Development of an Indigenous Obsessive Compulsive Disorder Scale for Pakistan

Shaista Jabeen and Rukhsana Kausar

University of the Punjab Lahore, Pakistan

The objective of the current study was to develop an indigenous scale for the assessment of Obsessive Compulsive Disorder (OCD) in Pakistan. The research was conducted in different phases which aimed to generate symptoms, examine factor structure, and establish reliability of the scale. Item-generation was based on symptoms elicited through interviews of clinical psychologists and patients diagnosed with OCD. In second phase inter-rater reliability for the relevance and readability of symptoms was estimated. Third phase examined psychometric properties including factor structure and reliability of the scale. It was administered on two hundred patients diagnosed with OCD. Two separate sets of Principal Component Analyses (PCA) using varimax rotation resulted in 5 categories of symptoms for obsessive and compulsive symptoms each. Internal consistency of the subscales was satisfactory. The construction and development of scale has important implications from clinical as well as research point of view.

Keywords: Obsessive symptoms, compulsive symptoms, principal component analysis, reliability

Obsessive Compulsive Disorder (OCD) is characterized with obsessions or compulsions or both (American Psychiatric Association, APA; 1994). Obsessions and compulsions are recognized as excessive or unreasonable and they cause marked anxiety (Insel, 1990). According to World Health Organization (Murray & Lopez, 1996) OCD is among the 10 most disabling medical conditions worldwide. OCD has been reported to be the fourth most common psychiatric

Correspondence concerning this article should be addressed to Shaista Jabeen, Madni Street, Mian Riaz Ahmed Road Shalamar Town, Lahore, Pakistan. e-mail:onlineshaista@hotmail.com

This study is based on one segment extracted from the research work of PhD project. In the present research article, the authors have presented work pertaining to obsessive and compulsive symptoms.

disorder (Crum & Anthony, 1993; Karno, Golding, Sorenson, & Burman, 1988) and 50 to 100 times more common than previously believed and twice as common as schizophrenia or panic disorder (Karno et al., 1988). Prevalence of OCD is reported between 0.6 - 3.1% in general population (Karno et al.; Samuel & Nestadt, 1997; Stein, Forde, Anderson, & Walker, 1997). In a recent Turkish study, OCD was diagnosed in 4.2% of university students (Yoldascan, Ozenli, Kutlu, Topal, & Bozkurt, 2009). In Pakistan OCD is prevalent in 3% (Gaddit, 2003) and in rural Indian community prevalence is .28% (Nandi et al., 2000).

Main features of OCD are obsessions, compulsions, or combination of both. However, there is empirical evidence to suggest that patients with OCD are more likely to have obsessive thoughts than compulsive behaviors (Karno et al.; Weissman et al., 1994). Some researches report that about one third of the patients with OCD report obsessions alone (Akhtar, Wig, Verma, Preshad, & Verma, 1975; Insel, 1990). The disturbing nature of obsessions and their persistence lead to second major feature of OCD i.e., compulsions. While many other studies have reported that patients with OCD present a combination of obsessions and compulsions (Akhtar et al., 1975; Baer, 1994; Rasmussen & Eisen, 1990; Valleni-Basile et al., 1994).

obsessions include contamination. Common aggression. blasphemous and religious, somatic, and indecisiveness (Juang & Liu, 2001; Okasha, Saad, Khalil, el-Dawla, & Yehia, 1994; Rasmussen & Eisen, 1992; Shooka, Al-Haddad, & Raees, 1998). In Pakistan, available empirical evidence suggests that most commonly reported obsessions are thoughts of contamination and pathological doubt (Gaddit, 2003). O'Dwyer and Marks (2000) have reported clear logical link between thoughts and the rituals which patients feel compelled to carry out to relieve associated distress. Contamination concerns with washing rituals have been reported as a distinct symptom dimensions of OCD in many studies related with phenomenology of OCD.

Among compulsions washing and cleaning rituals are reported to be most common (Akhtar et al., 1975; Dowson, 1977; Gaddit, 2003; Kemal, Kaya, & Burcin, 1999; Khanna & Mukherjee, 1992; Pigott, 1998; Rasmussen & Eisen, 1991; Shooka et al., 1998; Stern & Cobb, 1978; Tezean & Millet, 1997). Apart from washing and cleaning, other compulsions include checking, repeating, ordering and arranging, confessing, doubting, counting, hoarding, and religious avoidance (Baer, 1994; Juang & Liu, 2001; Nazar & Shafique, 1999; Okasha et al., 1994; Pigott, 1998; Stern & Cobb, 1978). Patients

presenting as washers can convert into checkers at sometime and vice versa (Tallis, 1995).

