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Risk Analysis and Interpretations for Depressive Symptoms Among Adolescents in Dubai

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Abstract

According to WHO, about half of mental disorders begin before the age of fourteen with an estimated significant yearly prevalence for such disorders that mount up to 20%, most commonly correlated to depression. To study the effect of risk factors among adolescents in Dubai for developing depressive symptoms. Cross sectional study was carried out in governmental and private secondary schools of Dubai, UAE among secondary school students, grades (10-12), both males and females. A Multistage stratified random sampling was carried out. Number of participated students which entered the analysis was 1289. Self-administered questionnaires of closed ended questions, (Arabic or English language), were distributed among the students. The questionnaire covered Socio-demographic data, Social relationships, Violence/ abuse and stressful life events, Life style, and Anthropometric Measurements. Students whose mothers are deceased or their parents are separated were more prone to have elevated depressive symptoms (50% and 46.2%) respectively. Elevated depressive symptoms were found to be more common among students who perceive bad relationship between their parents (51%). Students, who observed frequent conflicts between their parents, were more to have elevated depressive symptoms (43.7%). Concerning relationship between students and their parents, 70.6% of students with elevated depressive symptoms pointed bad relationship with their parents. In regard to relationship with siblings, the percentage of students with elevated depressive symptoms was 50.2 in case of bad relationship. Elevated depressive symptoms were more prevalent among students who reported bad relationship with their teachers (39.5%). Students who have bad relationship with their colleagues reported more elevated depressive symptoms (50. The following risk factors were greatly linked to depressive symptoms among adolescents School type, nationality, number of siblings, residence, father education, mother education, parent's employment, parent's status, relationship between parents, conflicts between parents, relationship with parents, relationship with siblings, relationship with colleagues, relationship with teachers, family psychological support, close friends psychological support, physical and verbal abuse from any of parents, school bullying, stressful life events and life style Continuous Screening of high risk groups of adolescents for depressive symptoms especially who have all some of the previously discussed risk factors.

Keywords

Depressive Symptoms, Risk Factors, Adolescents, Dubai

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1. Introduction

Adolescents, who compose around fifth of the world's population, are not immune; as this age group is susceptible to wide category of mental disorders in which depression takes an outstanding rank.[1,2] According to WHO, about half of mental disorders begin before the age of fourteen, with an estimated significant yearly prevalence for such disorders that mount up to 20%, most commonly correlated to depression.[3]

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Adolescent depression has obtained a huge interest in clinical and developmental psychology in the last 3 decades; therefore it occupied a focal place in research area, especially after the mounting evidence about public health burden of the disease and its consequences.[4] There are some peculiarities in regard to manifestations of depression in teenagers, as somatic symptoms and conduct problems are often expressed more than verbal formulations concerning the depressive feelings, moreover, there can be some signs and symptoms which might be wrongly taken to be called as "teenager's mood swings", the category of expressions can include feelings of emptiness, hopelessness, restlessness, or irritability, changes in appetite, mood, or sleep patterns, trouble concentrating at school, withdrawal or loss of energy, headaches, backaches, stomachaches or joint pain, even it can be hidden behind engagement into reckless or risky behaviors, suicidal thoughts, drug or alcohol use and rage.[5,6]

Prevalence of depressive symptoms is variable and alarming around the world. In USA, the prevalence rate of depressive symptoms among young adolescents was found to be 18%,[7] A study done in Swedish high-school students, in 2006, revealed that depressive symptoms prevalence reached 12.3%.[8] Another study conducted in brazil (2002), showed that the prevalence rate of depressive symptoms among adolescents in public schools was 20.3%.[9]

The situation in Asian continent is also alarming, as a registered prevalence rates of 17.4% in the boys and 20.6% in the girls, were provided after a study on depressive symptoms upon Korean adolescents.[10] A study in India in 2009, revealed a percentage of 18.4 in regard to prevalence of depression among adolescent students of public schools.[11] In regard to Arab and gulf countries, registered percentages were also varied , as a study in Egypt, on female adolescents showed depression prevalence of 15.3%,[12] while depressive symptoms in Omani high school adolescents were about 17%.[13] In a study conducted in Saudi Arabia, depression among adolescents was found to register a prevalence of 33.4%.[14] In United Arab Emirates, life time prevalence rates for depression were 2.8% and 10.3% for boys and girls respectively.[13]

