

ORIGINAL ARTICLE

Psychiatric Morbidity among Caregivers of Schizophrenia Patients – A Study in Tertiary Care Psychiatric Hospital in Dhaka

MM Jalal UDDIN<sup>1</sup>, Md. Tariqul ALAM<sup>2</sup>, Helal Uddin AHMED<sup>3</sup>, Niaz Mohammad KHAN<sup>4</sup>, MA HAMID<sup>5</sup>, Waziul Alam CHOWDHURY<sup>6</sup>, Md. Golam RABBANI<sup>7</sup>

<sup>1</sup>Assistant Professor, Department of Psychiatry, National Institute of Neurosciences & Hospital, Dhaka, Bangladesh; <sup>2</sup>Assistant Professor, Department of Geriatric and Organic Psychiatry, National Institute of Mental Health, Dhaka, Bangladesh; <sup>3</sup>Assistant Professor, Department of Child, Adolescent and Family Psychiatry, National Institute of Mental Health, Dhaka, Bangladesh; <sup>4</sup>Assistant Professor, Department of Psychiatry, Shaheed Suhrawardy Medical College, Dhaka, Bangladesh; <sup>5</sup>Professor, Department of Geriatric and Organic Psychiatry, National Institute of Mental Health, Dhaka, Bangladesh; <sup>6</sup>Professor, Director cum Professor, National Institute of Mental Health, Dhaka, Bangladesh; <sup>7</sup>Professor & Head, Department of Psychiatry, Popular Medical College, Dhaka, Bangladesh

(Received: 20 January 2014; Reviewed: 2 March 2014; Accepted: 21 May 2014; Published on: 1 January 2015)

Abstract

**Background:** Severe mental illness like schizophrenia has far-reaching consequence for both patients and caregivers and their relatives and they also experience feeling of loss and grief. They are confronted with uncertainty and emotion of shame, guilt and anger like the patients they feel stigmatized and socially isolated. Caring for a family member with schizophrenia is an enduring stressor and causes considerable amount of burden. **Objective:** To assess mental health status of the caregivers of schizophrenia patients. **Methodology:** This descriptive cross sectional study was done among the caregivers of schizophrenia patients in outpatient and inpatient department of National Institute of Mental Health (NIMH), Dhaka, Bangladesh from September 2010 to February 2011. A semi-structured Questionnaire and General Health Questionnaire-28 (GHQ-28) were applied to the caregivers of schizophrenia patients who fulfilled the inclusion criteria. Among the respondents whose GHQ-28 score were 4 or above Structured Clinical Interview for DSM-IV Axis I Non Patient (SCID-I/NP) version was applied to identify psychiatric disorders among the caregivers of schizophrenia. **Results:** Out of 272 respondents most of them were female (88.97%), housewife (72.42%) of 21 to 50 yrs age (80.51%). In this study 22.43% of respondents were suffering from different types of mental disorders. Among them major depressive disorder were most prevalent (11.8%). Other psychiatric disorders were found generalized anxiety disorder (4.8%), pain disorder (2.9%). Less common were panic disorder, social phobia, adjustment disorder and undifferentiated somatoform disorder (0.7% in each type). **Conclusions:** Significant proportions of the caregiver of schizophrenic patients were suffering from psychiatric disorders that did not get any psychiatric treatment. [Journal of Current and Advance Medical Research 2015;2(1):12-17]

**Keywords:** psychiatric morbidity, caregiver, schizophrenia

[Cite this article as: Uddin MMJ, Alam MT, Ahmed HU, Khan NM, Hamid MA, Chowdhury WA, Rabbani MG. Psychiatric Morbidity among Caregivers of Schizophrenia Patients – A Study in Tertiary Care Psychiatric Hospital in Dhaka. J Curr Adv Med Res 2015;2(1):12-17]

**Correspondence:** Dr. MM Jalal Uddin, Assistant Professor; Department of Psychiatry, National Institute of Neurosciences & Hospital, Sher-E-Bangla Nagar, Agargaon, Dhaka, Bangladesh; **Cell no.:** +8801716772020; **Email:** [jalal29march@yahoo.com](mailto:jalal29march@yahoo.com)