The symptomatology of OCD is very diverse in content. Akhtar et al. and Shooka et al. observed that symptoms of obsessive compulsive disorder are diverse in content. Moreover, sociocultural and religious factors play important role in shaping the characteristics of obsessional thoughts. Turkington (1999) highlighted the need for reliable assessment measures which can be used for estimates of OCD. Use of these measures can enhance the quality of clinical work by refining the evaluation and monitoring of the patient's clinical condition (Goodman & Lawrence, as cited in Jenike, Baer, & Minichiello, 1990). In assessment of OCD, it is important to identify symptom pattern, degree of severity of the symptoms, patients' inner experience during obsessional thought, compulsive act, and their coping strategies. For this purpose integrating best available research with clinical judgment and patient values has been emphasized (Huppert, Siev, & Kushner, 2007).

A number of rating scales and checklists have been developed so far to assess OCD. These can be divided into 3 categories (a) self-rated scales, (b) observer-rated scales, and (c) cognitive measures.

Lyton Obsessional Inventory (LOI; Cooper, 1970), Maudsley Obsessive Compulsive Inventory (MOCI; Hodgson & Rachman, 1977), and Padua Inventory (PI; Sanavio, 1988) are all self-rated measures of OCD. The MOCI has gained wide acceptance and has been employed in numerous studies (Persons & Foa, 1984; Sher, Frost, & Otto, 1983; Tallis & de-Silva, 1992; Zielinski, Taylor, & Juzwin, 1991). LOI and MOCI have been criticized for their concept of obsessional traits and the fact that symptoms were not addressed properly (Tallis, 1995). Yale Brown Obsessive Compulsive Scale (YBOCS; Goodman et al., 1989) includes both a symptom checklist and a scale for assessment of severity of OCD symptoms. Traditionally administered as a clinical-rated scale, which provides specific measures of the severity symptoms, a self-report form is also available for YBOCS (Goodman et al., 1989).

Clark Beck Obsessive Compulsive Inventory (CBOCI; Clark & Beck, 2002) assesses the frequency and severity of obsessive compulsive symptoms. NIMH-Global Obsessive Compulsive Scale (The NIMH-GOCS) is one of the most frequently used rating instruments (Rappaport, Elkins, & Mikkelsen, 1980). It has 15 gradations ranging from 1 (minimal) to 15 (very severe). The Obsessive Compulsive Inventory-R (OCI-R; Foa et al., 2002) and its subscales can well-differentiate between individuals with and without

OCD. It retains excellent psychometric properties and its usefulness as a diagnostic tool for screening patients with OCD has been reported in the literature.

There are cognitive measures for assessment of OCD which examine relationship of cognition with obsessive compulsive disorder. These include: Intrusive Thoughts Questionnaire (Edwards & Dickerson, 1987); Cognitive Intrusions Questionnaire (Freeston, Ladoucer, & Gagnon, 1991); Lucky Belief Questionnaire (Frost et al., 1993); Mosher Guilt Inventory (Mosher, 1966); and Perceived Guilt Index (Otterbacher & Munz, 1973). All measures described are developed in the West and so far there is no assessment tool developed for Pakistan. In Pakistan much emphasis is laid on cleanliness from a religious perspective. Since manifestation of symptoms of mental disorders is influenced by cultural factors, the main purpose of the present study was to devise a tool which would help in assessment of OCD its symptomatology in Pakistan.

Method

The study was concluded in a series of phases to generate symptoms, examine validity, and factor-structure of the symptom checklist.

Phase 1: Generating Symptoms of OCD

In Step 1, the researcher aimed at collection of symptoms reported by patients diagnosed with OCD, using DSM IV-TR (APA, 1994). Sample comprised of two types of participants:

- Clinical psychologists (with minimum two years practicing experience) working at various hospitals in the vicinity of Lahore, Pakistan. Sixteen clinical psychologists were included.
- ii) Patients diagnosed with OCD who reported at Psychiatry departments of teaching hospitals in Lahore.

Clinical psychologists were approached through heads of psychiatry departments or medical superintendents of the hospitals who were sent a letter explaining nature of the study and requesting them to cooperate for provision of data. Clinical psychologists who were willing to participate were requested to provide:

- A list of symptoms presented by patients with obsessive compulsive disorder reporting at their clinical practice.
 Performas were prepared by the researcher for clinical psychologist.
- b) Presenting complaints of the patients (patients' verbatim) reporting at their clinics (minimum of 3 patients each).
- c) Patients' responses to open-ended questions to elicit OCD symptoms (3 patients each). For example the questions were phrased as "Please tell about those thoughts which come in your mind and do not stop in spite of trying hard to do so" or "Are there some acts which you feel compelled to perform? Please describe in detail" etc.

Fourteen clinical psychologists provided list of symptoms and presenting complaints of their patients. Responses of forty two patients to open ended questions were gathered. All the responses provided through 3 sets of data were arranged in order of frequencies. These responses were later converted into a list of symptoms and the symptoms with frequency less than 10 were excluded. The researcher collected symptoms provided by the 3 sources and finalized a list of 99 symptoms.

