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The Epidemiology of Obsessive-Compulsive Disorder in Iranian Children and Adolescents

Shahram Vaziri¹

Although research on childhood OCD has increased dramatically over the past 15 years, OCD is referred to as a "hidden epidemic", primarily because the disorder is frequently unrecognized and is, therefore, under diagnosed. Recent epidemiological studies of child and adolescent OCD suggest the prevalence rate is approximately 1 in 200. This study was under taken to determine the prevalence of OCD among Iranian children and adolescents aged 7 to 17 and to study their association with factors such as sex, birth order, education, separation from mother more than 6 weeks, parents' relationship, birth complications, socioeconomic status of the family, birth complications, the familial, educational or environmental stress, the probability of the father or the mother being affected by the OCD, and common obsessive and compulsive symptoms.

A cross-sectional nationwide epidemiological study of the Iranian population aged 7-17 was designed to estimate the prevalence of OCD and their association with the above mentioned factors. At the first, 28 cities were selected and among each city six schools (three for boys and three for girls) in the level of elementary, guidance and high school) were selected through a randomized systematic and cluster sampling method. Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV) criteria were used in diagnosis of OCD. Twenty clinical psychologists interviewed the selected subjects face to face at their schools. Among 7326 students, the prevalence of OCD is 9% (8% and 1.1% in boys and girls populations). 48.31% of the survey samples were boys, 51.69% girls, all of the above-mentioned factors were examined.

Introduction

Obsessive-compulsive disorder (OCD) is a chronic condition characterized by recurrent intrusive thoughts and repetitive ritualistic behaviors that are distressing and debilitating for patient and over which they typically have very little control. In the majority of cases, these are accompanied by overt behavioral acts performed in ritualistic fashion, the most common of which are washing and checking. The disorder is accompanied by a number of the

1-Ph.D, Islamic Azad University Roudehen branch

symptoms including anxiety and depression and usually significantly affects most areas of functioning. OCD patients are commonly angry and hostile and might show features of obsessive-compulsive personality (Turner & Beidel, 1988).

In the psychiatric nomenclature, obsessive compulsive disorder is under the category of anxiety disorders. Both DSM-IV-TR (APA, 2000) and ICD-10 (WHO, 1992) define OCD in terms of its characteristic symptoms. Although the DSM-IV criteria for OCD appear similar to the ICD-10 criteria, they represent a slightly better definition of this condition (Bebbington, 1998). According to APA (1994) a patient presenting with either obsessions, compulsions or both will be diagnosed as having OCD. The obsession must be recurrent or persistent, or the images which are experienced at some stage during the disturbance must be intrusive and inappropriate, and cause marked anxiety and distress. This intrusiveness must be greater than experienced with ordinary worry.

The nosology and classification of OCD in children and adolescents is similar to adults. As stressed with Geller, Biederman, Jones et al (1998) and Shafron (1998), the symptoms and diagnostic criteria for OCD are very similar in children and adults, except for the recent relative de-emphasis on insight in children about the irrationality of their OCD symptoms (APA, 1994).

Epidemiology of Obsessive Compulsive Disorder

Research as to the frequency of OCD has largely been conducted amongst adult groups. Researches showed that frequency ranged from almost 2 per cent to 3.3 per cent, which was 25 to 65 times higher than anticipated, following previous research in the population (Thomsen, 1999). Obsessive-compulsive disorder was the fourth most prevalent psychiatric disorder (Karno, Goldin, Sorenson et al, 1988), epidemiological studies focusing on children and adolescent populations, have reported a prevalence rate ranging from 0.5 to 4% e.g. 0.35 per cent (Flament, Whitaker, Rapoport, Davies et al. 1988), 1 in 200 (Albano, Knox., & Barlow, 1995; Flament, Rapoport, & Berg, et al, 1988), 2.5%. (Karno, Goldin, Sorenson et al, 1988), 3% (Bland, Orn & Newman, 1988), between 4 to 5 per cent moderate and 3 per cent severe symptoms (Esser, Schmidt & Woerner, 1990). According to Flament et al. (1988), the patients who are referred for treatment represent the distribution of compulsive symptoms, Just as they occur among the (presumably large) group of non-referred children and adolescents with OCD symptoms.

