Comparison of family burden, quality of life, and disability in obsessive compulsive disorder and schizophrenia in Zagazig University Hospitals
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Introduction
Obsessive compulsive disorder (OCD) is a chronic psychiatric disorder and it is one of the 10 most disabling medical conditions worldwide. The lifetime prevalence of OCD is around 1–3%, which is twice as high as schizophrenia and bipolar disorder (De Silva and Rachmans, 2006).

Available evidence indicates that OCD patients report general impairment in their functioning and report poor quality of life (QoL) (Moritz et al., 2005). They also have disability in several areas, particularly marital, occupational, emotional, and social functioning (Steketee et al., 1997).

The families of OCD patients report considerable burden because of illness and reduce their social activities, leading to an increase in their feelings of isolation and distress (Stengler-Wenzke et al., 2004). They also report poor QoL in the domains of physical well-being, psychological well-being, and social relationships (Lochner et al., 2003).

Therefore, we hypothesized that patients with severe OCD may have comparable level of global functioning, family burden, QoL, and disability as patients with schizophrenia.

Background
Obsessive compulsive disorder (OCD) is a chronic psychiatric disorder and it is one of the 10 most disabling medical conditions worldwide. Patients with severe OCD may have comparable level of global functioning, family burden, quality of life (QoL), and disability as patients with schizophrenia.

Patients and methods
We selected 100 patients (50 with OCD, 50 with schizophrenia) from Zagazig University Hospitals' psychiatric outpatient's clinics. Some of these patients were admitted and became inpatients whereas the rest continued to attend follow-up as outpatients to assess family burden, QoL and disability.

Results
Detrimental effects on families, patients' QoL, and functioning occur not only in schizophrenic but also in OCD patients. Symptom severity and noncompliance on maintenance treatment are associated with greater disability and poor QoL.

Conclusion
Management should be planned with these considerations to enhance functioning and QoL and thus decrease disabilities.

Keywords:
disability, family burden, obsessive compulsive disorder, schizophrenia, quality of life

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Aim
The aim of the study was to compare family burden, QoL, and disability in patients with at least moderate OCD and patients with chronic schizophrenia of comparable severity.

Patients and methods

Patients
We selected 100 patients (50 with OCD, 50 with schizophrenia) from Zagazig University Hospitals, psychiatric outpatients' clinics. Some of these patients were admitted and became inpatients whereas the rest continued to attend follow-up as outpatients. They were diagnosed according to the DSM-IV diagnostic criteria under supervision of psychiatry staff members inclusive of professor, assistant professor, and lecturer of psychiatry. The control group included 50 healthy patients who were matched with the patient group as much as possible for age and sex. The participants provided informed consent.
Inclusion criteria
(1) A primary diagnosis of DSM-IV OCD/schizophrenia.
(2) Continuous illness for the previous 2 years.
(3) Availability of a primary care giver involved in the care of the patient for the past 2 years.
(4) Patients should be free from psychiatric comorbidity and substance abuse.

We attempted to control for severity of the illness in both the groups by recruiting at least moderately ill patients so that both the groups were similar with respect to severity.

Materials and methods
The sample group was subjected to the following assessments:
(1) Full medical examination and routine laboratory investigation (complete blood picture, liver, and kidney functions) to exclude any organic element.
(2) Full psychiatric examination using a semistructured interview derived from the Zagazig University Psychiatric Department.
(3) Psychometric procedures:
   (a) Yale-Brown Obsessive Compulsive Scale (Goodman et al., 1989) and the Positive and Negative Symptom Scale (PANSS) (Kay et al., 1987) to assess the severity of OCD and schizophrenia symptoms, respectively.
   (c) The WHO-QoL (BREFversion) (WHOQoL Group, 1998).
   (d) The WHO-Disability Assessment Schedule-II (WHO-DAS-II) (WHO, 1988) to assess family burden, QoL, and disability.

Majority of the participants were already availing the clinical services provided at the Zagazig University Hospital. We had already diagnosed them by a semistructured clinical interview during their earlier visits under the supervision of at least one senior psychiatrist (teaching faculty at the institute) to reconfirm the diagnosis and determine the severity. All the data were collected by personal direct interviews of the participants and their immediate family members (i.e. the primary care giver). The family assessment schedule and family burden was administered to primary care givers. A senior consultant reviewed the data obtained from all the sources.

