Prevalence of obsessive compulsive disorder: A Survey with Southern Saudi Arabian samples

Sultan Alsubaie [1], Mohammed Almathami [2], Ahmed Abouelyazid [3*], Mohammed M. Alqahtani [4], Wafa Alshehri [5], Asya Alamri [6]

1. MD; Consultant Psychiatrist, Armed Forces Hospital Southern Region, Khamis Mushayt, Saudi Arabia | Email: dr.sl4444@gmail.com
2. MD; Consultant Psychiatrist & Head of Psychiatric Department, Armed Forces Hospital Southern Region, Khamis Mushayt, Saudi Arabia | Email: mmathami@yahoo.com
3. MD. Assistant Professor of Public Health & Community Medicine, Mansoura Faculty of medicine, Mansoura, Egypt
Consultant community medicine, Armed Forces Hospital Southern Region, Khamis Mushayt, Saudi Arabia | Email: drzizous2000@yahoo.com
4. Dr. Mohammad Mana Alqahtani, MD. Psychiatric Resident, Armed Forces Hospital Southern Region, Khamis Mushayt, Saudi Arabia | Email: m.al_thiab@hotmail.com
5. Senior Medical Students, Faculty of Medicine, King Khalid University, Abha, Saudi Arabia | Email: wafa1221@hotmail.com
6. Senior Medical Students, Faculty of medicine, King Khalid University, Abha, Saudi Arabia | Email: ambitious-18@hotmail.com

**** Corresponding Author:*** Ahmed Abouelyazid; MD
Consultant Community Medicine; Armed Forces Hospital Southern Region,
Tel.: 00966536271078 | P.O. Box 101, Khamis Mushayt, Saudi Arabia
Email: drzizous2000@yahoo.com

Abstract

Objectives: We examined the prevalence of Obsessive Compulsive Disorder (OCD) among individuals in Asser province, southern Saudi Arabia. We also studied the sociodemographic profiles for these individuals. Furthermore, we validated an Arabic version of an Obsessive-Compulsive Inventory–Revised (OCI-R) short form during the study.

Methods: A cross-sectional study was conducted among subjects (n=1000) in Asser Province, southern Saudi Arabia using an Arabic version of an OCI-R short form. The data were analyzed by SPSS 22 package program. Pearson's chi-squared test is used to examine the association between the categorical outcome variables A p-value less than 0.05 was considered statistically significant.

Results: Most of the participants were young adults (22.04± 4.4 years) and single females with university level of education who are originally from southern Saudi Arabia. The prevalence of OCD symptoms was 3.4%. When the association between OCD and different demographic characters was tested, no significant relation between OCD and any factors except educational level (P=0.04) which was more common in university educational level.

Conclusion: In Asser Province, the prevalence of OCD symptoms is like other studies reported in some parts of Saudi Arabia. Further research is needed to explore the impact of this problem at the national level.

Keywords: Obsessive Compulsive Disorders, Prevalence, Southern Saudi Arabia

Introduction

Obsessive Compulsive Disorder (OCD) according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) is characterized by the presence of obsessions and/or compulsions.[1] Obsessions are recurrent and persistent thoughts, urges, or images that are experienced as intrusive and unwanted, whereas compulsions are repetitive behaviors or mental acts that an individual feel driven to perform in response to an obsession or according to rules that must be applied rigidly.[1] Obsessions increase the anxiety, and compulsions usually reduce it. Patients with OCD were almost universally characterized by a predominance of females, a relatively early age of onset, and a preponderance of mixed obsessions and compulsions.[2] Also, some data showed that late adolescence is the period of increased vulnerability for the development of OCD; OCD affects predominantly female adults and male children and adolescents; and that those who are unmarried or abusing drugs are more likely to present with OCD.[3] Individuals with OCD may have additional problems. Some of the problems may be associated with OCD - others may exist in addition to OCD but not be caused by it.[4]

There is a lack of data estimating either the prevalence or the incidence of this disorder within the Kingdom of Saudi Arabia (KSA).[5] It is estimated that 2-4% of individuals in the general population will develop OCD before the age of 18 years, and epidemiologic research studies have revealed that OCD has a lifetime prevalence of 2-3%.[6-8] The peak ages of onset appear to be from 10-19 years, closely followed by the ages of 20 and 29.[9] Throughout adulthood, OCD symptoms follow a chronic course, with exacerbations accompanying periods of life stress.[5]

To our knowledge, there are no previous investigations that have examined the prevalence of OCD in southern region of Saudi Arabian population. Essential to such investigations is the use of valid measurement instruments sensitive to cultural nuances. However, studies in non-Western countries have tended to use Western-developed measures for primary assessment.