**Conflict of Interest:** Authors have declared no conflict of interest.

**Contributions to authors:** MMJU has contributed in protocol preparation to manuscript writing. HUA & NMK were involved in the analysis part of the study; MTA helped data collection procedure; MAH & WAC were involved to confirm the diagnosis of the respondents; MGR was guide of the study

## Introduction

Psychiatric disorders are as old as human life. There have been negative attitudes regarding psychiatric disorders among different societies<sup>1</sup>. An important determinant of the psychological health of an individual is interpersonal relationships. Disturbed relationships could be the cause, the effect, or even the aggravating factors of mental illness<sup>2</sup>. During the last decade or so there has been an increasing trend all over the world towards treating psychiatric patients in their family settings and in their community rather than in mental hospital<sup>3-4</sup>. For this reason psychiatric patients family have to be considered as a main source of patients caregiver. Severe mental illness like schizophrenia has far-reaching consequence for both patients and their relatives. British Medical Association 1995 stated that a caregiver is someone who gives unpaid care to a relative or friend who is dependent because of age, physical or other disability and who would, if not cared for, require support from the state or other means<sup>5</sup>. Patients caregivers and also their relatives experience feeling of loss and grief<sup>6</sup>. They are confronted with uncertainty and emotion of shame, guilt and anger like the patients they feel stigmatized and socially isolated<sup>7</sup>. Caring for a family member with schizophrenia is an enduring stressor and causes considerable amount of burden<sup>8</sup>. In Bangladesh 16.05 % mentally ill patients mostly live with the family due to the societal norm as they are member of extended family and with regard to limitation in psychiatric health care services for patients with chronic psychiatric disorder in country, their families have a critical role in taking care of the patients<sup>9</sup>. Findings suggests that taking care of chronic mental patients like schizophrenia pits stress and burden on the caregivers.<sup>10</sup> The level of caregiver distress has been related directly to the stress of the relative's psychosis and disturbed behaviors and co-morbidity such as depression, substance abuse, suicidal behavior among patients with psychiatric disorders will increase the psychiatric stress of the caregivers<sup>11</sup>. There is evidence that a large number of caregivers have rate of depressive symptoms as high as 38 to 68 %. Hatfield found that severe stress in a family produce physical and emotional strain and caused anxiety, guilt and depression in their member due to one person illness<sup>12</sup>. Symptoms of depression and psychosomatic complaints were more prevalence among schizophrenic patients caregiver<sup>13</sup>. Study conducted by Rabbani<sup>2</sup> demonstrate that the caregivers of person with chronic mental illness suffer from a number of stresses and high level of burden and found more than half of those who provided major care for their patients experiences

stresses and burden. Study by Banoo<sup>10</sup> found that 23.7 % of the caregivers having severe stress. Another study conducted by Chowdhury<sup>14</sup> found 55% experienced depression and 18% did experience anxiety among the caregiver of mentally ill patients. Therefore the present study was done to assess mental health status of the caregivers of schizophrenia patients and to find out the specific psychiatric illness of the caregivers and relationship of the caregivers with the patients.

## Methodology

This descriptive cross sectional study was done among the caregivers of schizophrenia patients in inpatient department (IPD) and outpatient department (OPD) of National Institute of Mental Health (NIMH), Dhaka from September 2010 to February 2011. NIMH is 200 (two hundred) bedded tertiary care psychiatry institute and hospital situated in Sher-E-Bangla Nagar, Dhaka near by several large government hospitals and institutes. From all over the country huge numbers of patients come here every day. Caregivers between 18 years and 55 years of age, key relatives of the patients (parents, spouse, sibling, offspring) staying for last six months with the patients and who are the main taking care of the patients were included in the study. Caregivers with acute physical illness, already diagnosed with any psychiatric illness or taking psychotropic medication and unwilling to participate in the study were excluded. First, caregivers of schizophrenia patients were explained about the purpose of study and informed written consent were taken from them and they were interviewed face to face by using the semi-structured questionnaire containing socio-demographic and other relevant information. Then Bengali translated version of General Health Questionnaire-28 (GHQ-28) was applied to the caregivers of schizophrenia patients. The GHQ-28 is a 28 items checklist widely used screening instrument of psychological disorders, namely anxiety/depression spectrum and has been shown to be valid and reliable instruments across the cultures. This 28 items checklist specifically assesses the psychological disturbances in terms of both a full scale score (maximum possible score = 84) and scores on four sub-scales (maximum possible score for each sub-scale = 21), reflecting somatic symptoms, anxiety and insomnia, social dysfunction and depression Each item consists of a question asking whether the respondent has recently experienced a particular symptom or item of behavior on a scale ranging from less than usual to much more than usual on a rating from 0 to 3. Thus the higher the scores, the greater the level of

