

## Original Article

## Psychiatry

# Psychiatric Comorbidities among Adolescents with Obsessive Symptoms: a Cross Sectional Study

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## ABSTRACT [ENGLISH/ANGLAIS]

Obsessive symptoms among children and adolescent age groups are increasing, an observation made by mental health professions working with this age group. Our epidemiological study targeted secondary school students to estimate the prevalence of obsessive symptoms, obsessive compulsive disorder and to evaluate psychiatric comorbidities among students with obsessive compulsive symptoms. The study is cross sectional carried on 1299 secondary school students, the sample size was chosen based on an estimated Obsessive Compulsive Disorder (OCD) prevalence of 2% in literature. Equal samples were recruited from the 3 educative zones in Alexandria Governorate. Obsessive compulsive symptoms were assessed by the Arabic version of Lyeton obsessive inventory child version LOI-CV. Students scoring above 35 were subjected to the Mini International Neuropsychiatric Interview for children MINI-KID Arabic version to assess psychiatric comorbidities. OCD patient students detected by MINI-KID were assessed by psychiatric interview to confirm fulfilling criteria of OCD according to DSM IV –TR criteria. Groups were balance in terms of gender with 51.7% and 48.3% of males and females respectively. The prevalence of obsessive compulsive symptoms was 15.5%, while that of obsessive compulsive disorder was 2.2%. Comorbidity with other psychiatric disorders was high for substance abuse 18.9%, Dysthymia 16.4%, social phobia 15.9%, Major depression 13.9%, Generalized anxiety disorder 12.9%. The prevalence of obsessive compulsive symptoms is high among adolescent age group, there is high Comorbidity between obsessive symptoms and psychiatric disorders particularly substance abuse, mood disorders and non OCD Anxiety spectrum disorders.

**Keywords:** Obsessive, Comorbidity, compulsive symptoms, adolescents, OCD

## RÉSUMÉ [FRANÇAIS/FRENCH]

Symptômes obsessionnels chez les enfants et les groupes d'âge des adolescents sont en augmentation, une observation faite par professions de la santé mentale qui travaillent avec ce groupe d'âge. Notre étude épidémiologique ciblée les élèves des écoles secondaires pour estimer la prévalence des symptômes obsessionnels, les troubles obsessionnels compulsifs et d'évaluer les comorbidités psychiatriques chez les étudiants avec des symptômes obsessionnels compulsifs. L'étude est transversale menée sur 1299 élèves du secondaire, la taille de l'échantillon a été choisi en fonction d'une estimation du trouble obsessionnel-compulsif (TOC) de prévalence de 2% dans la littérature. Échantillons égalité ont été recrutés dans les 3 zones éducatives dans le Gouvernorat d'Alexandrie. Obsessionnel compulsif symptômes ont été évalués par la version arabe de Lyeton obsessionnelle inventaire version enfant LOI-CV. Les élèves de notation supérieure à 35 ont été soumis à la Mini International Neuropsychiatric Interview pour les enfants MINI-KID version arabe pour évaluer les comorbidités psychiatriques. Étudiants patient TOC détecté par MINI-KID ont été évalués par l'entrevue psychiatrique de confirmer les critères accomplissement de TOC selon les critères du DSM IV-TR. Les groupes ont été équilibre en termes de genre avec 51,7% et 48,3% des hommes et les femmes respectivement. La prévalence des symptômes obsessionnels compulsifs était de 15,5%, tandis que celle du trouble obsessionnel compulsif a été de 2,2%. La comorbidité avec d'autres troubles psychiatriques a été élevé de la toxicomanie de 18,9%, dysthymie 16,4%, 15,9% une phobie sociale, dépression majeure 13,9%, trouble d'anxiété généralisée 12,9%. La prévalence des symptômes obsessionnels compulsifs est élevé chez le groupe d'âge des adolescents, il ya comorbidité élevée entre les symptômes obsessionnels et les troubles psychiatriques de la toxicomanie en particulier, troubles de l'humeur et non des troubles du spectre TOC anxiété.