Therefore, our study aims to investigate the prevalence of OCD in Asser province southern Saudi Arabia, to correlate the prevalence of OCD with different demographic data and to validate an Arabic version of Obsessive-Compulsive Inventory – Revised (OCI-R) short form among a sample of adults in KSA.

Methods

The current study was conducted among King Khalid University (KKU) students, workers in the governor and private sector and visitors to shopping centers in Asser province, southern Saudi Arabia, from December 1, 2015, to November 28, 2016. The study includes all individuals 16 years and older, both males and females who are originally from southern Saudi Arabia. The study design was a cross-sectional study that obtained all required ethical approval from the ethical review committee from Armed Forces Hospital Southern Region (AFHSR), Khamis Mushayt, KSA. The data collected included age, gender, marital status, level of education, occupation,

monthly income, and health status. The studied subjects were required to give written consent to participate in the study. The investigators uphold the fundamental principles regarding research on human subjects: respect for persons, beneficence, and justice. For all data collection activities, informed consent sought from the eligible participants following full disclosure regarding the study before data collection was done.

We administered an OCI-R short form, Arabic Version after it was validated during the study, to all participants. The OCI-R is a brief (18-item), score equal to or greater than 21 is the cut-off score, adapted from the 42-item OCI that assesses distress associated with common OCD symptoms. In addition to yielding a total score, the OCI-R has six subscales: washing, checking, ordering, obsessing, hoarding, and neutralizing.[10-12]

The number of participants for all phases depends on the type of validation method. Phase one which focuses on face validity, 80 students were recruited. Phase two, for construct validity in the sample size, was calculated based on Gorsuch's (1983) suggested that total numbers of items in an instrument are multiplied to 5 to obtain the required number of participants.[13] For reliability testing, the required sample size was calculated based on the Cronbach's alpha formula. With consideration of the estimated 10 percent dropout, the higher of the two resulting calculations was taken as the required sample size. Assuming the prevalence of OCD is 2-3% according to (Zohar AH, 1999) at CI 95% the total sample was 752.[8] We increased the sample size to 1000 to increase study power. In the test-retest phase (phase three), a method for sample size based on the interclass correlation coefficient (ICC), was chosen (Walter et al., 1998). The minimally acceptable ICC value (r1= 0.7) versus an alternative ICC value reflecting the expectations (r1= 0.8) was chosen. With a power of 80% (b = 0.2) and a significance level of 5%, a sample size of at least 601 participants was required.[14]

The planned procedures for translating was based on the guidelines for translation and cross-cultural adaptation by Beaton et al.[15] Translation and back translation was conducted to confirm the accuracy and appropriateness of wording of the Questionnaire. The instrument was translated by two independent persons from English into Arabic at the same time. One of them was aware of the study's purpose and goals, and the other one wasn't. Both translators had discussed the differences between their translations to resolve any differences until they develop a consensus about the Arabic wording of each item. Two back translations into English were done by two independent persons. The back translation was conducted with no prior exposure to the English-language version of the questionnaire. Then, the Expert Committee Review was conducted. Principal investigator, translators, Arabic language expert, social expert, and psychiatrist discussed any discrepancies found between the original one and items and the back-translated versions the questionnaire. The committee also assessed the suitability of the instrument to be used at the level of adults. To avoid any limitation of the applicability of this version of the scale, the final translation was in classical Arabic, which can be used in other Arab countries with different dialects. Final approval letter was received through e-mail by the OCI-R author. The study questionnaire included sociodemographic characteristics of the study participants: age, gender, marital status, origin, educational level, occupation, monthly income and health status.