Semistructured interview
A specially designed semistructured interview derived from the Psychiatric Department sheet of Zagazig University was used to cover the following parameters:
(1) Sociodemographic data.
(2) Personal history.
(3) Past history.
(4) Family history.
(5) Diagnosis: the semistructured interview included a full psychiatric sheet, which allowed each patient to receive a psychiatric diagnosis by its end. In this study, the DSM-IV (American Psychiatric Association, 2004) was used as the diagnostic tool.

Psychiatric procedures

Yale-Brown obsessive compulsive scale
(Goodman et al., 1989)
This is a 10-item balanced scale designed to rate both the severity and the type of symptoms in patients with OCD. The scale includes assessments of time occupied, interference with ordinary social activities, degree of distress, resistance, and control. This scale was designed to measure symptoms, on a scale of 0–4, and a maximum total score of 40 without being influenced by the type of obsessions or compulsions.

Positive and negative symptom scale (Kay et al., 1987)
The PANSS was developed as a more rigorous and objective method for the evaluation of positive, negative, and other symptom dimensions in schizophrenia. The PANSS assessment is derived from behavioral information collected from a number of sources including observations during the interview, a clinical interview, and reports by the primary care or hospital staff or family members.

The ratings provide summary scores on a seven-item positive scale, a seven-item negative scale, and a 16-item general psychopathology scale. The PANSS ratings should be based on all the information relating to a specified period, normally identified as the previous week. If the item is absent, it is scored as 1; increased levels of psychopathology are assigned scores from 2 (minimal) to 7 (extreme).

The family burden schedule (Pai and Kapur, 1981)
The FBS is a semistructured interview schedule comprising 24 items grouped under the following six areas:
(1) Financial burden.
(2) Disruption of family routine activities.
(3) Disruption of family leisure.
(4) Disruption of family interaction.
(5) Effect on physical health.
(6) Effect on the mental health of others.
(7) Each item is rated on a three-point scale:
   (a) '0' representing no burden.
   (b) '1' representing moderate burden.
   (c) '2' representing severe burden (Gururaj et al., 2008).
The world health organization-quality of life (BREF version) (WHOQoL Group, 1998)
The WHOQoL-BREF is a 26-item, self-administered, generic questionnaire that is a
short version of the WHOQoL-100 scale, which emphasizes the subjective responses of patients rather
than their objective life conditions. The response options range from 1 (very dissatisfied/very poor) to 5
(very satisfied/very good). Assessments are performed over the preceding weeks. It consists of domains and
facets (or subdomains). The items on ‘overall rating of QoL’ and subjective satisfaction with health
constitute the general facet on overall rating of QoL and health. The more popular model for interpreting
the scores has four domains, namely, physical health (seven items), psychological health (six items), social
relations (three items), and environment (eight items) (Jude et al., 2009).

The world health organization-disability assessment Schedule-II (WHO, 1998)
The WHO-DAS-II provides a summary measure of functioning and disability that is reliable and valid
across geographic regions, diagnostic groups, ages, and sexes. The WHO-DAS-II can measure severity,
monitor the impact of programs, determine the score of individuals or groups in relation to the general
population, and compare groups with respect to their disability (Üstün et al., 2010).

Building on existing instruments, WHO-DAS-II explores what individuals do in different areas of
life. The primary version of WHO-DAS-II is a fully structured 36-item lay interviewer-administered
assessment instrument. It queries difficulties in six domains of life during the last 30 days and does not
include symptoms or feelings of subjective well-being. For all six domains, the WHO-DAS-II provides
different profiles and a single summary score. These six domains were selected after a careful review of existing
research and survey instruments and the cross-cultural applicability study:

1. Understanding and communicating with the world (cognition).
2. Moving and getting around (mobility).
3. Self-care (attending to one’s hygiene, dressing, eating, and staying alone).
4. Getting along with individuals (interpersonal interactions).
5. Life activities (domestic responsibilities, leisure, and work).
6. Participation in society (joining in community activities) (Üstün et al., 2010).

We used the brief 36-item questionnaire from the WHO-DAS-II to rate disability over the past 30 days.

Each item is self-rated on a four-point scale ranging from no problem with carrying out the activity to total/extreme
inability in the above six domains. We categorized the total score into thirds of low, medium, and high disability.