symptoms or behavior across the four domains of functioning as well as aggregate scales total on GHQ. Caregivers who scored 4 or more on GHQ-28 score (Group – A) were applied Structured Clinical Interview for DSM-IV Axis I Disorders Non Patients Version (SCID-I NP Version) for diagnosis of the psychiatric disorders. Caregivers who scored less than 4 on GHQ-28 score included in Group – B. All collected data were checked and verified thoroughly to reduce inconsistency. The data were analyzed with SPSS version 16.0 (sixteen) for windows. Ethical issues especially confidentiality of caregiver’s information was maintained strictly.

**Result**

Two hundred seventy two caregivers of schizophrenia patients filled out the semistructured questionnaire and GHQ-28. Those who scored 4 or above on GHQ-28 were group into A and those scored less than 4 were grouped into B. The findings of the study were given below.

**Table 1: Distribution of the study population (Caregiver) according to place of interview (n=272)**

Place of interview	Group A	Group B	P value
Indoor	56(76.7%)	152(76.4%)	0.954*
Outdoor	17(23.3%)	47(23.6%)	
<b>Total</b>	<b>73(100.0%)</b>	<b>199(100.0%)</b>	

\*NS=Not significant; P value reached from chi square test; Group A: GHQ - 28 score positive (GHQ – 28 score 4 or more); Group B: GHQ - 28 score negative (GHQ – 28 score less than 4)

In-patient department (IPD) was found 56(76.7%) in group A and 152(76.4%) in group B. Outpatient department was 17(23.3%) and 47(23.6%) in group A and group B respectively.

**Table 2: Age distribution of the study population (Caregiver) (n=272)**

Age (yr)	Group A	Group B	P value
≤20	0(0.0%)	20(10.1)	0.001
21-30	9(12.3%)	67(33.7)	
31-40	13(17.8%)	62(31.2)	
41-50	36(49.3%)	32(16.1)	
>50	15(20.5%)	18(9.0)	
<b>Mean ± SD</b>	<b>44.9±10.1</b>	<b>35.0±12</b>	
<b>Range (min-max)</b>	<b>(22-52)</b>	<b>(16-55)</b>	

\*S=Significant; P value reached from unpaired t-test

The difference was not statistically significant (p>0.05) between two groups in chi square test. The mean age was found 44.9±10.1 years with range from 22 to 52 years in group A and 35±12 years with range from 16 to 55 years in group B. The maximum number was found 36(49.3%) in group A in 5<sup>th</sup> decade and 67(33.7%) in group B in 3<sup>rd</sup> decade. The mean age difference was statistically significant (p<0.05) between two groups in unpaired t-test.

**Table 3: Sex distribution of the study population (Caregiver) (n=272)**

Sex	Group A	Group B	P value
Male	12(16.4%)	18(9.0%)	0.048
Female	61(83.6%)	181(91.0%)	
<b>Total</b>	<b>73(100.0%)</b>	<b>199(100.0%)</b>	

\*S=Significant; P value reached from chi square test

Male was found 12(16.4%) in group A and 18(9.0%) in group B. Female was 61(83.6%) and 181(91.0%) in group A and group B respectively. The male female difference was statistically significant (p<0.05) between two groups in chi square test. Male female ratio was almost 1:8.

