

The epidemiological characteristics of patients with obsessive-compulsive disorder in Gorgan, Iran

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ABSTRACT

The present study was an attempt to investigate the epidemiological characteristics of people with obsessive-compulsive disorder (OCD). It also examined the relationship between this variable and demographic variables and some infectious factors. The present study is an applied study in terms of objective and cross-sectional in terms of time and descriptive-analytical in terms of data collection. By a convenience sampling method, 48 patients were diagnosed with OCD based on DSM-V diagnosis and interview, were included in the study. Then, the checklist was completed and sampling was done. Results revealed that washing OCD with a frequency of 37 (77.1%) was the most common type and slowness OCD with a frequency of 6 (12.5%) was the least common type of OCD and checking OCD and obsessional thinking were ranked next, respectively with frequency of 20 (41.7) and 19 (39.6). There was a significant relationship between slowness OCD and family history of the disease (p .value = 0.03), but no significant relationship was observed between washing, checking, slowness obsessive compulsive disorder and obsessional thinking with other variables of the study. Thus, washing obsessive compulsive disorder is very prevalent among OCD patients and family history can be involved in this disease. 21 of patients had toxoplasma gondii infection and 27 cases had no infection in their blood sample and it showed no significant relation between infection and the incidence of OCD. Based on results of this study, some demographic factors are good prognosis for obsessive-compulsive disorder, and screening and monitoring people at risk can prevent the disorder.

Keywords: Epidemiology, obsessive-compulsive disorder, Gorgan, screening

Introduction

Obsessive-Compulsive Disorder (OCD) is one of the three most common mental diseases, imposing much cost on community annually ^[1]. OCD problems and its debilitating symptoms disrupt the interpersonal functioning, jobs and one's life ^[2]. This disorder is one of the debilitating behavioral disorders that by unwanted and repetitive intrusive thoughts force person to do a compulsory and useless action and dip into uncomfortable thoughts. The main characteristic of this obsession and compulsion (thoughts and behaviors) is that they are not pleasant for the person ^[3]. Severe obsession with significant disability, low quality of life, and high family pressure is often comparable to schizophrenia. Thus, there is an urgent need to increase the sensitivity and importance of paying to this issue among health care professionals to diagnose and treat it ^[4]. To prevent this disease, it is very important to identify the risk and predisposing factors of obsessive-compulsive disorder in people.

Obsessive-compulsive disorder is seen in two forms: 1- obsessive-compulsive disorder increases personal anxiety 2- obsessive-compulsive disorder reduces personal anxiety, but when he or she resists against obsessive-compulsive, his or her anxiety increases. The results of a study conducted in Japan in 2001 showed that although the main topics of obsessive-compulsive disorder symptoms are similar around the world, historical, cultural and religious backgrounds could affect certain content and frequency of obsessive-compulsive symptoms ^[5]. In this regard, results of some other studies have shown that obsessive-compulsive forms are mainly affected by intrinsic factors of age, gender, and IQ. Content and frequency of these symptoms are affected by factors other the non-intrinsic and extrinsic factors, such as religion, socio-economic class and geographical location ^[6]. Various theories have been proposed to explain obsessive-compulsive disorder. Some researchers theorize that OCD is a biological disorder that is caused by biochemical imbalance of and it is mainly caused by inadequate

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serotonin in brain. Serotonin a transmitter peak (an intermediate chemical agent exchanging messages between neuron nervous cells in the brain that plays a major role in brain functioning. This theory arises from the fact that an antidepressant called Clomipramine that prevents the natural deficiency of serotonin, can have healing effects on this type of patients [7], so investigating and identifying of factors associated with obsessive-compulsive disorder through examining the epidemiological characteristics of this disorder can be effective in this regard. Socioeconomic status and education can play a role in obsessive-compulsive disorder and its reason has been attributed to different access of people to health equipment and their discretion power. [8-10] showed that associated psychiatric disorders, especially depression and anxiety with a high prevalence of 70% were seen in obsessive-compulsive patients [11]. Since obsessive-compulsive disorder is one of the types of anxiety disorders, based on the studies, marital status is also significantly associated with anxiety disorders, which is more common in single people than married people, and this factor can be considered as an indirect factor involved in obsessive-compulsive disorder. Hence, given the importance of the subject and since no comprehensive study has been conducted in Gorgan and Iran to investigate the factors associated with obsessive-compulsive disorder, the present study was conducted to answer the question of what is the frequency of obsessive-compulsive disorders (washing, checking, slowness, obsessional thinking) in people with obsessive-compulsive disorder separately for their demographic characteristics.