OCD is generally chronic (Skoog, 1999) and it is associated with substantial direct and indirect costs, (Dupont, Rice, Shiraki, et al, 1995) which are compounded by an absence of recognition, and by under diagnosis and inappropriate treatment. Results of epidemiological studies shows that obsessive-compulsive disorder is highly co morbid, with most studies finding up to 70% of children with OCD to have at least one comorbid disorder (Swedo, Rapoport, Cheslow et al, 1989; Geller et al, 1998; King, Leonard & March, 1998; Shafron, 1998).

Obsessive-compulsive disorder usually begins in adolescence or early adulthood; 31% of first episodes occur between ages 10 and 15 years and 75% develop by age 30 years (Black, 1974). The mean age at onset of OCD in children and adolescents have ranged from 9.0 years in referred subjects (Riddle, Scahill, King et al, 1990), to 12.8 years in a community sample (Flament et al, 1988) and boys tended to have an earlier (prepubertal) onset, whereas girls were more likely to have a later (pubertal) onset (Swedo et al, 1989).

Excessive washing, followed by repeating rituals, checking rituals, obsessional symmetry or ordering, are the most common OCD symptom (Swedo, Leonard & Rapoport, 1997; Geller, Biederman, Jones et al, 1998). A factorial study in adults found four symptom dimensions: obsessions and checking, symmetry and ordering, cleanliness and washing, and hoarding (Leckman, Grice, Boardman et al, 1997). Hoarding may be less common in children than adults; but in adults, there is evidence that hoarders may be a distinct subgroup who is relatively treatment resistant (Black, Monahan, Gable et al, 1998).

However, some patients describe a sudden onset of symptoms. This is particularly true of patients with a neurological basis for their illness. There is evidence of OCD onset associated with the 120s encephalitis epidemic, abnormal birth events (Capstick & Seldrup 1977), head injury (McKeon, McGuffin & Robinson, 1984), and seizures (Kettl & Marks 1986), in other hands, in 50 per cent of cases it was not possible to attribute any probable triggering factor (Thomsen, 1999).

From a review of the studies, it would appear that the frequency of OCD is almost identical across cultures. For the finding of relationship between culture and OCD we need to extra knowledge in the field of psychopathology. We should collect more findings for answering to this question: is it possible that culture, region, society and their differences affect the frequency or the way in which the symptoms are expressed? In the case of OCD, it is vital to determine whether the difference in culture

actually affects the frequency or the way in which the symptoms are expressed?

This study performed in order to determine the prevalence of OCD in a population-based study among Iranian children and adolescents aged 7-17 and to study the association of them with factors such as sex, birth order, education, separation from mother more than 6 weeks, parents' relationship, birth complications, socioeconomic status of the family, birth complications, the familial, educational or environmental stress, the probability of the father or the mother being affected by the OCD, and common obsessive and compulsive symptoms.

Method

Sample

In this research we were selected 28 cities from 28 Province in Iran (each province one city), 6 schools, primary, guidance and high school from each cities (3 for boys and 3 for girls) and 14 pupils from each levels of these schools (11 levels) by randomized systematic method (4312 boys and 4312 girls). We send to their families a questioner based on OCD criteria in the Diagnostic and Statistical Manual of Mental Disorders-IV (1994). 7326 family (3539 from boys and 3787 from girl's families) completed the questioner.

At the first, we selected 86 pupils who showed OC signs (33 boy and 53 girls), after this step, Twenty clinical psychologists who had completed a rigorous program of OCD diagnoses based on DSM IV and CY-BOCS, interviewed the selected subjects face to face at their schools. 4 boys and 12 girls were eliminated during screening with diagnostic interview and testing.

Instrument

In this study we used a questioner based on *DSM IV* and *Children's Yale-Brown Obsessive-Compulsive Scale* (Goodman; Price; Rasmussen; Riddle & Rapoport, 1991). CY-BOCS is designed to rate the severity of obsessive and compulsive symptoms in children and adolescents, ages 6 to 17 years. It can be administered by a clinician or trained interviewer in a semi-structured fashion.