**Table 4: Distribution of the study population (Caregiver) according to education (n=272)**

Education	Group A	Group B
No education	25(34.2%)	21(10.6%)
Primary	14(19.2%)	41(20.6%)
Secondary	20(27.4%)	99(49.7%)
Higher secondary	12(16.4%)	26(13.1%)
Graduate	2(2.7%)	12(6.0%)
<b>Total</b>	<b>73(100.0%)</b>	<b>199(100.0%)</b>

Illiterate (no education) was found 25(34.2%) in group A and 21(10.6%) in group B. Primary education level was found 14(19.2%) in group A and 41(20.6%) in group B. Secondary level was 20(27.4%) and 99(49.7%) in group A and group B respectively. Higher secondary level was found 12(16.4%) in group A and 26(13.1%) in group B. Graduate level was 2(2.7%) and 12(6.0%) in group A and group B respectively. It was found that maximum caregivers were housewife in both groups which was 57(78.1%) in group A and 140(70.4%) in group B (Table 5). Mother was more common in both groups. Father was found 9(12.3%) in group A and 10(5.0%) in group B. Mother was 45(61.6%) and 82(41.2%) in group A and group B respectively. Brother was found 2(2.7%) in group A and 4(2.0%) in group B.

**Table 5: Distribution of the study population (Caregiver) according to occupation (n=272)**

Occupation	Group A	Group B
Unemployed	0(0.0%)	15(7.5%)
Service holder	4(5.5%)	19(9.5%)
Agricultural work	6(8.2%)	9(4.5%)
Business main	2(2.7%)	6(3.0%)
House wife	57(78.1%)	140(70.4%)
Retired	4(5.5%)	0(0.0%)
Student	0(0.0%)	8(4.0%)
Other	0(0.0%)	2(1.0%)
<b>Total</b>	<b>73(100.0%)</b>	<b>199(100.0%)</b>

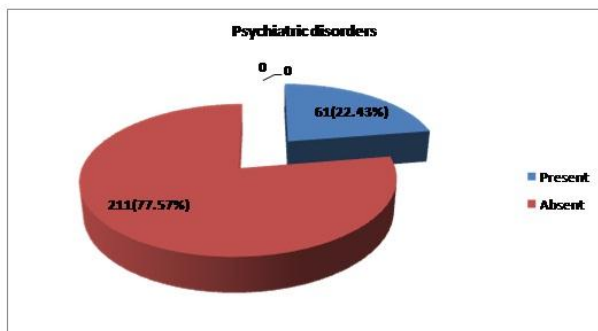
Son was not found in group A but 2(1.0%) was found in B. Daughter was not found in group A but 13(6.5%) was found in B. Husband was found 7(9.6%) and 4(2.0%) in group A and group B respectively. Wife was found 10(13.7%) in group A and 84(42.2%) in group B respectively.

**Table 6: Distribution of the study population according to relationship with caregivers (n=272)**

Relationship	Group A	Group B	P value
Father	9(12.3)	10(5.0)	0.036
Mother	45(61.6)	82(41.2)	0.002
Brother	2(2.7)	4(2.0)	0.510
Son	0(0.0)	2(1.0)	0.534
Daughter	0(0.0)	13(6.5)	0.015
Husband	7(9.6)	4(2.0)	0.009
Wife	10(13.7)	84(42.2)	0.001
<b>Total</b>	<b>73(100.0)</b>	<b>199(100.0)</b>	

\*P value reached from chi square test; figure within parenthesis indicates percentage

Brother and son was not statistically significant (p>0.05) and others were statistically significant (p<0.05) between two groups in chi square test. 22.43% of caregivers had psychiatric illness.



**Figure 1: Presence of psychiatric disorders among the caregivers of schizophrenia patients**

MDD, GAD and Somatoform disorder were more frequent, which were 52.5%, 21.3% and 13.1% respectively (Table 7). In father MDD was found 6(75.0%), and 2(25.0%) was GAD. In mother, MDD was found 22(59.5%), 9(24.3%) GAD, 4(10.8%) somatoform pain disorder and 2(5.4%) was undifferentiated somatoform disorder.