Theoretical foundations of research

Obsession

Psychologists consider obsession as one of the sever diseases that disrupt the mental and behavior balance of the patients and make it difficult for them to be adapted to environment and this imbalance and disorder has an overt form. Recently, the Diagnostic and Statistical Manual of Psychological Disorders-Version V (DSM-V) made changes on classification of this disorder and assigned a separate chapter to obsessive-compulsive disorder and related disorders (American Psychiatric Association). In fact, removing obsessive-compulsive disorder from the group of fear disorders such as phobias and anxiety disorders (such as post-traumatic stress disorder) and assigning a separate class to it can mean lack of achieving a clear answer to the role of psychological indicators such as fear and anxiety. This disorder is increasingly recognized as a condition of heterogeneous syndrome with a multidimensional nature [12]. In the dimensional approach, disorders are points on continuity of extreme features of normal personality. In other words, the symptoms of disorders can be studied in non-patient people. Most theorists [12] and [13] agree that the symptoms of obsessive-compulsive disorder include four dimensions: a) thoughts about contamination and washing behavior, b) thoughts about responsibility for mistakes and damage with checking obsessive compulsive disorder; c) thoughts about order and symmetry with

orderly behavior; and d) obsessive thoughts related to sexual and religious issues and neutralization strategies such as thought replacement. These dimensions can be combined to obtain the obsessive dimensional index [13]. The clinical background of obsessive-compulsive disorder treatment suggests that cognitive-behavioral therapy, more in the form of exposure and response prevention, is the first choice for the treatment of this disorder. Combined with specific medical treatments, obsessive-compulsive disorder can be completely treated [14]. In recent years, people with obsession have shown resistance against treatment, but almost all of them have used medical methods (pharmacotherapy, surgery) to treat these people [15]. Nowadays, a newer method has been added to therapeutic interventions called metacognitive therapy. Metacognitive approach argues that people are affected by emotional distress because their metacognitions in responding to inner experiences result in a pattern that perpetuates negative emotions and reinforces negative beliefs in these people. This pattern is called Cognitive-Attention Syndrome (CAS), which includes anxiety, rumination, fixed attention, and self-regulatory strategies or maladaptive coping behaviors [16].

Types of obsessive-compulsive disorder

Obsessional thinking

In this pattern, a person with OCD in response to an initiator which is usually a thought or feeling is distressed. Thoughts include doubt or questions and disturbing images and feelings, emotions and non-continuous states of stress or related to symptoms. Desires also include impulses or unwanted acts. In normal state, these disturbances occur, but the important thing is that disturbances activate one's metacognitive beliefs about the meaning and importance of them. In patients with OCD, these beliefs are wrong that patients give extreme importance for disturbances. Association of these beliefs with inner experience has a direct impact on one's external world. Also, these relevant beliefs are combined beliefs so that activation of the patient's dysfunctional metacognitive beliefs leads to negative assessment of disturbances and reaction to them as a sign of threat. This assessment results in exacerbation of negative emotions and anxiety. It is possible other emotions such as feeling guilt and anger occur in this case. Finally, when disturbances are interpreted negatively, beliefs about neutralizations are activated to reduce anxiety [17].

Washing obsessive compulsive disorder

The rate of this disorder in the general population is 2% to 3%. Washing obsessive compulsive disorder is the most common clinical signs of obsessive - compulsive, [18]. Compulsive contamination with 50% is the most common compulsive behavior, followed by washing obsessive compulsive disorder and cleaning with 50% and washing obsessive compulsive disorder (with 61%). It should be noted that in due to its religious context of Iran, there is another form of washing obsessive compulsive disorder called "Nejasat" or ritual impurity.

Checking obsessive compulsive disorder

The most common type of obsessive – compulsive disorder is checking obsessive compulsive disorder. The main problem in people with checking obsessive compulsive disorder is that they perform an action repeatedly [19]. It seems that in patients with checking obsessive compulsive disorder, there is an impairment in information processing, making these people have difficulty in remembering and assurance of performing an action that they have done it before [20].