The Y-BOCS provides five rating dimensions for obsessions and compulsions: time spent or occupied; interference with functioning or relationships; degree of distress; resistance; and control (i.e., success in resistance). The 10 Y-BOCS items are each scored on a four-point scale from 0 = "no symptoms" to 4 = "extreme symptoms." The sum of the first

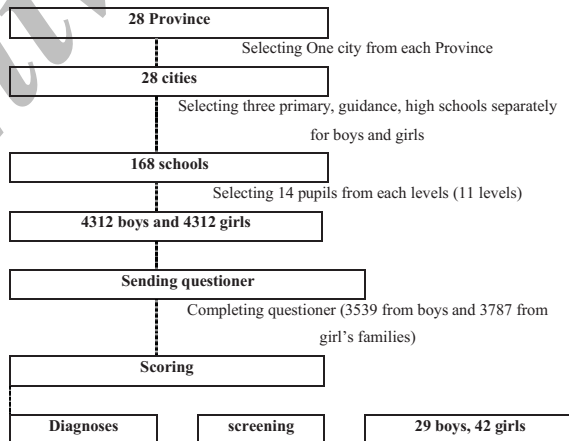
five items is a severity index for obsessions, and the sum of the last five an index for compulsions. Reliability and validity of CY-BOCS was examined in Iran. All studies showed high Reliability (more than .84) and validity (more than .64) for CY-BOCS (Fata, 1991; Haidari, 1993; Mohamad Khani, 1992; Dad Far, 1996; Saboori, 1996).

A translation of total score into an approximate index of overall severity is:

0-7	Subclinical
8-15	Mild
16-23	Moderate
24-31	Severe
32-40	Extreme

The variables Age, birth order, education, separation from mother more than 6 weeks, parents' relationship, birth complications, socioeconomic status of the family, birth complications, the familial, educational or environmental stress, the probability of the father or the mother being affected by the OCD, focusing on religious subjects and common obsessive and compulsive symptoms was examined as associated factors for OCD. After interviewing, data of pupils who diagnosed as OCD were analyzed. The process of research is shown in **Figure 1**.

Figure 1: The Process of Research



Findings

We found that .95 per cent of popular between 7 to 17 have OCD. as shown in the **Table 1**, the study of demographic characteristics of samples shows that, most patients were first-borns (41.43%). 4.29% were the only children in their family. 22.86% of parents of patients were relatives, most mothers and fathers of patinas have high school degree (42.86 and 37.14 per cent) and most of these families (72.86%) have moderate levels in the socioeconomic status.

Table 1. Sociodemographic Characteristics of Patients

Characteristic	No.	%	Characteristic	No.	%
N=7326					
number of	70	.95			
OCD			Education of:		
Sex:	29	37.14	mother's		
Boys	41	68.57	illiterate	3	4.29
girls			primary	6	8.57
			guidance	9	12.86
Mean age (12.90)			high school	30	42.86
			bachelor	10	14.29
			Ma/ Ms/ Md	2	2.86
Birth order of	29	41.43			
patients:	16	22.86	father's		
first child	17	24.28	illiterate	4	5.71
second child	5	7.14	primary	5	7.14
third child	3	4.29	guidance	11	15.71
other			high school	26	37.14
only child	16	22.86	bachelor	16	22.86
Parents' relationship	54	77.14	Ma/ Ms/ Md	5	7.14
relative			Ph.d	2	2.89
no relative			Fader died	1	1.42
	9	12.86	during war		
Socioeconomic status	51	72.86			
of the family:	10	14.29			
high					
Moderate					
low					

In the study of the individuals affected by OCD, as it can be seen in **Table 2**, there is a considerable amount of stress, including the familial, educational or environmental types. 60% of the children and adolescents experienced a

considerable amount of stress in life before being affected by OCD. Separation from mother more than six weeks with 14.28% and birth complications with 7.14% are another finding in these criteria.

In the study of the probability of the father or the mother being affected by the OCD, OCD symptoms in the father, the mother or both were studied. In 12.86% of the cases, the father, in 7.14% of the cases the mother, and in 4.29 per cent of the cases both parents had OCD symptoms. It seems that in 24.29% of the individuals who were diagnosed as OCD, one or both had or have OCD symptoms.