The predictor variables were OCD and demographics. The data were analyzed using SPSS for the IBM version 22 software system. Descriptive statistics were used to describe the quantitative, categorical, and outcome variables. Pearson's chi-squared test was used to study the association

between the categorical outcome variables. A p value of <0.05 was used to report the statistical significance and precision of the estimates. Then, data analysis for construct validity and reliability testing was carry out. To explore the construct validity of the translated instrument, confirmatory factor analysis was performed using principal component analysis with varimax rotation to assess the factor structure of the translated version of the questionnaire. The preliminary analysis for factor analysis was evaluated by using the value of the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy, individual Measure of Sampling Adequacy (MSA) and Bartlett's test of sphericity.[16]

To assess the reliability of the Arabic version of the questionnaire, the internal consistency and test-retest reliability of the translated instrument was measured. The internal consistency reliability of the instruments is represented by Cronbach's alpha coefficient (α). Subsequently, Pearson's correlation coefficient (r) was calculated to evaluate the test-retest reliability. The correlation coefficient was calculated for the total score of the translated instrument.

Results

Sociodemographic characteristics (Table-1): The mean age of the 1000 study subjects was 22 years, with a higher proportion of females (61.4%) than males (38.6%). There were more single subjects (84.7%) than other subjects). Most of the subjects were originally from the southern region of Saudi Arabia (98.8%), university students (84.8%) and with good monthly incomes (66.7%). The subjects who were healthy constituted (97.8%) of the sample.

Total OCD and Score and Prevalence of OCD symptoms: Most individuals had OCD score less than twenty-one, 96.6%; on the other hand, about 3.4% of the individuals had OCD score equal or more than twenty-one.

Association between OCD and different socio-demographic factors (Table-2): About 58.8 % of the OCD subjects were females whereas 41.2 % of the OCD subjects were males. Approximately 76.5 % of OCD individuals were single. All the OCD subjects 100 % were originally from the Southern region and students. Most of the OCD group 61.8 % had enough monthly income. OCD subjects with university educational levels were 70.6 % of the OCD subjects which means that OCD symptoms are more common in high educational levels (P=0.04). Most OCD individuals 94.1 % were healthy.

Discussion

Our study showed that OCD symptoms were prevalent in 3.4% of subjects, in contrast, Khalid S. Al Gelban found obsessive-compulsive behavior in 12.3% of Saudi Secondary School girls in Abha by using the Arabic version of the symptom-revised checklist 90 (SCL 90-R).[17] Dalia El-Sayed Desouky found OC symptoms in 23.1% out of 1024 secondary school girls in Taif, Saudi Arabia.[18] Differently, the previous two studies restricted to female adolescents, which led to an inability to determine sex-specific psychopathology.

Our findings showed that OCD was higher in women than men with female to male ratio 1.4/1, most of them were single, which were similar to other studies in Saudi Arabia that examined the pattern of OCD in KSA and found to be similar to those reported in Western studies.[19-20]

All the individuals in our study are Muslims and their findings were like those examined the OCD and culture. De Bilbao F and Giannakopoulos P evaluated the effect of religious upbringing on OCD symptoms and claimed a variety of symptoms related to religious thoughts are more prevalent in clinical populations from countries in which religion is at the central core of the society, particularly in Muslim and Jewish Middle Eastern cultures, as compared with clinical populations from the West.[19-21]

Salwa Erfan and Mona Rakhawy, evaluated 44 OCD patients (22 Saudi and 22 Egyptian) were compared to 43 control subjects (19 Saudi and 24 Egyptian) matching age, sex, social class and education of patients, their findings were approximately like our findings in regard to sociodemographic data.[22]

There are some limitations that need to be acknowledged regarding the present study. The first limitation concerns about the self-rated questionnaire. Self-reported answers may be exaggerated; respondents may be too embarrassed to reveal private details; various biases may affect the results. Therefore, using clinician-rated scale or structural clinical interview would be better. The second limitation is the use of convenience sampling may not accurately represent the population under study; in our sample, we had a higher proportion of female participants than male participants, which may be due to the reluctance of males to participate in such a study, especially in shopping centers.