Phase 2: Readability and Conceptual Relevance of Symptoms

Sixteen clinical psychologists (fourteen were the same who provided data in phase 1; two additional psychologists from hospitals) were provided with the list of symptoms. They were requested to rate each symptom on a 0-10 point scale for its readability and relevance separately. Where '0' meant not at all relevant/readable and '10' meant very much relevant/readable. Symptom checklists were delivered to clinical psychologists in their clinics and they were requested to complete them at their convenience. The researcher collected checklists when they were completed.

Inter-rater congruence for relevance and readability on each item of the checklist was calculated. It was found that only 2 symptoms on readability and 7 symptoms on lacked congruence (rate of congruence was less than 50%). However, the researchers decided to retain these symptoms for factor analytic study.

Phase 3: Try-out of Symptom Checklist on Patients with OCD

Aim of this study was to try out symptom checklist on patients with OCD and to incorporate their suggestions regarding its readability,

comprehensibility, and to examine whether any changes were required in the wording and placement of items. Prior to administration the checklist was converted into response format of five-point Likert Scale, which ranged from 0 (not at all) to 4 (very much). Each section was provided with an option of "any other" in order to gather additional information. The sample for this study comprised of thirty patients with OCD, recruited from psychiatry departments of teaching hospitals in Lahore. It took about 50 to 60 minutes to complete the checklist.

It was revealed that there were few symptoms which required splitting into separate items. For instance items "repeated thought of checking things, money, and clothes" and "repeated thought to check locks, water tap, and stove" were split in to three separate items each. Another item "feel contaminated while using public call office and public toilet" was split into two separate items. In response to option "any other", important information was gathered and symptoms were subsequently added in the checklist. Symptoms added in obsessive section were 'blasphemous thoughts', 'sexual images' impulse to 'harm oneself', or to 'harm someone else'. One item i.e., 'obsessional slowness' was added in the compulsive symptoms subsection.

On the basis of patients' observations, placement of some items was changed. Feelings after performing compulsive rituals/acts were also placed in a separate section. The final checklist comprised of obsessive symptoms, compulsive symptoms, phenomenology of OCD, linking thoughts, and expected consequences if the compulsive act is not performed.

Phase 4: Factor Structure and Reliability of Symptoms Checklist

Aim of this phase was to examine psychometric properties of OCD symptoms checklist. Sample comprised of 200 patients with OCD recruited from various clinics and psychiatry department of teaching hospitals of Punjab, Pakistan. Psychiatric facilities at government level are mainly available at the teaching hospitals situated in main cities of the province of Punjab. These hospitals cater to the psychiatric needs of people from their own catchment area as well as of the surrounding districts. Adult patients diagnosed with OCD using DSM IV-TR (APA, 1994) criteria were included and those with co-morbidity of any other psychiatric, organic, and neurological disorder were excluded. Sample comprised of 94 (47 %) men and 106 (53 %) women diagnosed with OCD. Mean age of the patients was 30 years (SD = 10.35). Age of onset for men was 21.6 years (SD = 10.7 years) and for women was 21.9 years (SD = 9.22 years).

After seeking permission from respective heads of psychiatry departments for data collection, the researcher visited to discuss logistics of data collection. They were requested to inform clinical psychologists/psychiatrists about data collection. Patients were assessed at the premises of respective hospitals and patients' consent was sought prior to the assessment. The researcher herself confirmed the diagnosis and ruled out any comorbidity. Interview schedule was used as a method of data collection.

Results

Using Principal Component analysis with varimax rotation, two separate sets of analysis were carried out for obsessive and compulsive symptoms. Initially analysis was run using *n* number of solution. Subsequently number of factors was reduced till conceptually clear factors emerged. In both sets, five factor solutions resulted in conceptually meaningful factors. Factors with Eigen value of 1 and symptoms with loading more than .35 were retained in a particular factor. However, symptoms appearing in more than one factor were retained where they were conceptually more meaningful.

Twenty five obsessive symptoms and twenty seven compulsive symptoms were subjected to factor analyses. In each analysis twenty three symptoms were retained.

Factor analysis pertaining to obsessive symptoms elicited five factors which are given in Table 1. The first factor was named "Filth related contamination" and it contained seven symptoms with very high reliability ($\alpha = .90$). The second scale was named as "Health related contamination" and it comprised of five symptoms with reliability of .78. Third scale contained three symptoms and was named as "Controlling obsessions" with internal consistency of .98. "Obsessional impulses and images" was the fourth subscale which contained five symptoms and had relatively low reliability ($\alpha = .34$). The fifth subscale was named as Blasphemous/religious symptoms and it comprised of three symptoms. It had reasonable reliability ($\alpha = .66$).

Factor analysis on compulsive symptoms also resulted in five factor solution with five compulsive symptoms subscales (see Table 2). The factors were: Rituals related to contamination, general checking compulsions, safety checking compulsions, diversion based controlling compulsions, and controlling compulsions with religious connotation. These factors contained eight, four, three, five, and three symptoms respectively.