Previous Studies on the topic showed that presence of depressive symptoms among adolescents, not only incorporated the risk of current depressive disorder, but also it can strongly predict a futuristic episode of major depression in adulthood, even among adolescents who are having depressive symptoms without fulfilling the criteria for diagnosis.[15,16]

Negative consequences of teenage depression go far beyond a sad mood, as it encounter a wide list of detrimental effects related to adolescent, including: psychological sufferings, engagement into risky behavior, adoption of bad habits, social isolation, low scholastic achievements, disrupted family as well as community relationships and a lot of unwanted complications, which if left untreated may end dejectedly by suicide.[13,17]

Depressive symptoms or depressive disorders associated factors are several; in which they are distributed between biomedical and psychosocial entities. Those factors can interact variably and usually in combinations to influence depressive symptoms accumulation, in susceptible adolescents. In consideration to the age, adolescence time period is well recognized to be a period of vulnerability. This time is characterized by fast maturation in physical and psychosocial aspects, during which many psychological deviations can be settled. Depressive symptoms are well known to increase with the onset of puberty, in addition, the prevalence rates rise up from pre-pubertal rate to reach adult rates by the end of the teen years. Within the period of adolescence, epidemiological studies found that incidence rate is highest during mid- to late adolescence, corresponding to ages of (14-16) years and (17-19) years, respectively.[18,19]

In regard to sex, previous studies have shown that female adolescents are at risk of elevated depressive symptoms and depressive disorder more than male adolescents, the issue which was postulated as teenage girls are more socially oriented, more dependent on positive social relationships and more vulnerable to losses of social relationships than are boys, which maximize their vulnerability to the interpersonal stresses and hence display them to depressive symtoms.[20,21]

Research showed that parental socio-economic status is considered to be an important risk factor for offspring mental health problems as it can expose them to disadvantageous social conditions during vital developmental phases early in the life course.[22] The impact of parental education on adolescents' susceptibility to depressive symptoms and depression was studied to reveal an association with lower levels of education.[23] Parents play vital roles in mental development of offspring; literature emphasizes this linkage through studies that found negative outcomes on children and adolescents following parental death or parental disconnection through separation or divorce. Moreover, studies have found that in adolescents whose mothers were deceased or whose parents were separated or divorced, a tendency to exposure to depressive symptomatology where noticed.[24,25]

Family environment, being the first and the most important environment in which the adolescent grow up, attain attitudes and influenced by morals, is a very strong place that can affect the development and wellbeing of adolescent, in particularly related to mental wellbeing. Such effects can be

reflected through a complex mechanism of family dynamics, which include perceived inter-parental relationship, relationship between the adolescents and their parents, relationship between adolescent and siblings as well as psychological support provided through parents and through siblings. [26,27]

Studies documented that in adverse family environments which are characterized by the absence of supportive interactions, disrupted relationships and by elevated levels of conflicts, the depressive symptoms are highly prevalent.[28,29]

School, beside the huge academic function, is considered one of the most important social institutions which play a very intimate rule in regard to mental health and psycho-social development of the adolescents. Students spend most of their time in school environment, surrounded by peers and teachers, such constant interactions can affect the student either in a positive or a negative way. Studies have documented that poor relationship between adolescent students and their teachers, is an important association of adolescent depressive symptoms.[30,31]

2. Objectives

To study the effect of risk factors among adolescents in Dubai on developing depressive symptoms