Results
Table 1 shows a highly statistically significant decrease in the family history of psychiatric disorders in control
compared with OCD and schizophrenic patients.

Table 2 shows a nonstatistical significant difference between OCD and schizophrenic patients in the total
mean score of FBS.

Table 3 shows a nonstatistical significant difference in the total mean score of WHOQoL between OCD and
schizophrenic patients.

Table 1 Variable of family history of psychiatric disorders in the three groups

<table>
<thead>
<tr>
<th></th>
<th>OCD</th>
<th>Schizophrenia</th>
<th>Control</th>
<th>χ²</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>25 (52.0)</td>
<td>27 (54.0)</td>
<td>11 (22.0)</td>
<td>13.14</td>
<td>0.001*</td>
</tr>
<tr>
<td>Negative</td>
<td>24 (48.0)</td>
<td>23 (46.0)</td>
<td>39 (78.0)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OCD, obsessive compulsive disorder.

Table 2 Comparison of the total mean score of family burden schedule between obsessive compulsive disorder and
schizophrenic patients

<table>
<thead>
<tr>
<th></th>
<th>OCD</th>
<th>Schizophrenia</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial burden</td>
<td>5.1 ± 2.55</td>
<td>4.9 ± 2.5</td>
<td>0.39</td>
<td>0.69</td>
</tr>
<tr>
<td>Disruption in routine activities</td>
<td>3.06 ± 1.5</td>
<td>2.8 ± 1.6</td>
<td>0.71</td>
<td>0.47</td>
</tr>
<tr>
<td>Disruption in family leisure</td>
<td>4.06 ± 2.16</td>
<td>4.06 ± 2.2</td>
<td>0.0</td>
<td>0.98</td>
</tr>
<tr>
<td>Disruption in family interaction</td>
<td>4.9 ± 2.8</td>
<td>5 ± 2.8</td>
<td>0.14</td>
<td>0.88</td>
</tr>
<tr>
<td>Effect of physical health</td>
<td>1.82 ± 1.3</td>
<td>1.84 ± 1.4</td>
<td>0.29</td>
<td>0.76</td>
</tr>
<tr>
<td>Effect on mental health</td>
<td>1.85 ± 1.3</td>
<td>1.74 ± 1.4</td>
<td>0.51</td>
<td>0.6</td>
</tr>
<tr>
<td>Total</td>
<td>20.96 ± 8.7</td>
<td>23.4 ± 7.9</td>
<td>0.33</td>
<td>0.73</td>
</tr>
</tbody>
</table>

OCD, obsessive compulsive disorder.

Table 3 Comparison of the total mean score of WHO-quality of life between obsessive compulsive disorder and
schizophrenic patients

<table>
<thead>
<tr>
<th></th>
<th>OCD</th>
<th>Schizophrenia</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical (QoL)</td>
<td>16.9 ± 2.8</td>
<td>17 ± 1.4</td>
<td>0.23</td>
<td>0.61</td>
</tr>
<tr>
<td>Psychological</td>
<td>12.9 ± 3.1</td>
<td>12.7 ± 1.9</td>
<td>0.67</td>
<td>0.57</td>
</tr>
<tr>
<td>Social</td>
<td>6.14 ± 2.0</td>
<td>5.9 ± 2.5</td>
<td>0.63</td>
<td>0.61</td>
</tr>
<tr>
<td>Environmental</td>
<td>13.3 ± 3.7</td>
<td>15 ± 6.2</td>
<td>0.09</td>
<td>0.09</td>
</tr>
<tr>
<td>Total</td>
<td>49.3 ± 8.7</td>
<td>50.7 ± 10.6</td>
<td>0.71</td>
<td>0.47</td>
</tr>
</tbody>
</table>

OCD, obsessive compulsive disorder; QoL, quality of life.
Table 4 shows a nonstatistical significant difference in the total mean score of WHO-DAS-II between OCD and schizophrenic patients.

Table 5 shows a nonstatistical significant difference between OCD and schizophrenic patients on maintenance treatment.

**Discussion**

Mental, behavioral, and social health problems are increasingly problematic worldwide. Yet, they have received scant attention other than in wealthier, industrialized nations. Although the burden of illness resulting from psychiatric and behavioral disorders is enormous, it is grossly under-represented in conventional public health statistics, which tend to focus on mortality rather than morbidity or dysfunction (Kumar, 2001).

