



Symptoms of Obsessive - Compulsive Disorder Among Primary School Children in Zahedan, Iran

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Abstract

Objectives: The current study aimed at investigating the prevalence of obsessive - compulsive disorder (OCD) symptoms in Zahedan, Iran, and comparing it among primary school females and males aged 7 to 11 years.

Methods: The current descriptive study, with a causal - comparative design, was conducted on a statistical population including 61012 students (30843 males and 30169 females) studying in both districts of Zahedan. A multistage cluster sampling method was applied and 381 questionnaires were distributed among the female and male students. Obsessive - compulsive inventory - child version (OCI - CV) developed by Foa was used as a data collection tool.

Results: Given the three cut off points considered in the OCI - CV, the results demonstrated that 29.9%, 56.2%, and 13.9% of the subjects experienced mild, moderate, and severe symptoms OCD, respectively. In addition, the results of multivariate analysis of variance (MANOVA) indicated a significant difference in OCD with regard to gender, and all symptoms of OCD (doubting/checking, obsessing, hoarding, washing, ordering, and neutralizing) were more prevalent among the females compared with males.

Conclusions: OCD symptoms and obsessive behaviors were more prevalent among females compared with males in Zahedan primary schools.

Keywords: Obsessive - Compulsive Disorder, Child, Primary School

1. Background

Due to some overlaps in etiology and maintaining factors, a new cluster of disorders, consisting of obsessive - compulsive disorder (OCD), trichotillomania (hair pulling disorder; HPD), body dysmorphic disorder (BDD), hoarding, and skin picking disorder (SPD), was considered by applying the recent changes made in the diagnostic and statistical manual of mental disorders - fifth edition. This cluster is entitled obsessive - compulsive and related disorders (OCRDS) (1). Although OCD was described a century ago, it was first considered in the Diagnostic and Statistical Manual of Mental Disorders in 1952.

The prevalence of OCD, which is a type of personality disorder, ranges 3% to 8% in the general population. This disease is more prevalent among the elderly and less educated people and is considered as one of the most common disorders in the general population (2). OCD appears with a range of symptoms including repeated thoughts (obsessions) and repetitive behaviors (compulsions) that a person feels driven to perform. This disorder is defined

as a chronic disease with maladaptive patterns of perfectionism and the strong need to have excessive control over the surrounding environment (3). According to the American Psychiatric Association, OCD is characterized by the presence of obsessions and compulsions. Obsessions include recurrent and persistent thoughts and images or impulses, which are unwanted and intrusive; however, compulsions are frequent behaviors or mental acts that a person feels driven to perform in response to an obsession based on a set of strict rules. Since OCD initiates from childhood and continues into adolescence, it can be regarded as a chronic disorder with a high persistence rate (4). In childhood and adolescence, the prevalence of OCD is around 1% to 4%; however, the prevalence of this disorder leading to dysfunction in humans is 2.7% to 19% in older ages (5, 6). Very few studies are conducted to examine OCD symptoms among children and adolescents (7).

Phenomenological studies showed that the mean age of OCD onset was almost five years old and the mean age of presentation was six to seven years old (8). The results ob-

tained from a study conducted by Ivarsson and Melin indicated that autism traits were much more common among children with OCD (9). One of the latest studies conducted in 2018 showed a relationship between quality of life and severe clinical presentation of OCD in children (10).

Investigating the role of gender differences in OCD symptoms indicated that various dimensions of OCD symptoms were stronger in males compared with females and a common perception of OCD as a heterogeneous disorder was stronger in females compared with their male counterparts (11). Although the knowledge regarding the treatment of OCD increased and numerous studies are conducted in the adult population in the last few decades, this disorder is barely studied in the pediatric population (12). Moreover, a very limited number of quantitative studies are conducted to examine OCD in Iranian children.

2. Methods

The current descriptive study with the causal-comparative design was conducted on the statistical population of all primary school students aged 7-11 years (1st to 5th grade) in the academic year 2016-2017. According to the statistics provided by the General Office of Department of Education in Zahedan, Iran, the number of primary school students studying in both districts of Department of Education was 61012 (30843 males and 30169 females). The sample of the current study included 381 students (191 males and 190 females).