Table 1 Factor Structure of Obsessive Symptoms Scale (N = 200)

Factors		Factor Loadings			
	1	2	3	4	5
Filth Related Contamination					
Thoughts of dirtiness	.80				
Thoughts of 'napaki' (impurity)	.87				
Dissatisfaction after bathing	.80				
Thoughts of ' <i>napaki</i> ' (impurity) in eatables	.55				
Feelings of uncleanliness if things	.76				
are touched by someone					
Thoughts of splashed by dirty water in bathroom	.81				
Feelings of catching filth on passing by it	.78				
Health Related Contamination (germs)					
Thoughts of germs in eatables		.62			
Contaminated if used PCO		.54			
Contaminated if used public toilet		.45			
Thoughts of throwing away stuff as if contaminated		.51			
Thoughts of catching disease		.83			
Checking					
Checking of things			.94		
Checking of clothes			.94		
Checking of money			.93		
Obsessional Impulses / Images					
Impulse to harm self				.43	
Sexual thoughts				.84	
Impulse to touch member of opposite sex				.80	
Impulse of hurting others				.51	
Sexual images				.83	
Blasphemous / Religious					
Obscene thoughts about saints, prophets, etc.					.85
Obscene thoughts about God					.89
Thoughts of death		3.00	2.76	2.71	.41
Eigen Values	6.81	3.00	2.76	2.71	1.99
% of Variance	25.5	12.0	11.1	10.9	7.10

Table 2 Factor Structure of Compulsive Symptoms Scale (N = 200)

Factors	Factor loadings					
	1	2	3	4	5	
Rituals Related to Contamination						
Avoid things for being contaminated	.71					
Avoid going out for fear of contamination	.36					
Repeated washing of things/utensils	.84					
Repeated hand washing	.85					
Need for reassurance	.36					
Avoid things for a possibility of contamination	.75					
Throw away things for fear of getting contaminated	.53					
Performing things slowly in order to achieve perfection.	.48					
Checking (general)						
Checking things		.84				
Checking money		.85				
Checking clothes		.80				
Checking documents		.74				
Checking (safety)						
Checking locks			.62			
Checking water taps			.80			
Checking stoves			.84			
Controlling compulsions (diversion)						
Repetition of self generated sentences				.69		
Close eyes to shunt repetitive thoughts				.55		
Shake head to get rid of thoughts				.54		
Arranging things from odd to even or vice versa				.53		
Avoiding sharp things				.44		
Controlling compulsions (religious connotation)						
Diversion of attention					.63	
Reiteration of some verse from the Holy Quran					.76	
Reiteration of 'Qalma' (oneness of God)					.73	
Eigen Values	5.61	4.89	2.63	2.10	1.20	
% of variance	20.8	18.1	9.75	7.79	4.46	

Table 3
Reliability Analysis of Obsessive Symptoms Subscales, Compulsive Symptoms Subscales and Total Scale (N = 200)

Symptoms	No. of items	α
Obsessive symptoms		
Filth related contamination	7	.90
Health related contamination	5	.78
Checking	3	.98
Obsessional impulses/images	5	.34
Blasphemous/religious	3	.66
Compulsive symptoms		
Rituals related to contamination	8	.54
Checking (general)	4	.87
Checking (safety)	3	.82
Controlling compulsions (diversion)	5	.63
Controlling compulsions (religious connotation)	3	.65
Full Scale (Obsessive and compulsive symptoms)	46	.85

Reliability analysis of these scales indicated that all symptoms scales had reasonably high internal consistency.

Discussion

Present study was conducted to develop an indigenous OCD symptom checklist to be used in Pakistan. There are number of scales available for the diagnosis and assessment of OCD, but none is available in Urdu. Furthermore, no test for OCD was indigenously developed based upon patients' verbatim. The phenomenology of OCD has been considered to be dependent upon cultural and social factors (Akhtar et al.; Shooka et al.). Religion is considered to be a positive channel for providing effective coping strategies to deal with stress. Sometimes guilt for not performing religious acts according to the religious doctrine may result in obsessions of filth related contamination. Moreover, after having a blasphemous or filth related obsession, one might end up with excessive cleaning and controlling compulsions with religious connotation. Though religion is not a source of OCD, it has been described as a medium for the disorder's effects (Bruchfiel, 2009).

Keeping in view the sociocultural relevance of OCD it is advisable to use indigenously developed measures. It is imperative

that indigenous assessment tools are developed to have a clear picture of manifestation of OCD in a particular culture. So the symptom checklist compiled indigenously in a particular society with specific religious and cultural traditions has important implications.

A series of studies were carried out in order to develop an indigenous symptom checklist for obsessive compulsive disorder. Two sets of factor analyses were carried out using Principal Component analysis with varimax rotation for obsessive and compulsive symptoms. Five factor solutions emerged meaningful for both sets of analyses. Obsessive symptoms and compulsive symptoms subsections revealed five types of symptoms each.