Definition of slowness obsessive compulsive disorder

Patients with slowness obsessive compulsive disorder spend many hours for eating, shaving, dressing, getting ready to go bed, or sorting cloths. It should be noted that sometimes a combination of two or more obsessive patterns is seen in a person. Gender and age in distribution in obsessive compulsive disorder: According to epidemiological studies conducted in Europe and Africa, the mean age of onset of this disorder is 20 years old, while the available statistics suggest that the incidence of this disorder is increasing among different age groups [21]. The ratio of women to men in terms of distribution in obsessive compulsive disorder is equal; the highest age of onset of this disease is adulthood or early youth. Some studies suggest that the age for onset of obsessive-compulsive disorder is lower in males than that in females. Like many disorders, the role of biological factors in an interaction with other factors has been investigated. For example, investigating gender differences in the genetic capacity has shown that genetic aspects can have a great influence on the onset and development of this disorder at lower ages in males [22]. Also, the sudden onset of symptoms of the disorder at lower age is associated with the stressful life events. The mean age of onset of obsessive-compulsive disorder is 6-15 years in males and 20-29 years in females.

Methodology

The present study is applied in terms of objective and cross-sectional in terms of time and descriptive-analytical in terms of data collection. Using a convenience sampling method, 48 patients who referred to a psychiatric clinic in a six-month period from 2013-2014 and were diagnosed with obsessive-compulsive disorder based on DSM-V diagnosis and interview, were included in the study. Then, the checklist was completed and blood samples were taken from patients. It was estimated that during these six months, the diagnosis of obsessive-compulsive disorder would be finalized for a maximum of 100 patients, but the number of clients did not exceed 48. Patients entered the study with their complete consent and by completing the informed consent form. Participants cooperated in this study in two stages: the first stage was completing the checklist and the second stage was blood sample testing. The checklist used in the project included 3 sections. The first sections included information on diagnosis of type of obsessive-compulsive disorder and comorbid disease. It was completed by a

psychologist with the help of a psychiatrist. The second section included determination of infection with toxoplasma gondii and Group A streptococcus and it was completed by laboratory specialist. The third section of the checklist included demographic information, age, gender, level of education, birth season, family history of obsessive-compulsive disorder, etc., and it was completed based on the clients' self-declaration. In the next stage, to determine the infection by Toxoplasma gondii and Group A streptococci, 5 cc of blood samples were taken from each patient and sent to the laboratory under sterile conditions to assess the results. Laboratory tests included Toxoplasma gondii titer Group A streptococcus antibodies titer in the serum of patients. Detection of presence of recent and old infections with Group A streptococcus was determined by ELISA method with anti-streptolysin O kit. [23] and diagnosis of recent and old Toxoplasma gondii infection was determined by serum IgM and IgG measurements.

Research tools

The tool used in this study was a researcher-made checklist. The checklist used in the project included 3 sections. The first sections included information on diagnosis of type of obsessive-compulsive disorder and comorbid disease. It was completed by a psychologist with the help of a psychiatrist. The second section included determination of infection with toxoplasma gondii and group A streptococcus and it was completed by laboratory specialist. The third section of the checklist included demographic information, age, gender, level of education, birth season, drug use, family history of mental disorder, trauma or serious head injury, etc. It was completed based on the information of the client or guardian and also the information included in his or her file.

Information analysis method

After collecting the data, they were entered into SPSS V16 software and then percentage and frequency were used to describe the data and chi-square and Fisher tests were used to analyze the qualitative data and test the research hypotheses. P values less than 0.05 were considered significant.

Research results

Description of frequency of different variables in the subjects: Using a convenience sampling method, 48 people with obsessive-compulsive disorder were included in the study. According to Table 1, 31 of them (64.6%) were female and 17 (35.4%) were male and 10 (20.8%) were under 25 years old and 38 (79.2%) were over 25 years old. In terms of level of education, 24 (50%) had under diploma level of education and 24 (50%) had a diploma or higher level of education. Family history of obsessive-compulsive disorder was found in 20 (41.7%) people and it was not found in 28 (58.3%). Association of depression and schizophrenia with obsessive-compulsive disorder were reported in 12 (25%) and 15 (31.2%), respectively, and 21 (43.8%) showed no obsessive-compulsive disorder. 21 of patients had

toxoplasma gondii infection and 27 cases had no infection in their blood sample.