**Table 7: Distribution of the study population (Caregiver) according to diagnosis (n=61)**

Diagnosis	n(%)	% within diagnosis
MDD	32 (11.8)	52.5
GAD	13 (4.8)	21.3
SPD	8 (2.9)	13.1
Panic disorder	2 (0.7)	3.3
Social phobia	2 (0.7)	3.3
Adjustment disorder	2 (0.7)	3.3
USD	2 (0.7)	3.3
<b>Total</b>	<b>61(22.43)</b>	<b>100.0</b>

\*MDD=Major depressive disorder, GAD=Generalized anxiety disorder, USD=Undifferentiated somatoform disorder, SPD=Somatoform pain disorder

In brother hundred percent was found adjustment disorder. In husband, MDD was found 4(66.7%) and 2(33.3%) was GAD. In wife, social phobia was found 2(33.3%) and 4(66.7%) somatoform pain disorder (Table 8).

**Table 8: Relationship of study population with the patients according to diagnosis**

Diagnosis	Father	Mother	Brother	Husband	Wife
MDD	6(75.0)	22(59.5)	0(0.0)	4(66.7%)	0(0.0)
GAD	2(25.0)	9(24.3)	0(0.0)	2(33.3)	0(0.0)
Social phobia	0(0.0)	0(0.0)	0(0.0)	0(0.0)	2(33.3)
Adjustment disorder	0(0.0)	0(0.0)	2(100.0)	0(0.0)	0(0.0%)
SPD	0(0.0)	4(10.8)	0(0.0)	0(0.0)	4(66.7)
USD	0(0.0)	2(5.4)	0(0.0)	0(0.0)	0(0.0%)
<b>Total</b>	<b>8(100.0)</b>	<b>37(100.0)</b>	<b>2(100.0)</b>	<b>6(100.0)</b>	<b>6(100.0)</b>

\*USD= Undifferentiated somatoform disorder; figure in the parenthesis indicates percentage; SPD= Somatoform pain disorder

**Discussion**

This descriptive cross sectional study was carried out among the caregivers of schizophrenia patients with an aim to assess mental health status of the caregivers of the patient with schizophrenia. The present study findings were discussed and compared with previously published relevant studies. In this current study it was observed that 76.7% and 76.4% were indoor respondents in group A and group B respectively. Outdoor respondents were 23.3% in group A and 23.6% in group B, which was almost similar between two groups. In this present study it was observed that the mean age