In conclusion, although the studies that examined the prevalence of OCD in various parts of KSA are limited, the prevalence of OCD symptoms in Asser Province is like other studies reported in some parts of Saudi Arabia. Further research is needed to explore the magnitude and impact of OCD and to identify potential supporting counseling and cognition-behavior therapy of this problem. To reach this, a national program for mental health in this area is crucial.

Acknowledgments

The authors would like to acknowledge the support from Ethical Review Committee from Armed Forces Hospital Southern Region in Asser province, southern Saudi Arabia.

Source of funding: None.

Conflict of interest: None.

Grant Support & Financial Disclosures: None.

References

1. Dilip V Jeste. Obsessive-Compulsive and Related disorders, 'Diagnostic and statistical manual of mental disorders' (second edition), Alrington,VA, American Psychiatric Pub, American Psychiatric Association, Washington DC. 2013;pp 235-38.
2. Fontenelle L, Mendlowicz M, Marques C, Versiani M. Trans-cultural aspects of obsessive–compulsive disorder: a description of a Brazilian sample and a systematic review of international clinical studies. Journal of Psychiatric Research. 2004;38(4):403-411., doi:10.1016/j.jpsychires.2003.12.004.
3. Fontenelle L, Hasler G. The analytical epidemiology of obsessive–compulsive disorder: Risk factors and correlates. Progress in Neuro-Psychopharmacology and Biological Psychiatry. 2008;32(1):1-15.,doi:10.1016/j.pnpbp.2007.06.024.
4. Obsessive-compulsive disorder (OCD). [Internet] [cited 2013 Aug 09]. Available from http://www.mayoclinic.org/diseases-conditions/ocd/basics/complications/con-20027827.
5. Aljeshi A. Obsessive-compulsive disorder. Neurosciences (Riyadh, Saudi Arabia). 2011 Oct 1;16(4):313-9.
6. Geller DA, Biederman J, Jones J, Shapiro S, Schwartz S, Park KS. Obsessive-compulsive disorder in children and adolescents: a review. Harvard Review of Psychiatry. 1998 Jan 1;5(5):260-73.
7. Grabill K, Merlo L, Duke D, Harford KL, Keeley ML, Geffken GR, Storch EA. Assessment of obsessive–compulsive disorder: a review. Journal of anxiety disorders. 2008 Dec 31;22(1):1-7.
8. Zohar A. The Epidemiology of Obsessive-Compulsive Disorder in Children and Adolescents. Child and Adolescent Psychiatric Clinics of North America. 1999;8(3):445-460., doi:10.1016/s1056-4993(18)30163-9.
9. Kolada J, Bland R, Newman S. Obsessive-Compulsive Disorder. Acta Psychiatrica Scandinavica. 1994;89(s376):24-35., doi:10.1111/j.1600-0447.1994.tb05788.x.
10. Foa E, Kozak M, Salkovskis P, Coles M, Amir N. The validation of a new obsessive-compulsive disorder scale: The Obsessive-Compulsive Inventory. Psychological Assessment. 1998;10(3):206-214., doi:10.1037//1040-3590.10.3.206.
11. Foa EB, Huppert JD, Leiberg S, Langner R, Kichic R, Hajcak G, Salkovskis PM. The Obsessive-Compulsive Inventory: development and validation of a short version. Psychological assessment. 2002 Dec;14(4):485. doi: 10.1037/t01258-000.
12. Abramowitz JS, Deacon BJ (2006) Psychometric properties and construct validity of the Obsessive–Compulsive Inventory—Revised: Replication and extension with a clinical sample. Journal of Anxiety Disorders 20:1016–1035. doi: 10.1016/j.janxdis.2006.03.001.
13. GORSUCH, Richard L., 1983. Factor Analysis, second edition, Hillsdale: Lawrence Erlbaum Associates.
14. Walter SD, Eliasziw M, Donner A. Sample size and optimal designs for reliability studies. Statistics in medicine. 1998 Jan 15;17(1):101-10., doi: 10.1002/(sici)1097-0258(19980115)17:1<101::aid-sim727>3.3.co;2-5.
15. Beaton D, Bombardier C, Guillemin F, Ferraz M. Guidelines for the Process of Cross-Cultural Adaptation of Self-Report Measures. Spine. 2000;25(24):3186-3191.doi:10.1097/00007632-200012150-00014.
16. Kaiser H. An index of factorial simplicity. Psychometrika. 1974;39(1):31-36.doi:10.1007/bf02291575.