This study has been carried out to assess the impact of mental illnesses on different domains of a patient’s life. Schizophrenia, being a psychotic disorder, and OCD, being a neurotic disorder, were chosen to compare their burden on families, disabling potential, and QoL.

**Table 4** Comparison of the total mean score of WHO-disability assessment schedule-II between obsessive compulsive disorder and schizophrenic patients

<table>
<thead>
<tr>
<th></th>
<th>Mean ± SD</th>
<th>T</th>
<th>P</th>
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</thead>
<tbody>
<tr>
<td><strong>Understanding and communication</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OCD</td>
<td>15 ± 2.9</td>
<td>15.5 ± 5.1</td>
<td>1.76</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Getting around</strong></td>
<td>13.5 ± 3.9</td>
<td>15.8 ± 4.4</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>Self care</strong></td>
<td>11.2 ± 4.6</td>
<td>9.7 ± 5.0</td>
<td>1.52</td>
</tr>
<tr>
<td><strong>Getting along with people</strong></td>
<td>12 ± 3.9</td>
<td>14.7 ± 4.5</td>
<td>3.1</td>
</tr>
<tr>
<td><strong>Life activities</strong></td>
<td>17.3 ± 4.2</td>
<td>19.3 ± 6.2</td>
<td>1.51</td>
</tr>
<tr>
<td><strong>Participation in society</strong></td>
<td>16.5 ± 4.3</td>
<td>22.1 ± 7.2</td>
<td>4.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>65.6 ± 15.3</td>
<td>97.8 ± 27.6</td>
<td>1.98</td>
</tr>
</tbody>
</table>

OCD, obsessive compulsive disorder.

**Table 5** Comparison of the total mean score of Family burden schedule, WHO-quality of life, and WHO-disability assessment schedule-II between obsessive compulsive disorder and schizophrenic patients on maintenance treatment

<table>
<thead>
<tr>
<th></th>
<th>Mean ± SD</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OCD on maintenance treatment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(n = 30)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FBS</strong></td>
<td>14.3 ± 3.2</td>
<td>15.7 ± 3.6</td>
<td>1.31</td>
</tr>
<tr>
<td>Physical (QoL)</td>
<td>17.9 ± 1.0</td>
<td>18.1 ± 0.3</td>
<td>0.8</td>
</tr>
<tr>
<td>Psychological QoL</td>
<td>15.1 ± 0.3</td>
<td>14.1 ± 0.3</td>
<td>3.95</td>
</tr>
<tr>
<td>Social QoL</td>
<td>7 ± 1.4</td>
<td>7.1 ± 0.8</td>
<td>0.29</td>
</tr>
<tr>
<td>Environmental QoL</td>
<td>16.5 ± 1.8</td>
<td>19.3 ± 4.3</td>
<td>2.69</td>
</tr>
<tr>
<td><strong>DAS</strong></td>
<td>75 ± 13.4</td>
<td>78.9 ± 8.3</td>
<td>1.19</td>
</tr>
</tbody>
</table>

**Discussion of the results of this work will be divided into two parts:**

(1) First, sociodemographic data of the sample.
(2) Second, psychometric results of the sample.

**Sociodemographic data**

The age range of the sample was 20–45 years and there was no statistically significant difference between the three groups (OCD patients, schizophrenic patients, and controls) (P = 0.99) as they were matched as much as possible.

In terms of sex (P = 0.92), marital status (P = 0.12), and residence (P = 0.16) of the sample, there was no statistical difference between OCD patients, schizophrenic patients, and controls.

In terms of occupation, there was a significantly high proportion of employed controls (56%) compared with OCD (28%) and schizophrenic (22%) patients.

This is in agreement with Honkonen et al. (2007), who reported that common mental disorders are less prevalent among the employed than among unemployed and economically inactive individuals. This is explained by Bhata et al. (2008), who reported that occupation is affected negatively in several ways — by not being able to complete education, social decline because of illness resulting in loss of competitive employment, unemployment or underemployment, hospitalizations, and deterioration in interpersonal relations.

In terms of a family history of mental disorders, there was a statistically significant increase in OCD patients who had a positive family history (52%) and schizophrenic patients (54%) compared with controls (22%) who had a positive family history of mental disorders.

