

The Prevalence and Risk Factors of Anxiety Disorders in an Egyptian Sample of School and Students at the Age of 12-18 Years

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Abstract

Background: generalized anxiety disorder (GAD) are highly prevalent and impairing conditions among children and adolescent. there are some general population studies that have examined these conditions during the early life course. The primary objectives of this study were to examine the prevalence, and socio demographic factors related to GAD in representative sample of Egyptian school students (prep, middle and secondary students), and the correlation between adolescence and socio psychological factors that lead to anxiety disorders in adolescents.

Methods: The study included 1200 student (600 from rural area, and 600 from urban area), their age ranged from 12-18 years m we used GHQ (28 items with cut point 14), the anxiety scale and SCID I.

Results: the positive clinical cases represent 20.6%, depression is the most prevalent 23.8%, anxiety was (6.69%), body dysmorphic disorder (15.2%), adjustment disorder (13.8%); GAD (9.2%); obsession (7.4%)

Conclusions: Findings demonstrate the clinical significance socio demographic factors related to GAD among adolescent youth, and highlighting on the paternal relations.

Keywords: Anxiety; Generalized anxiety disorder; Sleep disturbance

Introduction

A number of epidemiological studies have shown that depression and anxiety disorders are highly prevalent in the general population and in primary care [1,2]. Across epidemiological surveys worldwide, lifetime prevalence estimates range from 1.8% to 6.9% among adults [3] and from 0.3% to 5.8% among youth [4,5]. These diagnoses are, however, frequently missed due to patient related reasons such as the stigmatization of mental illness and physician related reasons such as insufficient awareness of the diagnoses, and cause these illnesses to remain untreated. Generalized anxiety disorder (GAD) is characterized by chronic worry, anxiety and tension and frequently occurs concomitantly with other disorders, mainly depression. Generalized anxiety disorder (GAD), primarily characterized by excessive and uncontrollable worry accompanied by physical symptoms (e.g., muscle tension, irritability, sleep disturbance) [6], is one of the most common disorders among older adults, with prevalence as high as 7.3%, second only to specific phobia. Generalized anxiety disorder (GAD) is one of the most common and debilitating anxiety disorders among children and adolescents [7,8] and poses a significant risk for anxiety disorders and depression in adulthood [9,10]. Generalized anxiety disorder (GAD) is one of the most frequent anxiety disorders seen in primary care and is particularly prevalent among older adults in this setting [11]. GAD is a complicated diagnosis consisting of many physical symptoms and persistent worry lasting a minimum of 6 months. The chronic nature and vague physical symptoms may lead to difficulty in diagnosing GAD [12]. To complicate diagnosis further, older adults are less likely than their younger counterparts to attribute their somatic symptoms to psychological problems, which diminish the likelihood of being asked about anxiety by their physicians. Primary care physicians recognize that most patients with GAD experience emotional distress, but only 25% to 50% receive diagnoses [13]. Culture affects how one defines health and illness, including the meanings of specific physical and psychological sensations [14]. Research conducted by Klein and Last and Messer [15,16] demonstrated that anxiety disorders commonly occur in school-aged children and are frequently associated with adverse outcomes, including social isolation, interpersonal

difficulties, and impaired school adjustment. Despite high prevalence and substantial impact of GAD in older adults, a dearth of instruments adequately assesses symptom severity of the disorder, especially among older adults. A well-established measure of GAD symptom severity would be useful for assessing diagnostic severity, treatment planning, case conceptualization, and tracking treatment progress. The requirements for the diagnosis of generalized anxiety disorder have changed with time. The symptoms have always included generalized and persistent excessive anxiety, and a combination of various psychological and somatic complaints. These psychological and somatic complaints are given prominence in the WHO's International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10) criteria, where at least one symptom of autonomic arousal (palpitations, sweating, trembling, or dry mouth) is essential for the diagnosis, together with up to three other symptoms. Three of the symptoms of restlessness, being easily fatigued, difficulty in concentrating, irritability, sleep disturbance, and muscle tension, are necessary for a DSM-IV diagnosis. The additional symptom of worry over minor matters is included in the DSM-IV criteria but is not in ICD-10. This new criterion allows the diagnosis to be made irrespective of any overlap in anxious symptoms, and seems to separate generalized anxiety from other disorders that involve anxious symptoms [17].