It was revealed that amongst obsessive symptoms, contamination related symptoms were pronounced and emerged as two subscales of obsessive symptoms i.e. filth related contamination and health related contamination. Emphasis on cleanliness is an important element of Islamic belief. Islam and it has been referred to in the Holy Quran several times e.g. "the key to paradise is prayer and the key to prayer is purification" (Ali, 1977). In another *Surah* (chapter) it was mentioned that "Allah loves those who return to Him again and again and He loves those who purify themselves" (Al-Quran, 2-222).

In the earlier checklists, though there are items pertaining to contamination (Cooper, 1970; Goodman et al.; Hodgson & Rachman, 1977; Sanavio, 1988) but none contains items in such visible dichotomy. Contamination and washing are reported as two significant symptoms on self-report form of YBOCS (Steketee & Neziroglu, 2003). In present study contaminations, obsessions and rituals related to contamination emerged as separate symptom cluster in the factor structure (cf. Leckman et al., 1997; Mataix-Cols, Rauch, Manzo, Jenike, & Baer, 1999; Stewart et al., 2006; Summerfeldt, Richter, Antony, & Swinson, 1999). The distinctive feature of symptom checklist under discussion are two distinctive subscales pertaining to contamination resulted through Principal Component analysis, which is not the case in YBOCS (Goodman et al.) as well as MOCI (Hodgson & Rachman, 1977). Moreover, this checklist provides rating of severity of the symptoms.

Earlier researches have reported contamination as a major theme of OCD (Akhtar et al.; Dowson, 1977; Nazar & Shafique, 1999; Okasha et al.; Shooka et al.; Tezean & Millet, 1997). In present study symptom structure revealed five factor solution for each part i.e. obsessions as well as compulsions. This indicates multiple dimensions of manifestation of obsessive and compulsive symptoms in Pakistani culture. Moreover, obsessions and compulsions resulted in dichotomy

e.g., amongst obsessions (filth and health related contamination) and amongst compulsions checking (general and health related) and controlling compulsions (diversion and religious connotation). Filth related obsessions and controlling compulsions (religious connotation) could be due to religious and socio cultural factors. Dirt/contamination and germs have been classified as two separate categories in previous research conducted in Bahrain and forty percent of the sample was found to have religious and blasphemy obsessional thoughts and doubts (Shooka et al.); highlighting the relevance of the perspective of religion to OCD. Akhtar et al. also attributed contamination and dirt obsessions to sociocultural factors. In the present study however, it was observed that even the possibility of coming across filth generates feelings/doubt of contamination and forced many patients to avoid going out. This may be due to underlying "impaired risk assessment", feelings of "incompleteness", or "obsessional doubt" (Nazar & Shafique, 1999).

Blasphemous obsessions and obsessional idea of death appearing in one subscale is an interesting finding. One can argue that blasphemous thoughts may cause guilt in the patient and may lead to compulsive thoughts of death. However, emergence of blasphemous thoughts and obsessional idea about death could be explained on the same lines. Having a thought against religion can lead to guilt and thoughts of life after death which in Muslims is associated with accountability of deeds done during their lives. This indicates that religious context is pronounced in the phenomenology of OCD in the Pakistani culture. Religious and contamination related obsessions have been commonly reported among Muslim population (Okasha et al., 1994). The relationship between religiosity and OCD has been found in other studies as well (Mahgoub & Abdel-Hafeiz, 1991; Raphael, Rani, Bale, & Drummond, 1996; Steketee, Quay, & White, 1991; Suess & Halpern, 1989; Tek & Ulug, 2001). In an Israeli study religious symptoms were found in 13 out of 19 of ultra orthodox Jewish patients (Greenberg & Witztum, 1994). Ciarrochi (1995) refers religious obsessions as scruples and describes scrupulous person as being very conscientious and exacting. Scrupulosity refers to seeing sin when there is none. Higgins, Pollard, and Markel (1992) observed that a significantly higher number of patients with OCD reported religious conflict, as compared to those with panic disorder and other psychiatric disorders.

Other assessment measures also have included items related to over conscientiousness and lack of satisfaction which is very much linked with the subject of OCD. LOI (Cooper, 1970) have seven questions to assess these phenomena. MOCI (Hodgson & Rachman,

1977) contains doubting and conscientiousness subscale. Y-BOCS (Goodman et al.) captures many phenomena associated with the violation of 'moral code'. This relates to aggressive obsessions, sexual obsessions and blasphemous obsessions (Tallis, 1995). Therefore, symptoms and phenomenology of OCD markedly predominant by religious context, in a conservative society like Pakistan, is not surprising (see Tables 1 & 2).