**Psychometric results**

On comparison between schizophrenic patients and the control group in the mean score of FBS, there was a highly significant increase in the mean FBS score in the schizophrenic patient group (23.4 ± 7.9) compared with the control group (8.02 ± 4) (P < 0.001). On comparison between OCD patients (20.96 ± 8.7) and schizophrenic patients (23.4 ± 7.9) in the mean score of the FBS, there was no statistically significant difference between the two groups (P = 0.73) as shown in Table 2.

This is in agreement with Kafra et al. (2009), who compared family burden in patients with OCD and schizophrenia in an Indian setting and found that Indian families of patients with OCD experience
burden comparable with that of families of patients with schizophrenia.

This is also consistent with Jayakumar et al. (2002), who compared burden of care between the key relatives of patients with OCD and schizophrenia, and found that caregiver burden caused by OCD is almost comparable with that of schizophrenia.

On comparison between OCD patients and schizophrenic patients in the mean score of WHOQoL, there was no statistically significant difference between the two groups ($P = 0.67$) as shown in Table 3.

This is consistent with a cross-sectional study carried out by Solanki et al. (2010) in the outpatient psychiatry clinics in Jaipur, India. Fifty patients with OCD and 47 patients with schizophrenia with a minimum duration of 2 years on maintenance treatments were evaluated. In the QoL domains, there was no statistically significant difference between the two groups.

The deleterious effects of illness on QoL and functioning occur not only in schizophrenic but also in OCD patients. Patients with chronic mental illness dislike the stigma of mental illness, which excludes them from social life. They are subject to many different kinds of formal and informal discriminations. In OCD patients, moreover, social relationships frequently suffer because of the over-riding focus on completion of rituals. Low scores on the social relationship domain of QoL in schizophrenics could be because of the negative symptoms these patients present with, among which asociality, avolition, and apathy are known to be prominent.

On comparison between OCD patients ($85.6 \pm 15.3$) and schizophrenic patients ($97.8 \pm 27.6$) in the mean score of WHO-DAS-II, there was no statistically significant difference between the two groups ($P = 0.15$) as shown in Table 4.

This is in agreement with Calvo-Corralico et al. (1998), who compared social, occupational, and daily functioning of 17 inpatients with OCD and 17 patients with schizophrenia. They found that, on work performance, daily living skills, and past-year Global Assessment of Functioning (GAF) scores, patients with OCD and those with schizophrenia did not differ significantly, and both groups were significantly more impaired than patients with depression.

This finding is not in agreement with the study by Mohan et al. (2005), who compared disability in patients with schizophrenia and OCD using the Indian Disability Evaluation Assessment Scale. They found that patients with schizophrenia had significantly greater disability in all domains than patients with OCD. This lack of agreement may be because patients with schizophrenia and OCD of mild severity were included in the study and a different assessment scale (Indian Disability Evaluation Assessment Scale) was applied; they recommended that further studies on a larger sample need to be carried out to confirm the finding.

On comparison of the total mean score of FBS, WHOQoL, and WHO-DAS-II between OCD and schizophrenic patients on maintenance treatment, there was a nonstatistically significant difference between OCD and schizophrenic patients on maintenance treatment as shown in Table 5.

This is in agreement with Niederauer et al. (2007), who found that patients with OCD have impairment in QoL. The level of severity is similar to that of schizophrenic patients. Social and familial relationships and occupational performance (capacity to work and study) were the areas most severely affected by the disorder, and although there was an improvement with treatment, these areas showed a poor level of performance.

This is also in agreement with Bystritsky et al. (2001), who compared 31 patients with OCD participating in a partial hospital treatment program with 68 schizophrenic outpatients participating in a day rehabilitation program. OCD and schizophrenic patients had similar scores on almost every domain of the Independent Living Skills Survey at pretreatment. They concluded that patients with severe OCD and patients with schizophrenia are equally socially impaired.

### Conclusion

By the end of our study, following conclusions were made: deleterious effects of illness on families, patients' QoL, and functioning occur not only in schizophrenic but also in OCD patients. Symptom severity and noncompliance on maintenance treatment are associated with greater disability and poor QoL. Thus, management should be planned with these considerations to enhance functioning and QoL and thus decrease disabilities.

### Acknowledgements

Conflicts of interest
NO conflicts of interest.

### References


