manifestation of depression was more in students with chronic illness compared with those without ($P < 0.05$). These findings were also supported by another study piloted by Bostanci and colleagues (23), wherein they detailed that diseases perpetrated a significant weight on the daily physical actions of the patients, as well as on their education and job prospects. Another factor that was found to be positive in this study is the presence of social problems either with family members and relatives, or friends. As the nature of human being is to be social with the surrounding people in community, the lack of support and the presence of conflicts is one of the causes that lead to depression. This was supported by study of Marciano and Kazdin

(25) wherein their findings show that poor relationship and support from family, friends and relatives results to higher frequency of prevalence of depression. The findings of this research moreover shown that parents marital status was also found significantly related to depression among students. This positive relation between the depression and the parents status is mainly because separation of the parents causes the adolescents to feel lost in this critical time of their lives as they need a guide and support. This result furthered the study of Sander and McCarty (26) who stated that degree of depression amongst students who are living with both parents (27.77%) was expressively inferior than other living statuses and living with father or mother alone (40%) results to furthestmost depression amongst students ($p < 0.05$). They also stated that one of the reasons for depression could possibly due to losing of parents. As even mentioned in some studies, privation of parental warmth and availability is an unswerving peril for youth depression (31). This was also supported A different report however was discussed in the study of Sadock and Sadock (27) where they pointed out that persons who have lost their parents at earlier age have greater chance of depression.

Presence of family history of depression was a positive factor in this study for the development of depression. The explanation of this is that there is a positive genetic factor that may lead to depression in the family members who have this factor positive, also seeing a parent or a relative suffering from depression has a psychological effect on the adolescent life later on. This was supported by the study of Arslan and colleagues (22) who also revealed in their findings that the dominance of depression in the students who had family history of depression was expressively higher vis-à-vis those without ($P < 0.05$). According to Kandel et.al, (24) they stated that adolescents who has family history of depression are more lineal to have depression. As discussed by them, mood disarrays transpire more usually amongst kinsfolks of persons suffering from depression.

In this study marital status of the student, father's and mother's level of education, and the monthly income of the family has no significant association with depression. These results although were not uniformed in the findings of previous studies (12, 14) wherein the commonness of depression was established to be far greater and considerably correlated among youths with truncated socio-economic status. Their studies found that students with low levels of parental education and low parental income were significantly more depressed.

Some studies also stated that the difference of depression score was not statistically significant by whether the students are married or single, similar to the result of this study(19) . Whereas, according to Sarokhani and colleagues (20), they established that unmarried students are more inclined to depression vis-à-vis with married students. They concluded that this could be caused by single students facing more stressful events than the married students in terms of graduation, economic, employment, and marriage pressures. In divergent however to their study, some studies reported otherwise wherein married students have higher frequency of depression than single students (21).

Limitations:

The educational authorities in KSA prevent female researchers from conducting studies on male students. That is why the researcher did not have the opportunity to assess the gender difference in prevalence rates. Limited time for the researcher to conduct the research, school exams and vacation time all were an obstacles during data collection period.

CONCLUSION:

In summary, our results established that there is a high constancy of depression amongst female students. Further research studying on the associated factors and predominance of depression amongst students is needed.

Special attention should be paid to the students showing behavioral changes. Establishment and disseminating consultations and counseling can also be helpful.

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