3. Methodology

Cross sectional study was carried out in governmental and private secondary schools of Dubai, UAE, Among Secondary school students, grades (10-12), both males and females, only Students aged 20years or more excluded from the study. Using the computer program EPI INFO "6.04", the minimum sample size required was 888 students. A Multistage stratified random sampling was carried out. The stratification was based upon region (Dubai is classified into two main geographic areas Bur Dubai and Deira), type of school (governmental and private secondary schools) and sex (males & females).. Final number of participated students which entered the analysis was 1289. 1) Self-administered questionnaires of closed ended questions, (Arabic or English language), were distributed among the students. The questionnaire covered Socio-demographic data, Social relationships, Violence/ abuse and stressful life events, Life style, and Anthropometric Measurements

4. Results

Table (1) shows the distribution of the study sample of secondary school students according to depressive symptoms and parent's related factors. It is obvious that students whose mothers are deceased or their parents are separated; they were more prone to have elevated depressive symptoms (50% and 46.2%) respectively, in contrast to students whose parents are living together (15.7%).Elevated depressive symptoms were found to be more common among students who perceive bad relationship between their parents (51%) as compared to students who perceive good relationship between their parents (13.7%). Students, who observed frequent conflicts between their parents, were more to have elevated depressive symptoms (43.7%), than students who didn't observe such conflicts (15.1%). All differences found were statistically significant.

Table 1. Distribution of the study sample of Secondary school students according to depressive symptoms and socio-demographic characteristics, Dubai 2011.

Socio-demographic variables		Depressive Symptoms				Total (n =1289)	P •
		Not Elevated (n =1063)		Elevated (n =226)			
		No	%	No	%		
School type	Private	866	84.7	156	15.3	1022	0.000*
	Governmental	197	73.8	70	26.2	267	
Age	14-16	585	82.3	126	17.7	711	0.843
	17-19	478	82.7	100	17.3	578	
Sex	Male	511	82.7	107	17.3	618	0.843
	Female	552	82.3	119	17.7	671	
Nationality	Local	253	76.7	77	23.3	330	0.001*
	Non local	810	84.5	149	15.5	959	
Grade	10	363	80.8	86	19.2	449	0.437
	11	331	84.2	62	15.8	393	
	12	369	82.6	78	17.4	447	
Number of siblings #	0	29	78.4	8	21.6	37	0.000*
	1-5	828	85	146	15	974	
	> 5	196	74.5	67	25.5	263	
Residence $^{\pi}$	With both parents	955	84	182	16	1137	0.000*
	With one of parents	80	69	36	31	116	
	With other relatives	17	70.8	7	29.2	24	

Socio-demographic variables		Depressive Symptoms				Total (n =1289)	P •
		Not Elevated (n =1063)		Elevated (n =226)			
		No	%	No	%		
Father education ◊	Illiterate / Read &write	30	62.5	18	37.5	48	0.000*
	Primary / Preparatory	114	77.6	33	22.4	147	
	Secondary	212	79.7	54	20.3	266	
	University /Higher	667	86.4	105	13.6	772	
Mother education▲	Illiterate / Read &write	78	79.6	20	20.4	98	0.001*
	Primary / Preparatory	117	72.7	44	27.3	161	
	Secondary	298	82.8	62	17.2	360	
	University /Higher	555	85.9	91	14.1	646	
Parent's employment ≠	Non	62	76.5	19	23.5	81	0.023 *
	One of parents	703	81.4	161	18.6	864	
	Both of parents	295	87	44	13	339	

• Chi- square test, * P < 0.05, #15cases are missed, π 12 cases are missed, ≠ 5cases are missed, ◊ 56 cases are missed (38 are dead and 18 are missed), ▲ 24cases are missed (10 are dead and 14 are missed)

Table (2) illustrates the distribution of the study sample of secondary school students according to depressive symptoms and social relations. Concerning relationship between students and their parents, 70.6% of students with elevated depressive symptomatology pointed bad relationship with their parents, in comparison to 13.9% of students who documented good relationship with their parents. In regard to relationship with siblings, the percentage of students with elevated depressive symptoms was 50.2 in case of bad relationship, while percentage was 15.3 in case of documented good relationship. Elevated depressive symptoms were more prevalent among students who reported bad relationship with their teachers (39.5%) as compared to (14.4%) among students reported good relationship. Students who have bad relationship with their colleagues reported more elevated depressive symptoms (50%) in comparison to students who have good relationship.