The multistage cluster sampling method was applied, and among the two districts, District 2 was randomly selected. Afterward, a list of all schools including 38 schools for males and 40 schools for females, was prepared. Among the schools, four schools for males and four schools for females were randomly selected. Then, from each school, five classes were randomly selected. Finally, of each class, 10 students were selected from the attendance list using the simple random sampling (sortation) method and 400 questionnaires were distributed among the students. After eliminating incomplete questionnaires, 381 questionnaires were analyzed. Additionally, to determine the sample size, the Cochran formula with the margin error $d = 0.05$ was used.

2.1. Data Collection Tools

To analyze the obtained data, SPSS version 23 was applied and the data collection tool was the obsessive-compulsive inventory-child version (OCI-CV). This inventory is a well-established, collective self-report used to assess common dimensions or domains of OCD symptoms both in clinical and nonclinical samples. This inventory can be

used to examine children and adolescents aged 7 to 17 years (13). The OCI-CV is valid to evaluate OCD in clinical and non-clinical populations (14).

2.2. The OCI-CV

OCI-CV was developed by Foa et al., (15) and the revised version as adults obsessive-compulsive inventory was also developed by the same researchers (16). This self-report inventory can be used for people aged 7 to 17 years. OCI-CV includes 21 items and six subscales: doubting/checking (five items), obsessing (four items), hoarding (three items), washing (three items), ordering (three items), and neutralizing (three items). Subjects should determine the extent of their agreement or disagreement with each item of this inventory in a three-point Likert scale (never = 0, sometimes = 1, and always = 2). To obtain the overall score, all scores related to these 21 items should be added together. Scores range from 0 to 42. The greater a subject's score the more symptoms of OCD he/she experiences. In the current study, three cut off points were considered, scores ranging from 0 to 14 indicated mild obsession, 15 to 28 moderate obsession, and 29 to 42 severe obsession in the subjects. Moreover, to obtain the score of each subscale, the scores of its correlated items should be added together. The internal consistency reliability was 0.85 for the whole scale and it ranged 0.81 to 0.83 for each subscale of this inventory. The test-retest reliability of this inventory for all the items was 0.77 (15). In a pilot study, the Persian version of the OCI-CV was tested by Iranian researchers and its Cronbach's alpha was 0.89 (17).

3. Results

In total, the data were obtained from 381 students aged 7 to 11 years (191 males and 190 females with the mean age of 9 ± 1.46 years) studying in 1st to 5th grade of primary school. The students' descriptive information including gender, age, and level of education is presented in Table 1.

Examining the prevalence of OCD based on the overall score of OCI-CV in children aged 7 to 11 years indicated that 29.9%, 56.2%, and 13.9% of the children experienced mild, moderate, and severe symptoms of this disorder, respectively (Table 2).

The Wilks Lambda statistical indicator showed a significant difference in OCD among children aged 7 to 11 years based on gender ($F = 34.396$, Wilks Lambda = 0.644, $P = 0.00$) (Table 3). Additionally, the results of multivariate analysis of variance (MANOVA) demonstrated that all symptoms of OCD (doubting/checking, obsessing, hoarding, washing, ordering, and neutralizing) were more prevalent among females compared with males (Table 4).

Table 1. The Descriptive Information of the Study Subjects

	N	%
Gender		
Male	190	50.1
Female	191	49.9
Age, year		
7	76	19.9
8	87	22.8
9	59	15.5
10	71	18.6
11	88	23.1
Level of education		
1st grade	76	19.9
2nd grade	76	19.9
3rd grade	76	19.9
4th grade	76	19.9
5th grade	77	20.2

Table 2. Examining the Prevalence of OCD Based on the Overall Score Obtained by the Study Participants on the Questionnaire

Prevalence of OCD	Frequency	Percent
Mild (0 - 14)	114	29.9
Moderate (15 - 28)	214	56.2
Severe (29 - 42)	53	13.9

4. Discussion

Reviewing the available literature demonstrated that OCD was highly prevalent among children and adolescents (18), and the prevalence of this disorder among children was reported one in every 100 people (15). Given the three cut off points considered in the OCI - CV; i.e., scores ranging from 0 to 14 indicated mild obsession, 15 to 28 moderate obsession, and 29 to 42 severe obsession, the results indicated that 29.9%, 56.2%, and 13.9% of the children aged 7 to 11 years experienced mild, moderate, and severe symptoms of OCD, respectively. Additionally, the results demonstrated a significant gender difference in OCD among primary school females and males, and all symptoms of OCD were more prevalent among females compared with males.