of the caregivers was  $44.9 \pm 10.1$  years with range from 22 to 52 years in group A and  $35 \pm 12$  years with range from 16 to 55 years in group B. Almost a half (49.3%) of the caregivers was found in 5<sup>th</sup> decade in group A and more than one third (33.7%) in 3<sup>rd</sup> decade in group B. The mean age of the caregivers was significantly ( $p < 0.05$ ) higher in group A. Rammohan et al (2002) found higher mean age of the caregiver, which was  $54.4 \pm 7.96$  years and spouses was  $47.29 \pm 8.07$  years.<sup>8</sup> Similarly, Heru and Ryan<sup>15</sup> found mean age of caregiver was  $54.8 \pm 13.2$  years. Furthermore, Jenkins and Schumacher<sup>16</sup> found mean age of latino was  $50.6 \pm 18.4$  years and euro-american was  $49.7 \pm 14.2$  years. Perlick et al<sup>17</sup> observed a mean  $\pm$  SD of  $49.99 \pm 14.61$  years with a age ranging from 16 to 82 years of caregiver. Hosseini et al<sup>1</sup> however, found that more than almost a half (45.0%) of the caregivers was more than 50 years age group, which are comparable with the current study.<sup>1</sup> On the other hand, Middelboe<sup>18</sup> observed mean age of the caregiver was  $32.8 \pm 7.8$  years. In this present series it was observed that 16.4% and 9.0% of the caregivers was male in group A and group B respectively. The male caregivers was significantly ( $p < 0.05$ ) higher in group A and male female ratio was almost 1:8. Similarly, Jenkins and Schumacher<sup>16</sup> observed female Latino 85% and euro-american 90%, which is consistent with the present study. Same findings were observed by Perlick et al<sup>17</sup>, Heru and Ryan<sup>15</sup>, Rammohan et al<sup>8</sup> and Middelboe<sup>18</sup>. In another study Roychaudhuri et al<sup>19</sup> found 62.96% male and 37.04% female. Similarly, Martyns-Yellowe<sup>20</sup> showed male 81.8% and female 18.2%. In this current study it was observed that Illiterate (no education) was more than one third (34.2%) in group A and almost a half (49.7%) had secondary level. Higher level was found 16.4% in group A and 13.1% in group B. Graduate level was 2.7% and 6.0% in group A and group B respectively. Gautam & Nijhawan (1984) illiterate 60.0%, primary 16.0% and secondary 16.0%, which support with the present study.<sup>4</sup> Similar result obtained by Hosseini<sup>1</sup> and Jenkins and Schumacher<sup>16</sup>. Martyns-Yellowe<sup>20</sup> found that majority (68.2%) of the caregivers had post-primary and over education. Jenkins and Schumacher<sup>16</sup> mean education years was 8.4 in latino and 11.4 years in Euro-American. In this present study it was observed that most of the caregiver was female and most of them were housewife, which were 78.1% in group A and 70.4% in group B. Similarly, Hosseini<sup>1</sup> observed that 44.0% caregiver were housewife and 24.0% were worker or farmer which is consistent with the present result. However, Roychaudhuri et al<sup>19</sup> found that majority (59.26%) of the caregiver were involved with a job. Regarding the

relationship of the caregiver with the patients mother was more common and significantly ( $p < 0.05$ ) higher in group A (61.6% Vs 41.2%). Father was found 12.3% in group A and 5.0% in group B, that was also significantly ( $p < 0.05$ ) higher in group A. Similarly husband was significantly ( $p < 0.05$ ) higher in group A, that was 9.6% in group A and 2.0% in group B. However daughter and wife were significantly ( $p < 0.05$ ) higher in group B. Perlick et al<sup>17</sup> observed that, 44.3% caregiver was living with their parents 23.5% with spouse, 7.8% with child, 11.5% with sibling and 12.9% with other. Scazufca and Kuipers<sup>21</sup> have shown 80% were parents, which support the current study findings.

A total of 73 respondents were GHQ positive in this current study, out of which 61 caregivers had psychiatric illness. Among the psychiatric disorders MDD, GAD and Somatoform disorder were more frequent, which were 11.8%, 4.8% and 2.9% respectively. Study conducted by Hosseini et al<sup>1</sup> found 35% of psychiatric illness among the caregivers of patients with chronic psychiatric disorders. Pereira and Almeida<sup>22</sup> found 41% of mental illness in caregivers of psychiatric patients in their study. Agermeyer et al<sup>23</sup> found 33.5% of anxiety disorders and 13.5% of depressive symptoms in their study among the caregivers of chronic psychiatric patients. Study by Banoo<sup>10</sup> found that 23.7% of the caregivers having severe stress. Another study conducted by Chowdhury<sup>14</sup> found 55% experienced depression and 18% did experience anxiety among the caregiver of mentally ill patients. The difference findings may be due to different tools of evaluation, selection criteria, and also cultural variation. Regarding the relationship with the patients according to diagnosis it was observed in father, MDD was found 75.0% and 25.0% was GAD. In mother, MDD was found 59.5%, 24.3% GAD, 10.8% somatoform pain disorder and 5.4% was undifferentiated somatoform disorder. In brother hundred percent was found adjustment disorder. In husband, MDD was found 66.7% and 33.3% was GAD. In wife, social phobia was found 33.3% and 66.7% somatoform pain disorder. There were a lot of limitations in the present study, out of them small sample size, single centre study and SCID – 1 NP version was not applied among the caregivers who scored 4 or less in GHQ – 28 scale (Group B) were most important.