Table 2. Distribution of the study sample of Secondary school students according to depressive symptoms and parents related factors, Dubai 2011.

Parents related factors		Depressive Symptoms				Total (n =1289)	P •
		Not Elevated (n =1063)		Elevated (n =226)			
		No	%	No	%		
Parent's status	Living together	992	84.3	185	15.7	1177	0.000 *
	Separated	14	53.8	12	46.2	26	
	Divorced	26	68.4	12	31.6	38	
	Father died	26	68.4	12	31.6	38	
	Mother died	5	50	5	50	10	
Relationship between parents≠	Good	906	86.3	144	13.7	1050	0.000 *
	Fair	101	72.1	39	27.9	140	
	Bad	25	49	26	51	51	
Conflicts between parents≠	No	575	84.9	102	15.1	677	0.000 *
	Sometimes	417	84.6	76	15.4	493	
	Frequently	40	56.3	31	43.7	71	

• Chi- square test ,* P < 0.05, ≠ 48 cases are missed (38 father s are dead and 10 mothers are dead).

Table (3) demonstrates the distribution of the study sample of secondary school students according to depressive symptoms and psychological supports. Students who stated unavailability of psychological support from their families were more likely to report elevated depressive symptoms (50%) in comparison to students who report continuous psychological support from their families (9.6%).In regard to psychological support from colleagues, students who reported unavailability of such support were 34.6% to have elevated depressive symptoms in comparison to 15.1% who reported availability of support. All noticed differences were with high statistical significance.

Table 3. Distribution of the study sample of secondary school students according to depressive symptoms and social relations, Dubai 2011.

Social relationships		Depressive Symptoms				Total (n =1289)	P •
		Not Elevated (n =1063)		Elevated (n =226)			
		No	%	No	%		
Relationship with parents	Good	886	86.1	143	13.9	1029	0.000 *
	Fair	167	73.9	59	26.1	226	
	Bad	10	29.4	24	70.6	34	
Relationship with siblings◊	Good	858	84.7	155	15.3	1013	0.000 *
	Fair	165	77.1	49	22.9	214	
	Bad	12	48	13	52	25	
Relationship with teachers≠	Good	695	85.6	117	14.4	812	0.000 *
	Fair	338	79	90	21	428	
	Bad	26	60.5	17	39.5	43	
Relationship with colleagues#	Good	926	86.5	145	13.5	1071	0.000 *
	Fair	114	62.6	68	37.4	182	
	Bad	10	50	10	50	20	

• Chi- square test, * P < 0.05, ◊ 37 students don't have siblings.

Table (4) shows the distribution of the study sample of secondary school students according to depressive symptoms and exposure physical and verbal abuse from any of parents. In regard to physical abuse exposure, more prevalence of depressive symptoms was noticed among students who reported frequent exposure of such abuse from any one of parents in comparison to students who didn't report, percentage were 82.8 and 14.6 respectively.

Students, who reported frequent exposure to verbal abuse from any one of their parents, were more to have elevated depressive symptoms (51.9%) than students who didn't report such exposure (14.1%). Differences were statistically significant.

Table 4. Distribution of the study sample of secondary school students according to depressive symptoms and psychological support, Dubai 2011.

Psychological support		Depressive Symptoms				Total (n =1289)	P •
		Not Elevated (n =1063)		Elevated (n =226)			
		No	%	No	%		
Family psychological support	No	49	50	49	50	98	0.000 *
	Sometimes	432	79	115	21	547	
	Always	582	90.4	62	9.6	644	
Close friends psychological support	No	106	65.4	56	34.6	162	0.000 *
	Yes	957	84.9	170	15.1	1127	

• Chi- square test * P < 0.05.