In the same line, in a study conducted in Chile on a sample of children and adolescents to investigate the psychometric properties of the OCI - CV, the results of MANOVA indicated high levels of OCD symptoms among females. Moreover, the prevalence of these symptoms was more common among older subjects (13). Overall, the prevalence of OCD was higher among females compared with males (5).

The results of a study conducted in Spain demonstrated that OCD symptoms were more prevalent among

children aged 9 to 11 years than adolescents (14). The results of a longitudinal study conducted on 142 children and adolescents showed that OCD can be a chronic disorder that persists into adulthood; therefore, early diagnosis and treatment may prevent the persistence of OCD symptoms into adulthood (4). The results of a study conducted to examine the role of parental criticism on obsessive beliefs among adolescents aged 15 to 17 years in Shiraz, Iran, showed that criticism by parents, by affecting the subscales of inflated responsibility, can increase the symptoms of OCD (19). In addition, investigating some behaviors of parents and children with OCD and comparing them with those of normal parents and children demonstrated that, with regard to their behaviors, there were significant differences between the parents and children in the OCD group and the normal ones.

The parents of children with OCD, compared with the parents of the normal children, were less confident in their children's abilities, less rewarding of independence, and less likely to apply positive problem - solving strategies. This is while the children with OCD, in comparison with the normal children, showed less positive problem - solving strategies, less confidence in their own abilities to solve various issues, and they displayed less warmth during their interactions with their parents (20).

Reviewing the available literature demonstrated that pediatric OCD had a strong correlation with adverse family functioning (e.g., parental symptoms of anxiety and depression, family accommodation, family strain and stress, and parental guilt and fear) in all identified domains (1). In a prospective study conducted on schoolchildren in Spain, the results indicated that anxiety and depression were significant predictors of obsession among children at older ages. In contrast, gender and socioeconomic status were not correlated with OCD symptoms in children (5).

The most recent studies conducted to examine OCD demonstrated that people with this disorder had normal cognitive abilities; however, they applied inefficient metacognitive processes. This finding can help scientists to perceive and treat this disorder (21). Studies conducted on corpses of youths with OCD show significant relationships among illness severity, treatment outcome, and the family environment. This is while few researches are conducted among the broader class of obsessive - compulsive and related disorders (OCRDs) - trichotillomania, body dysmorphic disorder (BDD), skin picking disorder (SPD), and hoarding (1).

4.1. Conclusion

OCD symptoms and obsessive behaviors were more prevalent among females compared with males in Zahedan primary schools.

Table 3. The Wilks Lambda Statistical Indicator Among Female and Male Subjects

	Wilks Lambda	F	Sig.	Partial Eta Squared	Test Power
Group	0.644	34.396	0.00	0.35	1.00

Table 4. The Results of MANOVA in the Two Groups of Female and Male students

Variable	Female		Male		Sum of Squares	Df	Mean of Squares	F	Sig.	Partial Eta Squared
	Mean	SD	Mean	SD						
Doubting/checking	5.62	2.09	3.64	2.02	372.313	1	372.313	87.508	0.00	0.18
Obsessing	4.30	1.82	2.67	1.71	254.656	1	254.656	81.343	0.00	0.17
Hoarding	3.82	1.61	2.33	1.34	211.814	1	0.00	96.277	0.00	0.20
Washing	3.28	1.36	2.61	1.16	42.567	1	42.567	26.336	0.00	0.06
Ordering	3.91	1.38	2.43	1.45	207.500	1	207.500	102.344	0.00	0.21
Neutralizing	3.05	1.63	1.99	1.12	106.592	1	106.592	53.975	0.00	0.12

4.2. Limitation

Although OCD is a relatively prevalent and important disorder among children, very few studies are conducted to examine the prevalence of this disorder among Iranian children. Therefore, it was not possible to compare the obtained results of the current study to the findings of other studies conducted in Iran.

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Footnotes

Authors' Contribution: Mahmoud Shirazi and Mohammad Ali Fardin: Study design, interpretation of the data and revision of the manuscript for important intellectual content, Mohammad Ali Fardin and Ali Arab: statistical analysis and revision of the manuscript critically for important intellectual content, Mahmoud Shirazi: Interpretation of the data and revision of the manuscript for important intellectual content, and Mohammad Ali Fardin: Data collection and drafting the manuscript. All authors read and approved the final manuscript

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