Component analysis. Three factors related with yielding and two factors related with controlling compulsions. Amongst three factors specifying yielding compulsions, two were for checking compulsions i.e. checking (general and safety). Controlling compulsions consisted of 2 factors i.e. controlling (diversion and religious). Akhtar et al. and Shooka et al. classified compulsions of patients in their studies into two categories i.e. yielding and controlling. Most of the researches reporting factor analysis however, do not refer to such classification (Stewart et al.; Summerfeldt et al., 1999).

Diverse observations have been recorded in various studies related with different dimensions, in which OCD can manifest itself. Praying and repeating words is a feature of repetitive behavior of OCD (DSM IV-TR, APA, 1994). It was observed that OCD patients reiterate some Holy verse or 'Qalmat' to avoid or neutralize an obsession (see Table 2). This might be done to avoid an obsession to lessen the anxiety or guilt feelings generated by an obsession.

The present symptom checklist for OCD will help clinicians and researchers in Pakistan to identify symptoms of the disorder with reference to our culture. Obsessive Compulsive Disorder Symptom Checklist will help in assessment of OCD in Pakistan and in devising management plan for the patients accordingly. The checklist will not only be useful within the country but may also be useful with Pakistani immigrants living in the Western countries and America. The study raises few issues for future Pakistani research to focus on. For example, the level of religiosity of the patients with OCD as compared to normals, cause and effect relationship of OCD and religion (i.e. does religion affects phenomenology of OCD or OCD causes religious obsessions and compulsions in religious people), relationship of level of parents' religious attitude/practice, and child rearing practices with OCD in children may be some areas to focus on.

In this paper, preliminary psychometric findings for an indigenously developed OCD symptom checklist are presented. Further work is needed to estimate its validity, development of norms,

and examine its sensitivity, and discriminatory power to identify patients diagnosed with OCD from normals, those having OCD spectrum, or other anxiety disorders.

References

- Akhtar, S., Wig, N. N., Verma, V. R., Preshad, D., & Verma, S. K. (1975). A phenomenological analysis of symptoms in obsessive neurosis. *British Journal of Psychiatry*, 127, 342-348.
- Ali, M. M. (1977). A manual of Hadith. New York: Olive Branch Press.
- Al-Quran, 2: 222. Quran-e-Kareem: With translation and explanation. Shah Fahad Quraan Kareem Printing Complex, Kingdom of Saudi Arabia.
- American Psychiatric Association (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: American Psychiatric Association.
- Baer, L. (1994). Factor analysis of symptom subtypes of obsessive compulsive disorder and their relation to personality and tic disorder. *Journal of Clinical Psychiatry*, 55, 18-23.
- Bruchfiel, K. (2009). When OCD stains religion: Scrupulosity and its effects on Christians. Retrieved April 28, 2008, from http://www.suite101.com.
- Ciarrocchi, W. J. (1995). The doubting disease. NY: Paulist Press.
- Clark, D. A., & Beck, A. T. (2002). *Clark-Beck Obsessive Compulsive Inventory*. The Psychological Corporation.
- Cooper, J. E. (1970). The Lyton Obsessional Inventory. Psychological Medicine, 1, 48-64.
- Crum, R. M., & Anthony, J. (1993). Cocaine use and other risk factors for obsessive compulsive disorder: A prospective study from the epidemiology catchment area survey. *Drug Alcohol Dependence*, 31, 81-95.
- Dowson, J. H. (1977). The phenomenology of severe obsessive compulsive neurosis. *British Journal of Psychiatry*, *131*, 75-78.
- Edwards, S., & Dickerson, M. (1987). Intrusive unwanted thoughts: A two stage model of control. *British Journal of Medical Psychology*, 60, 317-328.
- Foa, E. B., Huppert, J. D., Leiberg, S., Langner, R., Kichic, R., Hajcak, G., et al. (2002). The obsessive compulsive inventory: Development and validation of a short version. *Psychological Assessment*, 14(4), 485-495.
- Freeston, M. H., Ladoucer, R., & Gagnon, F. (1991). Cognitive intrusions in a non-clinical population 1: Response style, subjective experience, and appraisal. *Behavior Research, and Therapy*, 29, 585-597.