In order to study the possibility of acquiring and observing OCD symptoms through the parents, OCD symptoms in children and adolescents were compared with the OCD symptoms of the parents. The findings show that, out of the children and adolescents whose father, mother or both parents had OCD symptoms, only one of cases had symptoms similar to those of their parents and the other 3 cases had different symptoms of OCD in their behavior.

In order to study the possibility of focusing on religious subjects through the parents or culture, the findings show that, only 5.71 per cent of cases were in the situations that focused on religious subjects.

Table 2 illustrates the most common obsessive and compulsive symptoms, as seen in patients. In the obsession criteria, the highest were found in contamination (42.86%), after contamination, we can see doubt (35.71%), grim feeling (18.51%), and sexual impulse (17.14%).

In the compulsion criteria, cleaning was at the top of the list with 64.29%, after that, hand washing with 55.71 %, control with 28.57% and counting with 15.71% were observed.

Conclusion

Epidemiological studies focusing on children and adolescent populations, have reported a prevalence rate ranging from 0.5 to 4% (Fiament, Whitaker, Rapoport, Davies et al. 1988; Albano, Knox., & Barlow, 1995; Flament, Rapoport, & Berg, et al, 1988; Karno, Goldin, Sorenson et al, 1988; Bland, Orn & Newman, 1988; Esser, Schmidt & Woerner, 1990).

This research shows that, the rate of OCD among Iranian children and adolescents is .95 per cent. It seems that irregular rate in general population leading to striking differences is due to methodological weakness or hidden feature of OCD. There is no doubt that minor obsessive symptoms appear in numerous children and adolescents at some stage of their lives, although these are, normally, sufficiently easy for the child to cope with. In fact, in the process of diagnosing OCD, as it is required, care is not given to stress in behavior, anxiety and deep interference in daily activities. It must be

experienced during the disturbance and cause marked anxiety and distress. Especially, this intrusiveness must be greater than experienced with ordinary worry.

Table 2. Some Findings about Patients

Foundings	N	%
Stressful events:		
Separation from mother more than 6 weeks	10	14.28
Birth complications	5	7.14
the familial, educational or environmental stress	42	60
Family history		
the probability of the father or the mother being affected by the OCD:		
father	1	1.43
mother	2	2.76
both	1	1.43
similarity of sigss with parent	1	1.43
focusing on religious subjects	4	5.71
Type of Obsessions		
Contamination	30	42.86
Doubt	25	35.71
Sexual impulse	12	17.14
Aggressive impulse	7	10
Religious	5	7.14
Symmetry	6	8.57
Regularity	5	7.14
Type of Compulsions		
cleaning	45	64.29
hand washing	39	55.71
control	20	28.57
counting	11	15.71
ordering/arranging	10	14.28
touching	3	4.29
mental compulsion	2	2.86
repeating	1	1.43

On the other hand, as it can be inferred from research reports, OCD diagnosis is based on Eysenk theories and the rate reported is not based on the disorder diagnosis but on the axis of organized "Obsession-Casualness". Therefore, this phenomenon has distracted us from the ailing nature of OCD that is disturbance, anxiety and distress.

We didn't find any sign of increased OCD in relation to religious, happening, quelling the myth that religion would lead to a further increase in the number of OCD cases (Aktar, Wing, Varma et al. 1978; Khanna, Gururaj & Sriram, 1993).

This research such as others, shows that high rate (60 per cent) of the familial, educational or environmental stress include abuse, changes in living situation, illness, relationship concerns, school-related problems and family problems is a important risk factors for obsessive-compulsive disorder.

Our findings about the most common obsessive and compulsive symptoms, and its similarity to other researches and that the proportion of cases and the essential nature of OCD is so similar in countries with widely different cultural backgrounds, indicates limited cultural influence on the manifestation of OCD. this supports the hypothesis that OCD is a biologically based disorder, which is relatively independent of cultural influences.

In the end, we know that it's not the end of story, we need to new and clear finding in genetic, but in this area we are in the beginning, for this reason we should draw a clearer line between obsession and obsessive compulsive disorder. In so doing, such as other abnormal behavior, we recommend that one should take care of "abundance", "intensity" and "consistency" in observed behaviors in terms of two principles of "inconsistency whit developmental levels" and "predicting future"(Vaziri, Lotfi Kashani, 2000).

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