Measures used most often in recent research include the Penn State Worry Questionnaire (PSWQ) and the Hamilton Rating Scale for Anxiety (HAM-A). The PSWQ, however, is a self-report measure

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that includes an over-reliance on the “core symptom” of worry and therefore omits consideration of somatic symptoms that may be particularly significant to the evaluation of GAD in older adults. Other self-report measures designed specifically for use with the elderly are the Worry Scale (WS), which assesses worry severity in three different content categories, and the Geriatric Anxiety Inventory (GAI). One relatively new measure with particular promise for evaluation of GAD symptoms is the Generalized Anxiety Disorder Severity Scale (GADSS), an interview rating scale designed specifically for assessment of GAD symptom severity. The utility of this measure was originally evaluated in the context of a randomized controlled effectiveness trial for younger primary care patients with GAD and panic disorder. In this context, the telephone-administered GADSS had excellent internal consistency, construct validity, convergent validity, divergent validity and sensitivity to change, and a unifactorial structure. Generalized anxiety disorder is typically regarded as a chronic illness. Most patients are still highly affected 6-12 years after diagnosis [18] and in one study, personality disorders showed less stability and greater improvement over 2 years than all anxiety disorders [19]. That generalized anxiety disorder, together with other anxiety disorders, is best treated in primary care wherever possible is now generally agreed. Most patients are seen and are almost entirely managed in this setting. However, that the necessary time and services, especially psychological therapies, are not readily available in such settings is a concern, and so treatment could be chosen according to what is available rather than what is best. Psychological therapies are widely thought to be preferable to drug treatments, but frequently cannot be given because of limited resources [20]. Evidence for the effective prevention of generalized anxiety disorder is scarce, other than from studies of tertiary prevention in patients with an established disorder. The link between personality traits and generalized anxiety disorder is formed early in life and Akiskal et al. have suggested that the disorder is best regarded as an anxious temperament [21].

Aim of the Work

The aim of this work is to estimate the prevalence of anxiety disorders especially GAD in school students (prep, middle and secondary students), and the correlation between adolescence and socio psychological factors that lead to anxiety disorders in adolescents.

Subjects and Methods

The study included prep, secondary and university students from Cairo and Kafr El-Sheikh governorates. The schools were chosen randomly. In Cairo, Zaki Mobark Prep school (Nasr city), Al-Seddik secondary school (Al-Salam), Ammar Ibn Yasser prep, middle and secondary school (Shubra), Sedi Salem prep middle and secondary school. The study included 1200 student (600 from rural area, and 600 from urban area), their age ranged from 12-18 years with a mean age of 13.54 years. Only 519 from urban area and 585 from rural area completed the study. Males were 493 represented 44.7% and females were 611 represented 55.3%.

Tools of the Study

- 1- General health questionnaire (GHQ, 28 items with cut point 14) [22].
- 2- The anxiety scale; prepared by Castello and Comrey, 1953
- 3- The structured clinical interview for those obtained 15 degree and above in GHQ or 75 degree and above on anxiety scale.
- 4- Psychiatric disorders evaluation questionnaire

Results

In the present study, it was found that females were more than males (55.3% compared to 44.7%); the age group from 12 to 14 years was the most prevalent (57.1%); most of fathers were workers (48.2%) and most cases were in the prep stage (42.1%); families with more than 4-5 brothers were the most prevalent (41.4%) (Table 1). The positive cases by GHQ were 186 representing (16.8%) and similar results were obtained by the anxiety scale (Table 2). All positive cases (who obtained 15 and more GHQ and/or 57 and more on anxiety scale were 282 cases representing 25.5%) As regard distribution of positive cases; the positive cases was most common in females (sex distribution), the age group from 12 to 14 years; with father’s job as a worker, in the prep stage of education; and in families with 4-5 sibling than the positive case (Table 3). As regard psychological diagnosis, depression was the most common representing 23.8% of positive cases; then body dysmorphic disorder (15.2%), adjustment disorder (13.8%); GAD (9.2%); obsession (7.4%) and no diagnosis in (19.1%). Totally, from all studied cases, the positive clinical cases represent 20.6%, anxiety is the most prevalent (6.69%) and the least is behavioral disorder (0.45%) (Table 4). In the present work, it was fund that smoking was positive in 6.7%, drug abuse in 4.3%, positive family history of organic disease 28.7% and positive family history for psychiatric disorders in 12.8%. it was found that the positive cases had a higher crowding index, but the irritable marriage relation was only positive in 50.4% of the sample (Table 5). According to psychological diagnosis, the anxiety disorders were prevalent in the age group from 15- 16 years and GAD was more common in males. In addition anxiety disorders and GAD