**Mots-clés:** Symptômes obsessionnels, comorbidité, compulsif, adolescents, trouble obsessionnel-compulsif

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## INTRODUCTION

The World Health Organization rates OCD as one of the top 20 most disabling diseases [1,2]. Though it may persist

if left untreated, yet effective and evidence based psychological as well as drug treatments are available [3-5]. Early epidemiological studies report prevalence rates

of 0.8% in adults and 0.25% in 5-15 year old children. In the last decade, the prevalence of OCD symptoms in the general population has been found to be remarkably high [6-8]. Until 1984 the most quoted figure was 0.05%. However, since 1984, 3 studies carried out in north America found prevalence of OCD in the general population to be greater than 2% which is 40 times higher than the earlier estimation from 1950. A multicentre study carried out in to assess OCD prevalence to be approximately 2% in the USA, Canada, Latin America & Puerto Rico, the findings were the same in Europe and New Zealand, while in Asia it was found to be 1.9% [9-12].

OCD is a global problem, as the estimated total number of population who suffered from the disorder appears to be at least 50 million worldwide [13]. OCD is ranked as 2<sup>nd</sup> most prevalence psychiatric disorder, although that it is still underestimated worldwide, it may be the ego dystonic nature of the disorder that enforces the sufferer to disguise or be ashamed from their symptoms, and they will not reveal their obsessive and or compulsive symptoms till they are asked directly! Young people with the disorder perceive their symptoms as embarrassing and do not disclose them unless specifically asked. Therefore, OCD in this age group often remains unrecognized and untreated. The associated distress and developmental handicap are avoidable as effective treatments are available. There is evidence that early detection and intervention improve outcome [13,14].

The aim of this work is to epidemiologically assess the prevalence of obsessive compulsive symptoms, and obsessive compulsive disorder among secondary school students; and also to assess psychiatric comorbidities among students with obsessive symptoms among them.

## MATERIALS AND METHODS

Cross sectional study design was adopted. The study sample was calculated using the computer package: Epi-Info, based on an OCD prevalence estimate of 2% in literatures. The determined minimum sample size required was 1299 students. Type I statistical error alpha was set at 0.05.

Out of the 7 educational zones in Alexandria three zones with the highest density of secondary school students were included in the study namely; East, Middle and West educational zones. The predetermined sample was equally allocated on the selected educational zones. Each

selected zone was represented by one public school for boys and another one for girls and a mixed sex private school. One class represented each grade level in the selected schools and the equally allocated sample on each class was selected at random. All students willing to participate in the study were included. The study was conducted on the academic year from January 2009 to December 2009

A pre-designed structured self-administered questionnaire was used to collect sociodemographic data including Age, sex and grade level and socioeconomic data including family income, individual allowance, educational level of parents, occupation of parents, number of rooms and electrical appliances in home for keeping in registry.

Psychological assessment using the Arabic Version of Leyton Obsessive Inventory-Child Version (LOI-CV)

It is a self-administered scale that was designed to measure obsessive compulsive symptoms and traits in children and adolescents. It is a modification of the original Leyton Obsessional Inventory, which was modified by Berg et al. LOI-CV consists of inventory 20 questions covering: thoughts, dirt & contamination, cleanliness & tidiness, order & routine, over conscience, checking, school work, repetition, and indecision. Scoring of items ranges between 0-3 as follows:

0 = the child do not have the symptoms.

1 = the symptom is present with minimal interference in daily activities.

2 = the symptom is present with moderate interference.

3 = the symptom is present with severe interference.

The total score ranges from 0 to 60. According to authors, high scorers were identified at cutoff score 34/35. The high scorers are students with obsessive compulsive symptoms OCSs [15-17].

Psychiatric assessment using Mini International Neuropsychiatric Interview for Children (MINI-KID) was used to identify psychiatric disorders among students with OCSs. This scale was originally designed by Sheehan et al. following the same structure and format of the adult version. The MINI-KID follows the DSM-IV and ICD-10 criteria for the diagnosis of psychiatric disorders and screens for 17 Axis I disorders (mood disorders, anxiety disorders including OCD, attention deficit disorder, conduct, alcohol/substance abuse or dependence, eating disorders and psychotic disorders). The MINI-KID is a reliable and valid measure of child and adolescent psychopathology that can be administered in a short time (5-15 minutes). It uses the branching logic model to reduce

the number of questions asked to only those necessary to determine the presence or absence of each diagnosis. Its sensitivity and specificity is high (0.61-0.80) to very high (0.81+) for all diagnosis. The test-retest reliability of the MINI-KID is uniformly high to very high for all psychiatric disorders [18].

All students with LOI-CV score  $\geq 35$  were subjected to the Arabic Version of MINI-KID [19].