- Frost, R. O., Krause, M. S., McMahon, M. J., Peppe, J., Evans, M., & McPhee, A. E. (1993). Compulsivity and superstitiousness. *Behavior Research and Therapy*, 31, 423-425.
- Gaddit, A. (2003). Obsessive compulsive disorder in a fishermen community. *Journal of College of Physicians and Surgeons*, 13(10), 581-583.
- Goodman, W. K., Price, L. H., Rasmussen, S. A., Mazure, R., Fleischmann, C. L., Hill, G. R., et al. (1989). The Yale Brown Obsessive Compulsive Scale (Y-BOCS): Part 1. Development, use, and reliability. *Archives of General Psychiatry*, 46, 1006-1011.
- Greenberg, D., & Witztum, E. (1994). The influence of cultural factors on obsessive compulsive disorder: Religious symptoms in a religious society. *Israel Journal of Psychiatry and Related Sciences*, 31(3), 211-220.
- Higgins, N. C., Pollard, C. A., & Markel, W. T. (1992). Relationship between religion-related factors and obsessive compulsive disorder. *Current Psychology*, 11, 79-85.
- Hodgson, R. J., & Rachman, S. (1977). Obsessional compulsive complaints. Behavior Research and Therapy, 15, 389-395.
- Huppert, J. D., Siev, J., & Kushner, E. S. (2007). When religion and obsessive compulsive disorder collide: Treating scrupulosity in ultra orthodox Jews. *Journal of Clinical Psychology*, 63(10), 925-941.
- Insel, T. R. (1990). Phenomenology of obsessive compulsive disorder. Journal of Clinical Psychiatry, 5, 4-8.
- Jenike, M. A., Baer L., & Minichiello, W. E. (1990). *Obsessive compulsive disorder: Theory and management*. New York: Masby Publishers.
- Juang, Y., & Liu, C. (2001). Phenomenology of obsessive compulsive disorder in Taiwan. Psychiatry and Clinical Neurosciences, 55(6), 623-627.
- Karno, M., Golding J. M., Sorenson, S. B., & Burman, A. (1988). The epidemiology of obsessive compulsive disorder in five US communities. Archives of General Psychiatry, 45, 1094-1099.
- Kemal, S., Kaya, U. I., & Burcin, A. (1999). The phenomenology of obsessive compulsive disorder. Klinik-psikfarmakoloji-Bullteni, 9(3), 142-147.
- Khanna, S., & Mukherjee, D. (1992). Checkers and washers: Valid subtypes of obsessive compulsive disorder. *Psychopathology*, *25*(5), 283-288.
- Leckman, J. F., Grice, D. E., Boardman, J., Zhang, H., Vitale, A., Bondi, C., et al. (1997). Symptoms of obsessive compulsive disorder. *American Journal of Psychiatry*, 154, 911-917.
- Mahgoub, O. M., & Abdel-Hafeiz, H. B. (1991). Pattern of obsessive compulsive disorder in eastern Saudi Arabia. The British Journal of Psychiatry, 158, 840-842.

- Mataix-Cols, D., Rauch, S. L., Manzo, P. A., Jenike, M., & Baer, L. (1999).
 Use of factor analyzed symptoms dimensions to predict outcome with serotonin reuptake inhibitors and placebo in the treatment of obsessive compulsive disorder. *American journal of Psychiatry*, 156, 1409-1416.
- Mosher, D. L. (1966). The development and multi-trait-multi-method matrix analysis of three measures of three aspects of guilt. *Journal of Consulting Psychology*, 30, 25-39.
- Murray, C. L., & Lopez, A. D. (1996). The global burden of disease: World Health Organization. Cambridge Mass: Harvard University Press.
- Nandi, D. N., Banerjee, G., Mukherjee, S. P., Ghosh, A., Nandi, P. S., & Nandi, S. (2000). Psychiatric morbidity of a rural Indian community: Changes over 20 year. *British Journal of Psychiatry*, 176, 351-356.
- Nazar, Z., & Shfique, M. (1999). Symptomtalogy of obsessive compulsive disorder. *Journal of College of Physicians and Surgeons Pakistan*, 9(3), 136-8.
- O'Dwyer, A. M., & Marks, I. (2000). Obsessive compulsive disorder and delusion revisited. *British Journal of Psychiatry*, 176, 281-284.
- Okasha, A., Saad, A., Khalil, A. H., el-Dawla, A. S., & Yehia, N. (1994). Phenomenology of obsessive compulsive disorder: A trans-cultural study. *Comprehensive Psychiatry*, 35(3), 191-7.
- Otterbacher, J. R., & Munz, D. C. (1973). State-trait measure of experiential guilt. *Journal of Consulting and Clinical Psychology*, 40, 115-121.
- Persons, J., & Foa, E. (1984). Processing of fearful and neutral information by obsessive compulsives. *Behavior Research and Therapy*, 22, 259-265.
- Pigott, T. A. (1998). Obsessive compulsive disorder: Symptoms overview and epidemiology. *Bulletin of the Menninger Clinic*, 62(4), 4-32.
- Raphael, F. J., Rani, S., Bale, R., & Drummond, L. M. (1996). Religion, ethnicity, and obsessive compulsive disorder. *International Journal of Social Psychiatry*, 42(1), 38-44.
- Rappaport, J., Elkins, R., & Mikkelsen, E. (1980). Clinical controlled trial of chlomipramine in adolescents with obsessive compulsive disorder. *Psychopharmacological Bulletin*, 16, 61-63.
- Rasmussen, S. A., & Eisen, J. L. (1990). Epidemiology of obsessive compulsive disorder. *Journal of Clinical Psychiatry*, 51, 10-23.
- Rasmussen, S. A., & Eisen, J. L. (1991). Phenomenology of OCD: Clinical subtypes, heterogeneity and coexistence. In J. Zohar, T. Insel, & Rasmussen (Eds.), *The Psychology of obsessive compulsive disorder* (pp13-43). New York: Springer.
- Rasmussen, S. A., & Eisen, J. L. (1992). The epidemiology and clinical features of obsessive compulsive disorder. The Psychiatric Clinics of North America, 15, 753-758.