Table 1. Frequency distribution of people with obsessive-compulsive disorder based on demographic variables

gender	n	%
female	31	64.6%
male	17	35.4%
total	48	100%
age	n	%
under 20 years	10	20.8
over 20 years	38	79.2%
season birth	n	%
spring	28	58.3%
summer	7	14.6%
autumn	5	10.4%
winter	8	16.7%
total	48	100%
education level	n	%
under diploma	24	50%
diploma and higher	24	50%
total	48	100%
family history	n	%
yes	20	41.7%
no	28	58.3%
total	48	100%
comorbid disease	n	%
depression	12	25%
Schizophrenia	15	31.2%
No comorbidity	21	43.8%
Total	48	100%
Infection	n	%
Streptococcus Group A	0	0
toxoplasma gondii	21	43.8%
No infection	27	56.3%
total	48	100%

Investigating types obsessive-compulsive disorders in the subjects in Table 2 showed that washing obsessive compulsive disorder with a frequency of 37 people (77.1%) was the most obsessive-compulsive disorder and slowness obsessive compulsive disorder with a frequency of 6 people (12.5%) was the least obsessive-compulsive disorder among people with the disease and checking obsessive compulsive disorder and obsessional thinking with the frequency of 20 people (41.7%) and 19 people (39.6%) were ranked next, respectively.

Table 2. Frequency distribution of subjects based on type of obsessive-compulsive disorder

obsessive-compulsive disorder	yes		no	
	n	%	n	%
washing	37	77.1%	11	22.9%
checking	20	41.7%	28	58.3%
slowness	6	12.5%	42	87.5%
thinking	19	39.6%	29	60.4%

Frequency distribution of people with obsessive-compulsive disorder based on the studied variables

The frequency of washing obsessive compulsive disorder among males and females was 11 (64.7%) and 26 (83.9%), respectively, and the relationship between gender and washing obsessive compulsive disorder was not significant (p .value = 0.13). Sixteen (80%) of those who had a family history of obsessive-compulsive disorder had a washing obsessive compulsive disorder, which significant difference was not found between the two groups with and without a family history (p .value = 0.7). Washing obsessive compulsive disorder was present in 19 (79.2%) people who had degree below the diploma and 18 (75%) of people with a diploma or higher had washing obsessive compulsive disorder and no significant relationship was observed between the two groups (p .value = 0.7) and 22 patients (81.5%) with obsessive-compulsive disorder had also washing obsessive compulsive disorder, which no significant difference was found between the group with and without its comorbid disease (p .value = 0.4) (Table 3).

Table 3. Frequency distribution of people with washing obsessive compulsive disorder separately based on demographic characteristics

gender/washing	with washing obsessive compulsive disorder		without washing obsessive compulsive disorder		p.value
	n	%	n	%	
male	11	64.7%	6	35.3%	0.13%
female	26	83.9%	5	16.1%	ns
age/washing	with washing obsessive compulsive disorder		without washing obsessive compulsive disorder		p.value
	n	%	n	%	
15-25 years	8	80%	2	20%	0.8
25 years and above	29	76.3%	9	23.7%	ns
season/washing	with washing obsessive compulsive disorder		without washing obsessive compulsive disorder		p.value
	n	%	n	%	
first six-month	29	82.9%	6	17.1%	0.12%
second six-month	8	61.5%	5	38.5%	ns

	with washing obsessive compulsive disorder		without washing obsessive compulsive disorder		p.value
	n	%	n	%	
family history/ washing					
family history	16	80%	4	20%	0.7
no family history	21	75%	7	25%	ns
education/ washing					
under diploma	19	79.2%	5	20.8%	0.7
diploma and higher	18	75%	6	25%	ns
comorbid disease/ washing					
comorbid disease	22	81.5%	5	18.5%	0.4
no comorbid disease	15	71.4%	6	28.6%	ns

Frequency distribution of people with obsessive-compulsive disorder separately for studied variables

The prevalence of obsessive-compulsive disorder among males and females was obtained at 8 (47.1%) and 12 (38.7%), respectively, and the relationship between gender and checking obsessive compulsive disorder was not significant (p.value = 0.5). Eleven (55%) people with a family history of obsessive-compulsive disorder had checking obsessive compulsive disorder and no significant difference was observed between the two

groups of with and without a family history of it (p.value = 0.1). Checking obsessive compulsive disorder was found in 9 (37.5%) people who had below diploma degree and 11 (45.8%) people with a diploma or higher had checking obsessive compulsive disorder and no significant relationship was observed between the two groups (p.value = 0.5). Thirteen patients (48.1%) with obsessive-compulsive disorder had checking obsessive compulsive disorder that no significant difference was observed between the group with and without comorbidity (p.value = 0.2) (Table 4).