All OCD cases recruited by MINI-KID were subjected to psychiatric assessment to verify OCD diagnosis using DSM-IV-TR criteria *American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders revised text*.

### Statistical analysis

After the data were collected, they were coded then entered into the computer. The Statistical Package for Social Sciences (SPSS-version 11.5) as well as the Epidemiological Information Package (Epi Info 2002) were utilized for data analysis and tabulation of results. Appropriate descriptive statistics (arithmetic mean, median, and standard deviation) were done.

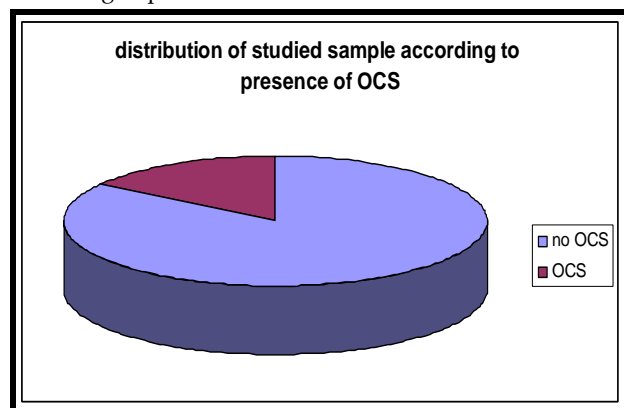
## RESULTS

### Prevalence of Obsessive compulsive symptoms OCS and Obsessive Compulsive disorder OCD among studied sample

Among the studied sample (n=1299), 201 students were scored  $> 35$  on LOI-CV i.e. 15.5% of the total sample have OCS as shown in figure 1.

#### FIGURE 1

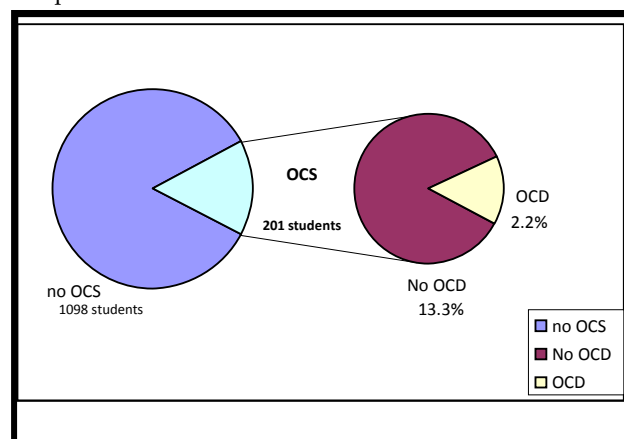
Figure 1 shows the distribution of studied sample according to presence of OCS



The prevalence of OCD among studied sample was 2.2% as 29 students from the OCS students were fulfilling diagnostic criteria for OCD according to DSM-IV TR (Figure 2).

#### FIGURE 2

Figure 2 shows the prevalence of OCD among studied sample



Prevalence of psychiatric disorders among students with OCS

From table 1 we notice that substance abuse was the reported among 18.9% of students with OCS followed by dysthymia 16.4% and the least percentage was for students diagnosed with Anorexia nervosa 1.5%.

#### TABLE 1

Table 1 shows Prevalence of psychiatric disorders among students with OCS

Disorder	201 ocs	
	Number	Percentage
1 Mdd	28	13.9
2 Dysthymia	33	16.4
3 Mania \hypomania	4	2.0
4 Adjustment disorder	18	9.0
5 Panic attacks	19	9.5
6 Social phobia	32	15.9
7 Sepecific phobia	12	6.0
8 Gad	26	12.9
9 Ptsd	5	2.5
10 Substance abuse	38	18.9
11 Tourette's disorder	4	2.0
12 Tics	8	4.0
13 Anorexia nervosa	3	1.5
14 Conduct disorder	5	2.5
15 Ocd	29	14.4

## DISCUSSION

In this study the estimated overall prevalence of OCD among secondary schools' students was 2.2% while the prevalence for OCS was 13.3%. These results fall in the range of estimates of (0.6% to 26.3% for OCD and 14.2% to 38.7% for OCS obtained from prior studies conducted among similar target population (secondary school students) [20-21]. A study on the prevalence of OCS in Egyptian students in Cairo (secondary schools and university students) using General Health Questionnaire, Arabic Obsessive scale; revealed that the prevalence of OCS is 38.7% in secondary schools [20]. On the other hand, prevalence of OCD among the secondary school students was 26.3 % (51.3 % male and 48.7% females), These results are higher than our results. Such difference may be attributed to difference in study population, the current study was conducted on urban area rather than semiurban area [20].