Variable	Values
Sex: (no, %)	
Male	493 (44.7%)
Female	611 (55.3%)
Age group (no, %)	
From 12-14 years	630 (57.1%)
From 15- 16 years	225 (20.4%)
From 17- 18 years	249 (22.6%)
Fathers job	
Employee	446 (40.4%)
Worker	532 (48.2%)
Others (dead, retired, no work)	126 (11.4%)
Education levels	
Prep	465 (42.1%)
Middle	349 (31.6%)
Secondary	290 (26.3%)
Number of sibling	
Three or less	355 (32.2%)
From 4- 5	457 (41.4%)
Six and more	292 (26.4%)

Table 1: The general characters of studied populations.

Variable	
GHQ (no, %)	
From 0 to 7	621 (56.3%) (negative)
From 8 to 14	297 (26.9%) (negative)
From 15 to 21	151 (13.7%) (positive)
From 22 to 28	35 (3.1) (positive)
Anxiety scale (no, %)	
From 9 to 56	918 (83.2%) (negative)
From 57 to 81	186 (16.8%) (positive)

Table 2: the positive cases according to GHQ or anxiety scale.

	Positive	P value
Sex (no, %)		
Male	114 (40.4%)	<0.001 (S)
Female	168 (59.6%)	
Age group:		
From 12-14 years	161 (57.1%)	<0.001 (S)
From 15- 16 years From 17- 18 years	66 (23.4%) 55 (19.5%)	
Fathers job		
Employee	106 (37.6%)	<0.001 (S)
Worker	140 (49.6%)	
Others (dead, retired, no work)	36 (12.8%)	
Education levels		
Prep	112 (39.7%)	<0.001 (S)
Middle	108 (38.2%)	
Secondary	62 (22.1%)	
Number of sibling		
Three or less	89 (31.6%)	<0.001 (S)
From 4- 5	116 (41.1%)	
Six and more	77 (27.3%)	

Table 3: the distribution of positive cases by GHQ and/or anxiety scale in relation to different studied parameters.

Diagnosis	(no, %) of positive GHQ and/or anxiety disorder	% of total cases
Depression	67 (23.8%)	6.1%
Body dysmorphic disorder	43 (15.2%)	3.9%
Adjustment disorder	39 (13.8%)	3.5%
Generalized anxiety disorder	26 (9.2%)	2.35%
Obsession	21 (7.4%)	1.9%
Simple phobia	11 (3.9%)	0.99%
Panic disorder	9 (3.2%)	0.82%
Social phobia	7 (2.5%)	0.63%
Behavioral disorder	5 (1.8%)	0.45%
No diagnosis	54 (19.1%)	4.1%
Total	282 (100.0%)	25.5%

Table 4: The psychological diagnosis in the positive cases.

Variable	No. %
Smokers	19 (6.7%)
Drug abusers	12 (4.3%)
Positive family history	
Organic disease	81 (28.7%)
Psychiatric disorder	36 (12.8%)
Crowding index	
Crowding (3-4)	99 (35.1%)
over crowding (more than 5)	141 (50%)
Irritable Marriage relation	142 (50.4%)

Table 5: The distribution of positive cases according to risk factors.

were prevalent in students where their father hand no work; student who had 4 or more brothers; students with higher crowding index; in students in secondary stage; in smokers or drug abusers; and who live in families with irritable relations (not presented).

Discussion

The studies about anxiety disorders in children and adolescents were scarce [23]. Thus, the aim of this study was the estimation of the prevalence of anxiety (especially GAD) and its risk factors in the children and adolescents. In the present work, the positive cases according to both GHQ and Anxiety scale represented 25.5% of total investigated cases completing the study. Similar results similar results