Table 4. Frequency distribution of people with checking obsessive compulsive disorder separately based on demographic characteristics

gender/checking	checking obsessive compulsive disorder		no checking obsessive compulsive disorder		p.value
	n	%	n	%	
male	8	47.1%	9	52.9%	0.5
female	12	38.7%	19	61.3%	ns
age/checking					
checking obsessive compulsive disorder					
n		%	n	%	p.value
15-25 years	4	40%	6	60%	0.9
25 years and above	16	42.1%	22	57.9%	ns
season/checking					
checking obsessive compulsive disorder					
n		%	n	%	p.value
first six-month	15	42.9%	20	57.1%	0.7
second six-month	5	38.5%	8	61.5%	ns
family history/ checking					
checking obsessive compulsive disorder					
n		%	n	%	p.value
11		55%	9	45%	0.1
no family history	9	32.1%	19	47.9%	ns
education/checking					
checking obsessive compulsive disorder					
n		%	n	%	p.value
under diploma	9	37.5%	15	62.5%	0.5
diploma and higher	11	45.8%	13	54.2%	ns
comorbid disease/ checking					
checking obsessive compulsive disorder					
n		%	n	%	p.value
13		48.1%	14	66.7%	0.2
no comorbid disease	7	33.3%	14	51.9%	ns

Frequency distribution of people with slowness obsessive compulsive disorder separately for studied variables

Slowness obsessive compulsive disorder was not found among males and it was found in 6 (19.4%) females and the relationship between gender and slowness obsessive compulsive disorder was not significant (p.value = 0.06). In those born in the first six-month of the year, the prevalence of slowness obsessive

compulsive disorder was 6 (17.1%) and there was no slowness obsessive compulsive disorder in those born in the second six-month and there was no significant difference between the variables (p .value = 0.13). Five (25%) people with a family history of obsessive-compulsive disorder also had slowness obsessive compulsive disorder and among people without family history, 1 patient (3.6%) had slowness obsessive compulsive disorder and a significant difference was observed between the two groups with and without family history of this disorder

(p .value = 0.03 <0.05). slowness obsessive compulsive disorder was equally found in 3 (12.5%) people with a bachelor's degree and 3 (12.5%) people with a diploma or higher and no significant relationship was observed between the two groups (p .value = 0.6). Five (18.5%) people with comorbid disease and 1 (4.8%) people without comorbid disease had slowness obsessive compulsive disorder and no significant difference was observed between two groups with comorbid disease and without it (P .value = 0.16) (Table 5).

Table 5. Frequency distribution of people with slowness obsessive compulsive disorder separately for demographic characteristics

gender/slowness	slowness obsessive compulsive disorder		no slowness obsessive compulsive disorder		p.value*
	n	%	n	%	
male	0	0	17	100%	0.06%
female	6	19.4%	25	80.6%	ns
age/slowness	slowness obsessive compulsive disorder		no slowness obsessive compulsive disorder		p.value*
	n	%	n	%	
15-25 years	10	100%	0	0	0.3
25 years and above	32	84.2%	6	15.8%	ns
season/slowness	slowness obsessive compulsive disorder		no slowness obsessive compulsive disorder		p.value*
	n	%	n	%	
first six-month	6	17.1%	29	82.9%	0.13
second six-month	0	0	13	100%	ns
family history/ slowness	slowness obsessive compulsive disorder		no slowness obsessive compulsive disorder		p.value*
	n	%	n	%	
family history	5	25%	15	75%	0.03*
no family history	1	3.6%	27	96.4%	significant
education/slowness	slowness obsessive compulsive disorder		no slowness obsessive compulsive disorder		p.value*
	n	%	n	%	
below diploma	3	12.5%	21	87.5%	0.6
diploma and higher	3	12.5%	21	87.5%	ns
comorbid disease/slowness	slowness obsessive compulsive disorder		no slowness obsessive compulsive disorder		p.value*
	n	%	n	%	
comorbid disease	5	18.5%	22	81.5%	0.16
no comorbid disease	1	4.8%	20	95.2%	ns

*Fisher test was used to measure p value

Frequency distribution of people with obsessional thinking separately for studied variables

The prevalence of obsessional thinking among males and females was 5 (29.4%) and 14 (45.2%), respectively, and the relationship between gender and obsession was not significant (p .value = 0.2). Nine (45%) of people with a family history of obsessive-compulsive disorder had obsessional thinking and among people with no family history of obsessive-compulsive disorder, 10 (35.7%) had obsessional thinking and no significant difference

was found between two groups with or without a history of it (p .value = 0.5). obsessional thinking disorder was found in 9 (37.5%) people with below diploma level of education and in 10 (41.7%) with a diploma and high level of education and no significant relationship was observed between the two groups (p .value = 0.7). Twelve (44.4%) people with comorbid disease and 7 (33.3%) people without comorbid disease had obsessional thinking and no significant difference was observed between two groups of with and without comorbid disease (p .value = 0.4) (Table 6).