5. Discussions

Most of students' parents were educated to the higher level. Most of them were working. The issue can reflect the socio-economic level of families, in which it is of important value in exposing adolescents to circumstances that may participate in mental health development. Studies confirmed the importance of family socio-economic level on maintaining positive conditions that can enhance positive mental status of children and adolescents.[32] In majority students, parents are living together. Also the majority of the students were residing with both of their parents. Almost four in five adolescents where satisfied through documenting good relationships with their parents. Such gathering and relationships are good indicators for family dynamics which can affects the growth of adolescent through offering more needed care. In addition, presence of harmonious relationships can ensure the stability of the family and be a protective factor against life stresses.[26,33,34]

Disconnection of parents was found in 5% of students, the issue which can lead to disruption of family attachment and impose inverse effects on adolescent's mental status.[25,35] Almost half of students documented the presence of conflicts between their parents. One from every 20 student was able to observe frequent conflicts between parents. Conflicts are known to be present everywhere, but one of the essential skills that should be practiced by parents is how to hide such conflicts from adolescents, to protect them from any emotional deviation in the future. Studies had recognized possible effects that can lead to forthcoming psychiatric problems among adolescents.[36]

Regarding relationships of adolescents with their siblings, the majority acknowledged good relationships with their siblings. Positive relationships are essential for maintaining coherence between siblings. Literature showed that positive relationships are essential for maintenance of psychological wellbeing of adolescents especially through provision of

support when stressful life events are confronted.[27] In school environment, two thirds of students have good relationships with their teachers. Also majority of students documented good relationships with colleagues. Such positive relationships are needed in school, as this environment is the second home for adolescent to grow up. In schools, students need to find support to face changes of adolescents, also they need to find connectedness which help in establishing emotional communications. It was found through research that school environment including (teachers and colleagues) is an important social environment for adolescent mental health.[37]

In reference to psychological support, only half of students are offered continuous psychological support from their families. This figure need to be augmented, as psychological support is one of the vital components needed by adolescents through their maturation. In addition, four of every 5 students perceive psychological support from friends. Psychological support from family and friends is essential; this fact has been assured by researches, as they clarify the need for support as guard for mental wellbeing.[31,38]

At least one from every ten students is exposed to some form of physical abuse from parents. This exposure is worrying, especially that a percent of 2.2 are exposed frequently. Studies revealed that such exposure to physical abuse is correlated with adverse mental health.[39,40] One quarter of students documented exposure to verbal insults from their parents. Verbal insults are taking to be a form of verbal abuse which leads at the end to emotional abuse of the adolescent. Such exposures are negatively associated with mental health of adolescents. It was documented that emotional abuse is connected with self-worthlessness and hopelessness.[41,42]

Near half of students exposed last year to a stressful life event in the form of death or loss of relative or close friend. It is normal that our life is full of stressful events, which amplify the need for presence of coping strategies that can protect from their possible impacts. It is well known that stressful events can lead to development of psychopathology if not properly managed.[43,44]

In schools, one third of students were involved in bullying last year. Also, one third documented exposure to verbal bullying, at least one time in the past year. Also, one of every 10 students reported being bullied at least once from other students in school. Theses delinquent practices are growing in school communities, reflecting behavioral derangements among a large category of students. Bulling in school despite being common problem has been proven to be important factor in physical as well as mental health problems.[45]

Almost half of students practice less than one hour per week. Such physical inactivity is worrisome on the students' development. It is known from literature that physical activity is associated consistently with better psychological health outcomes, while insufficient physical activity and sedentary behavior are inversely related to mental health.[46,47] Almost third of students are either obese or overweighed. This high prevalence is growing in school communities and coincides with the negative life style in regard to physical inactivity as well as unhealthy diets. Studies confirmed that there is a positive interrelationship between overweight and obesity with mental health problems among adolescents.[48]

6. Conclusions

The following risk factors were greatly linked to depressive symptoms among adolescents School type, nationality, number of siblings, residence, father education, mother education, parent's employment, parent's status, relationship between parents, conflicts between parents, relationship with parents, relationship with siblings, relationship with colleagues, relationship with teachers, family psychological support, close friends psychological support, physical and verbal abuse from any of parents, school bullying, stressful life events and life style. Continuous Screening of high risk groups of adolescents for depressive symptoms especially who have some of the previously discussed risk factors is needed.

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