were obtained in other studies as [24] (20.5%). On the other hand, results are not in agreement with [25] who reported a prevalence rate of 16.0% and [26] (3.5%), [27] (30.49%), [28] (30.8%) were moderately anxious; and 10 (19.2%) were highly anxious, [29] (73.0%) and [30] (68.0%). The possible explanation for this difference may be attributed to the following facts: The difference in age groups investigated; the difference in tools used; more than educational level in the present study, different environments as the present study included both rural and urban areas. In the present work, the most prevalent age groups were from 12 to 14 years (57.1%) followed by (15-16 years); (i.e., prep and middle school students). This age groups includes mainly students in prep and middle stage, who subjected to the stressor of the adolescent crisis and identity formation with other family and social stressors. These results are in agreement with Addelaim in the present series, it was found that females were more represented in the sample (55.3%) and had a more positive sample (59.6%), and this may be attributed to the fact that females tends to express them selves more than males. In addition, females in masculine community (as the Egyptian one) were more subjected to social and psychic stressor and thus had more psychic disorders. Also, due to the social and environmental factors that leads to inability sensation in the female, and feeling that she can does nothing to solve problems like inequality between male and female. These results are in agreement with and [31]. But differ with [32] and this difference be attributed to the fact that his study is a retrospective from outpatient registration, besides the fact that families tend to care for males more efficiently than females. In the present work, it was found that workers fathers were more presented in the total sample and in the positive sample, and it may be attributed to the fact that the majority of the sample represent middle or low economic level and the families hand no constant income, that interferes with daily needs accomplishment and exerts extra stress on the family members.

It was found that, families with large numbers (4-5) were more represent in the total sample and in the positive cases, and these results are in accordance with Eisa. But it differs with [32]. In the present work, the prevalence of psychotic disorders according to DSM IV, was 20.6% and this result is in agreement with Lotfi, (16.8%); Khashaba (17.3%) and Eisa, (19.1%). The anxiety disorders represented 6.69% and this in agreement with Lotfi, (6.5%).

The GAD in the present study was positive in 2.35% of cases and this is in agreement with [33] (3.7%) and Kashani, (2.4%), but the prevalence in the present study is higher than that reported by Al-Bishri and Sayed, (1.3%); Khashaba, (0.4%) and Eisa, (1.1%), and this may be attributed to the fact that these studies were designed mainly to examine the anxiety symptoms. As regard risk factors, it was found that the age group (17-18 years) was more represented in the positive sample (6.2%), followed by (12-14 years) (5.2%). This can be explained by the fact that this stage is a transitional stage that accompanied by different biological, social and psychological changes [34]. Furthermore, the present study revealed no significant difference between males and females as regard anxiety disorders, although GAD is slightly higher in males. This can be attributed that psychological and social stressors is severe in males than females. These results are in agreement with Bishri and Sayed, and Anderson, In addition, the present work revealed that anxiety disorders and GAD were more represented in students where father had no work, and this may be attributed to the absence of financial support [35,36]. Also, the dead of the father may lead to the marriage of the mother and consequently the stressors were increased. Also, the results of the present study, revealed that anxiety disorders and GAD were more represented in students with large family numbers and this in agreement with Bishri and Sayed and Okasha, but

differ with Lotfi who stated that the increased number of sons decrease the financial and social support. In the present work, the anxiety and GAD were increased in crowded environments in comparison to non crowded environments and these results are in agreement with Lotfi and this can be explained by factors associated with increased crowding index like increased family size, decreased financial income, decreased social status, and the available rooms. It was reported that the increased family size leads to increased occurrence of psychological disorders [37].

On the other hand, Okasha, reported that crowding plays only a minor role in occurrence of anxiety disorders, but the study of the first one was only on children and the later study on adults. The present work revealed that the anxiety disorders especially GAS were increased in families with irritable relations and these are in agreement with Bishri and Sayed, Amato explained that by the fact that irritable relation between husband and wife regardless the size of family leading to increased behavioral disorders in their sons and leads to depressed mother that decreased her ability for caring her sons. The results of the present work revealed that the previous family history had no effect on the prevalence of anxiety disorders and this is agreement with Bishri and Sayed. On the other hand Gelder stated that persons who had positive family history for psychological disorders had an increased risk for anxiety disorders due to decreased adaptation at home and at school with subsequent behavioral disturbance. Finally, the results of the present study revealed that the anxiety disorders increased with smoking and drug abuse. In conclusion, the results of the present study revealed high prevalence of anxiety disorders was (6.69%) and GAD (2.35%) in this age group that associated with risk factors like the education, age, family size, work of father, crowding index, the relation between husbands, smoking and drug abuse [38-42].

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