Another two stage epidemiological study which was conducted to investigate the point prevalence rates of OCS and OCD among secondary schools in rural areas of Shebin El-Kanater, El-Kalubia governorate in Egypt using Arabic form of Symptoms Checklist " SCL-90" to screen for OCS, in the second stage, a semi structured clinical interview based on DSM-IV diagnostic criteria was performed on the students whom considered positive in the first stage. This study was conducted among 1000 students of both genders of almost equal distribution, it was found that 9.1% were fulfilling diagnostic criteria for OCD (4.4% for male and 4.7% for females) and 18.4% were positive for OCS. The prevalence of OCD in this study was lower, this may be due to the use of different scale and to the fact that the sample used in the present study was distributed across different socioeconomic levels [21] In a study conducted to determine the prevalence of OCS among Egyptian students among students came from the El Abasseya educational area in Cairo. The tools used in this study included the General Health Questionnaire for screening of psychiatric morbidity and the Arabic Obsessive Scale for obsessive traits. The Y-BOCS was used to determine the profile of OCS and the ICD-10 was used for diagnosis of OCD. Prevalence rate for OCS was 43.1%. Obsessive-compulsive symptoms were more prevalent among younger students, females and first-born participants. Aggressive, contamination and religious obsessions and cleaning compulsions were most common. Among participants 19% of students with OCS fulfilled ICD-10 criteria for OCD [22].

As regard studies conducted among similar cultures, a Saudi study of prevalence of psychological symptoms in Saudi secondary school girls, using cross-sectional study design in 10 secondary schools for girls using the Arabic version of the symptom-revised checklist 90 (SCL 90-R) for 545 female students, OCS was found to have prevalence rate of 12.3% . These results are in agreement with the result of current work despite that we conduct study among both sex and used different tool [23].

As regards psychiatric comorbidities, results produced in many other studies among many different cultures , in a study of OCD among Turkish children and adolescents Most children (66%) had at least one comorbid disorder , social phobia , major depression ,Tourette`s disorder, major depression, somatization disorder, stuttering and night terror were the comorbid diagnoses found among the patients with OCD .Anxiety disorders (39%), including social phobia, generalized anxiety disorder, and panic disorder, formed the most common group of comorbid disorders. When all psychiatric diagnoses were considered separately, depression (30%) became the most common comorbid diagnosis. These findings are also in agreement with Iranian study results of OCD in high schools students as findings showed a higher rate of comorbidity in OCD cases (32%) as compared to the non-OCD cases (8%), the most common concurrent diagnoses were major depression (26%), specific developmental disability (24%), simple phobia (17%), overanxious disorder (16%), adjustment disorders (13%), oppositional disorder (11%), and ADHD (10%). Additionally, 20% of the sample had motor tics [24,25].

Regarding OCS students the reported psychiatric diagnosis in this study indicating that most prevalent diagnosis was for substance abuse 18.9 % followed by dysthymia 16.4%, social phobia 15.9%; MDD 13.9% with least reported diagnosis of anorexia nervosa 1.5%. The overall non OCD anxiety disorders reported among OCS students was 57.8%. These results may point to important aspect of nature of psychiatric sufferers in the Egyptian community who seem of high tolerance for psychiatric morbidity before seeking help. Native healers, religious people, friends and family elders are the primary caregivers for psychologically disordered individuals. When those interventions fail, the alternative self-medication with subsequent substance abuse may be the next stage of their suffering, seeking out the general practitioner, and then the psychiatrist, are the next resorts, this can explain the reported high percentage of substance

abuse among our sample putting in consideration the recent pop out of availability and variability of psychedelic substances in Egyptian community in recent decades [26].

## CONCLUSION

Obsessive compulsive symptoms are highly prevalent among teenagers in Egypt. The presence of obsessive compulsive symptoms should call the attention of primary health services to the possible presence of psychiatric disorders necessitating psychiatric management, and its high Comorbidity with substance abuse, Dysthymia and social phobia should not be overlooked.

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#### CONFLICT OF INTEREST

Nil

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