Table 6. Frequency distribution of people with obsessional thinking separately for demographic characteristics

gender/ obsessional thinking	obsessional thinking		no obsessional thinking		p.value
	n	%	n	%	
male	5	29.4%	12	70.6%	0.2

female	14	45.2%	17	54.8%	ns
age/obsessional thinking	obsessional thinking		no obsessional thinking		p.value
	n	%	n	%	
15-25 years	6	60%	4	40%	0.9
25 years and over	23	60.5%	15	39.5%	ns
season/obsessional thinking	obsessional thinking		no obsessional thinking		p.value
	n	%	n	%	
first six-month	14	40%	21	60%	0.9
second six-month	5	38.5%	8	61.5%	Ns
family history/obsessional thinking	obsessional thinking		no obsessional thinking		p.value
	n	%	n	%	
family history	9	45%	11	55%	0.5
no family history	10	35.7%	18	64.3%	ns
education/obsessional thinking	obsessional thinking		no obsessional thinking		p.value
	n	%	n	%	
under diploma	9	37.5%	15	62.5%	0.7
diploma and higher	10	41.7%	14	58.3%	Ns
comorbid disease	obsessional thinking		no obsessional thinking		p.value
	n	%	n	%	
n	7	44.4%	15	55.6%	0.4
no comorbid disease	7	33.3%	14	66.7%	Ns

Conclusion

The aim of present study was to investigate the epidemiological characteristics of people with obsessive-compulsive disorder referred to the Gorgan Psychiatric Clinic in a six-month period from 2013 to 2014. Investigations of various obsessive-compulsive disorders in subjects showed that the most common obsessive-compulsive disorder is washing obsessive compulsive disorder, which is consistent with the results of the study conducted by Salehi *et al.* [24]. High prevalence of washing obsessive compulsive disorder among patients is explained by the fact that according to religious culture of subjects, the concept of religious purity and impurity can affect washing obsessive compulsive disorder. For example, Muslims believe that after events such as sexual intercourse, defecation and menstrual, they are not clean and should they avoid their religious duties and responsibilities until their ritual washing and bathing. Also, in Iran's culture, it is believed that with staying at that impure and unclean condition, people are not only punished by God but this impurity is ominous for them, so ritual washing in these people can prevent negative effects of such psychological thoughts. In our study, the frequencies of washing obsessive compulsive disorder, checking, slowness and obsessional thinking were higher in females than males, and it is consistent with results a study conducted by Mohammadi *et al.* (2005) [25]. However, the relationship between gender and obsessional thinking was not significant, which was in line with results of the studies conducted by Shams *et al.* (2011) and Omrani Fard *et al.* [11, 26]. High frequency of this disorder in females can be explained by social role of females in society and the need to be more attractive, and their responsibility to their children, so that performing rituals by females is effective in preventing disease

and thus their acceptance and sense being complete in them will increase their ability to raise children.

Level of education showed no significantly relationship with type of obsessive-compulsive disorder, but the frequency of diploma and higher in the two types of obsessive-compulsive disorder was higher, which is inconsistent with results of the study conducted by Shams *et al.*, in which they found that having education below secondary level of education is a factor involved in increasing psychological disorders [11]. However, our research results are in line with results of the study conducted by Salehi *et al.* on checking obsessive compulsive disorder disorder [24]. The relationship between birth season and types of obsessive-compulsive disorder was not significant, but the frequency of spring and summer births in all types of obsessive-compulsive disorder was higher than those born in the second half of the year. It can be attributed to possible effect of heat and the angle of sunlight on the mother's body during pregnancy, as the role of these factors on the occurrence of mental disorders such as winter depression or the effect of winter on the birth of schizophrenic patients has been proven. In the present study, a significant relationship was found between the family history of obsessive-compulsive disorder and development of slowness obsessive compulsive disorder. Rosa *et al.* referred to the possibility of a history of psychiatric disorders on obsessive-compulsive disorder. In explaining this issue, it can be stated the effect of family history on slowness obsessive compulsive disorder may be due to the effect of the behavioral pattern of first-degree family members on the person. In addition, the effect of genetic factors and hereditary transmission of related genes from parent to child might be involved in this regard.

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Conflict of interest

None

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Ethics statement

The present article was approved by a committee for ethical research at Mazandaran and Golestan University of Medical Science (ethical code: IR.GOUMS.REC.1397).

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