- Samuel, J., & Nestadt, G. (1997). Epidemiology and genetics of obsessive compulsive disorder. *International Review of Psychiatry*, 9(1), 61-72.
- Sanavio, E. (1988). Obsessions and compulsions: The Padua Inventory. *Behavior Research and Therapy*, 26, 169-177.
- Sher, K., Frost, R., & Otto, R. (1983). Cognitive deficits in compulsive checkers: An exploratory study. *Behavior Research and Therapy*, 21, 257-267.
- Shooka, A., Al-Haddad, M. K., & Raees, A. (1998). OCD in Bahrain: A phenomenological profile. *International Journal of Social Psychiatry*, 44(2), 147-154.
- Stein, M. B., Forde, D. R., Anderson, G., & Walker, J. R. (1997). Obsessive compulsive disorder in the community: An epidemiologic survey with clinical reappraisal. *American Journal of Psychiatry*, 154(8), 1120-1126.
- Steketee, G., & Neziroglu, F. (2003). Assessment of obsessive compulsive disorder and spectrum disorders. *Brief Treatment and Crisis Intervention*, *3*, 169-185.
- Steketee, G., Quay, S., & White, K. (1991). Religion and guilt in OCD patients. *Journal of Anxiety Disorders*, 5, 359-367.
- Stern, R. S., & Cobb, J. P. (1978). Phenomenology of obsessive compulsive neurosis. *British Journal of Psychiatry*, *132*, 233-239.
- Stewart, W. E., Rossario, M. C., Brown, T. A., Carter, A. S., Leckman, J. F., Sukhodolsky, D., et al. (2006). Principal component analysis of obsessive compulsive disorder symptoms in children and adolescents. *Biological Psychiatry*, 61, 285–291.
- Suess, L., & Halpern, M. S. (1989). Obsessive compulsive disorder: The religious perspective. In J. Rapopport, (Ed.), *Obsessive compulsive disorder in children and adolescent.* (pp.313-328). Washington DC: American Psychiatric Press.
- Summerfeldt, L. J., Richter, M. A., Antony, M. M., & Swinson, R. P. (1999). Symptomatic structure in obsessive compulsive disorder: A confirmatory factor analytic study. *Behavior Research Therapy*, *37*(4), 297-311.
- Tallis, F. (1995). Obsessive compulsive disorder: A cognitive and neuropsychological perspective. NY: John Willey & Sons Ltd.
- Tallis, F., & de-Silva, P. (1992). Worry and obsessional symptoms: A correlational analysis. *Behavior Research and Therapy*, *30*, 103-105.
- Tek, C., & Ulug, B. (2001). Religiosity and religious obsessions in obsessive compulsive disorder. *Psychiatry Research*, *104*(2), 99-108.
- Tezean, E., & Millet, B. (1997). Obsessive compulsive disorder phenomenology: Forms and contents of obsessions and compulsions in East Turkey. *Encephale*, 23(5), 342-350.

- Turkington, C. A. (1999). Obsessive Compulsive disorder. Gal;e Encyclopedia of Medicine. Retrieved December 21, 2009, from Http://www.answers.com/topic/obsessive-compulsive-disdorder.
- Valleni-Basile, L. A., Garrison, C. Z., Jackson, K. L., Waller, J. L., McKeown, R. E., Addy, C. L., et al. (1994). Frequency of obsessive compulsive disorder in a community sample of young adolescents. *Journal of American Academy of Child and Adolescent Psychiatry*, 33(6), 782-791.
- Weissman, M. M., Bland, R. C., Canino, G. J., Greenwald, S., Hwu, H. G., Lee C. K., et al. (1994). The cross national epidemiology of obsessive compulsive disorder: The cross national collaborative group. *Journal of Clinical Psychiatry*, 55, 5-10.
- Yoldascan, Y., Ozenli, Y., Kutlu, O., Topal, K., & Bozkurt, A. I. (2009). Prevalence of obsessive compulsive disorder in Turkish university students and assessment of associated factors. *Bio Medical Central Psychiatry*, *9:* 40. Retrieved December 21, 2009, from http://www.biomedcentral.com/1471-244X/9/40.
- Zielinski, C. M., Taylor, M. A., & Juzwin, K. R. (1991). Neuropsychological deficits in obsessive compulsive disorder. *Neuropsychiatry*, *Neuropsychology*, and *Behavioral Neurology*, 4, 110-126.

Received February 11, 2008 Revision received January 01, 2010