17. Al Gelban K. Prevalence of psychological symptoms in Saudi secondary school girls in Abha, Saudi Arabia. Annals of Saudi Medicine. 2009;29(4):275., doi:10.4103/0256-4947.55308
18. El- Sayed Desouky D, Abdellatif Ibrahem R, Salah Omar M. Prevalence and Comorbidity of Depression, Anxiety and Obsessive-Compulsive Disorders among Saudi Secondary School Girls, Taif Area, KSA. Arch Iran Med. 2015; 18(4): 234 – 238.
19. Al-Sabaie AS, Abdul-Rahim F, Al-Hamad AR. Obsessive compulsive disorder. Ann Saudi Med. 1992 ;12(6):558-61.
20. Mahgoub O, Abdel-Hafeiz H. Pattern of Obsessive-Compulsive Disorder in Eastern Saudi Arabia. British Journal of Psychiatry. 1991;158(06):840-842., doi: 10.1192/bjp.158.6.840.
21. De Bilbao F, Giannakopoulos P.Effect of religious culture on obsessive compulsive disorder symptomatology. A transcultural study in monotheistic religions. Revue médicale suisse. 2005;1(43):2818-21.
22. Salwa Erfan and Mona Rakhawy. The Impact of Obsessive Compulsive Disorder on Patients' Life: A Transcultural Perspective. Current Psychiatry. 2010; 17:25-33.

Table 1: Sociodemographic characters of studied group

Variables	No. (%)
Age (years) Mean (SD)[min:max] = 22.04± 4.4[16:52]	
Gender	
- Males	386(38.6)
- Females	614(61.4)
Marital Status	
- Single	847(84.7)
- Married	148(14.8%)
- Widowed	5(0.5%)
Origin	
- Southern Region	988(98.8%)
- Other places	12(1.2%)
Educational Level	
- Illiterate and Primary	4(0.4%)
- Intermediate and Secondary	148(14.8%)
- University	848(84.8%)
Monthly Income	
- Good	667(66.7%)
- Average	305(30.5%)
- Poor	28(2.8%)
Occupation	
- Student	909(90.9%)
- Working	55(5.5%)
- Not working	36(3.6%)
Health Status	
- Healthy	978(97.8%)
- Not Healthy	22(2.2%)

Table 2: Association between OCD and different socio-demographic factors

Variables	≥ 21 OCD N=34	< 21 Not OCD N=966	P value
Age (years) Mean ± (SD)	22.4±2.4	22.1±7.02	< 0.85
Gender			< 0.75
- Males	14(41.2)	372(38.2)	
- Females	20(58.8)	594(61.5)	
Marital Status			< 0.32
- Single	26(76.5)	821(85)	
- Married	8(32.8)	140(14.5)	
- Widowed	0	5(0.5)	
Origin			< 0.51
- Southern Region	34(100)	954(98.8)	
- Other places	0	12(1.2)	
Educational Level			< 0.04*
- Illiterate and Primary	0	4(0.4)	
- Intermediate and Secondary	10(29.4)	138(14.3)	
- University	24(70.6)	824(85.3)	
Monthly Income			<0.82
- Good	21(61.8)	646(66.9)	
- Average	12(35.3)	293(30.3)	
- Poor	1(2.9)	27(2.8)	
Occupation			<0.31
- Student	34(100)	875(90.6)	
- Working	0	55(5.7)	
- Not working	0	36(3.7)	
Health Status			< 0.51
- Healthy	32(94.1)	946(97.9)	
- Not Healthy	2(5.9)	20(2.1)	