## Conclusion

Significant proportions of the caregiver of schizophrenic patients were suffering from psychiatric disorders that did not get any psychiatric

treatment. So the service providers, policy makers and planners should address the issue carefully. So that they could get proper psychiatric services. In depth study is recommended in this regard.

## References

1. Hosseini SH, Sheykhmounesi F, Shahmohammadi SS. Evaluation of mental health status in caregivers of patients with chronic psychiatric disorders. *Pak J Biol Science*. 2010; 13: 325-329
2. Rabbani MG. Family Burden of patients with Schizophrenic Illness. *Bang J Medicine*. 1992; 3:21-26
3. Pai S, Kapur RL. The burden on the family of a psychiatric patient: development of an interview schedule. *Br J Psychiatry*. 1981; 138: 332-335
4. Gautam S, Nijhawan M. Burden on families of schizophrenic and chronic lung disease patients. *Ind J Psychiatry*. 1984; 26(2):156-159
5. British Medical Association. Taking care of the carers. 1995. London: BMA
6. Miller F, Dworkin J, Ward M, Barone D. A preliminary study of unresolved grief in families of seriously mentally ill patients. *Hos Com Psychiatry*. 1990; 41:1321-1325
7. Wahl OF, Harman CR. Family views of stigma. *Schizo Bulletin*. 1989; 15(1): 131-139
8. Rammohan A, Rao K, Subbakrishna DK. Burden and coping in caregivers of persons with schizophrenia. *Ind J Psychiatry*. 2002; 44(3):220-227
9. Firoz AHM, Karim ME, Alam MF, Rahman AHM, Zaman MM. Prevalence, Medical Care, Awareness and Attitude towards Mental Illness in Bangladesh. *Bang J Psychiat*. 2006;20(1)
10. Banu SF. Stress & burden of the Caregivers of Chronic Mental Adult Patients [M. Phil Thesis]. Dhaka University; 2001
11. Blanchard J, Brown SA, and Horan W, Sherwood AR. Substance use disorder in schizophrenia: Review integration and a proposed model. *Clin Psychol Review*. 2000; 20:207-234
12. Hatfield AB, Lefley HP. Families of the Mentally III: Coping and Adaptation. New York, NY: Guilford Press, 1987
13. Jungbauer J, Mory C, Meyer MCA. Does caring for a schizophrenia family member increase the risk of becoming ill? *Forts Nevrol Psychiatrie*. 2002; 70:548-554
14. Chowdhury MKP. Effect on Caregivers of Mentally Ill Patients [M. Phil Thesis]. Dhaka University; 2003
15. Heru A, Ryan C. Depressive Symptoms and family functioning in the Caregivers of recently Hospitalized Patients with Chronic/Recurrent Mood disorders. *Int J Psychol Rehab*. 2002; 7: 53-60
16. Jenkins J, Schumacher J. Family burden of schizophrenia and depressive illness. *Br J Psychiatry*. 1999; 147: 31-38
17. Perlick D, Clarkin JF, Raue P, Greenfield S, Struening E, Rosenheck R. Burden experienced by caregivers of persons with bipolar affective disorder. *Br J Psychiatry*. 1999; 175:56-62
18. Middelboe T. Prospective study of clinical and social outcome of study in small group homes for people with mental illness. *British J Psychiatry*. 1997; 171: 251-255
19. Roychaudhuri J, Mohandad A. Family burden among long term psychiatric patients. *Ind J Psychiatry*. 1995; 37 (2): 81-85
20. Martyns-Yellowe IS. The burden of schizophrenia on the family. A study from Nigeria. *Br J Psychiatry*. 1992; 161:779- 782
21. Scazufca M, Kuipers E. Links between expressed emotion and burden of care in relatives of patients with schizophrenia. *Br J Psychiatry*. 1996; 168-550
22. Pereira MG and de Almeida JM. The repercussions of mental disease in the family, A study of the family members of psychotic patients. *Acta Medica Portuguesa* 1999; 12: 161-168
23. Angermeyer MC, Matschinger H and Holzinger A. Burden of relatives of chronic psychiatric patients. *Psychiat Prax* 1997; 24: 215-220