

Research Article

EFFECT OF PSYCHOEDUCATION ON MENTAL HEALTH AMONG CAREGIVERS OF PATIENTS WITH CHRONIC KIDNEY DISEASE

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ABSTRACT

Chronic Kidney Disease (CKD) is a progressive and debilitating chronic illness that results in irreversible loss of kidney function. Nowadays, caregiving is the central role for patients who are suffering from chronic disease worldwide. Considering this the present study was conducted to investigate the psychoeducational impact on the mental health of those who care for patients with CKD. A pre-test and post-test method of the quasi-experimental design was employed to conduct the study on a total number of 60 participants (experimental group 30 and control group 30). Participants' age range was 18 to 59 years and mean and standard deviation were respectively 30.28 and 9.86. An adapted Bangla version of the General Health Questionnaire-28 and Psychoeducation Materials (developed by Hossain *et al.*, 2023) were administered to the participants. Participants were selected purposively from the National Institute of Kidney Diseases and Urology (NIKDU) of Dhaka city. The obtained data were analyzed by using descriptive statistics, mean, standard deviation, t-test, etc. Results indicate that there was a significant difference between the experimental group and the control group in mental health problems ($t = 4.274, p < .05$). Results also revealed that there were significant differences between the experimental group and the control group in somatic problems ($t = 2.412, p < .05$), anxiety and insomnia ($t = 3.614, p < .05$), social dysfunctions ($t = 2.916, p < .05$) and severe depression ($t = 2.588, p < .05$) among caregivers of patients with CKD. The findings of the present study indicate that after the psychoeducational training, mental health problems were better than mental health problems before the psychoeducational training. The implications of the findings have been discussed in light of research evidence from earlier research.

Keywords: *Psychoeducation, Mental health, Caregiver, Chronic Kidney Disease*

Introduction

Chronic Kidney Disease (CKD) is the progressive loss of kidney function. When a person has developed end-stage renal disease (ESRD), medical intervention is required to restore kidney

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function (Centers for Disease Control and Prevention, 2014). ESRD, which is the outcome of CKD, is total and irreversible renal failure. Dialysis patients, their families, and ultimately their caregivers must make decisions that will have a profound impact on their lives. According to Booth and Johnson (1994), a spouse frequently takes on the role of caretaker, sharing the burden, stress, and emotional anguish with their ailing partner over time. But now, mainly due to lifestyle changes, high blood pressure and diabetes are spreading like an epidemic worldwide (ADA, 2023). As a result, CKD is increasing in turn. CKD is a disease in which both kidneys become permanently damaged. It is now a serious global health problem (Levey *et al.*, 2007). Kidneys are blood purification plants that act as blood purifiers. Our two kidneys have ten to twenty million nephrons. If the number of these filters decreases due to various reasons, this number is not fulfilled in any way. Unfortunately, once the permanent kidney damage process begins, it will continue slowly and steadily throughout life. There is no way to completely stop this damaging process with medicine or any other means. However, the damage process can be slowed down with the help of a specialist doctor. In fact, kidney failure is a silent killer like diabetes and high blood pressure that is more dangerous than cancer. Because of many cancers, timely treatment improves but CKD begins very silently, leading to dialysis or a kidney transplant as the last resort and ultimately heartbreaking death.

Globally, one of the main causes of death and disability is CKD. The Global Burden of Disease (GBD) study stated that death due to CKD was ranked 8th position in 2019. Now it is in between 6th and 7th position worldwide. But diabetes mellitus and hypertension are responsible for 107% and 28% respectively, whereas CKD due to glomerulonephritis death rate decreased by 28% (Jager *et al.*, 2017). The GBD study estimated that in 2015, 1.2 million people died from CKD, an increase of 32% since 2005 (Wang *et al.*, 2016). It is estimated that it will be the 5th killer disease by 2040.

Mental health is an integral and essential component of health. In order to perform the important things in life, such as our deeds, learning, taking care of our families, volunteering, enjoying the outdoors, or whatever is important to us, it is crucial for us to take care of ourselves. A sound mental state enables us to enjoy life and find solutions to challenges. Our mental health includes all aspects of our physical, psychological, emotional, and social well-being. It affects our attitudes, feelings, and actions. Additionally, it affects how we react to stress, interact with others, and make decisions. Mental health is important at every stage of life, from childhood and adolescence through adulthood. According to World Health Organization (2014), mental health is “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community.” According to the U.S. Department of Human and Health Services (2017), people with strong mental health are better equipped to realize their full potential, manage life's stresses, work effectively, and contribute back to their communities.

According to this concept, mental health promotion, preservation, and restoration can be seen as significant concerns for individuals, groups of people, and society everywhere (U.S. Department of Human & Health Services, 2017).

Psychoeducation is an evidence-based therapeutic intervention for patients and their loved ones that provide information and support to better understand and cope with illness (Atri *et al.*,

2007). Although the term has also been used to refer to programs that address physical illnesses like cancer, psychoeducation is most frequently associated with serious mental illnesses like dementia, schizophrenia, clinical depression, anxiety disorders, psychotic illnesses, eating disorders, personality disorders, and autism. It is a treatment approach that is professionally given and integrates and synergizes educational and psychological activities (Lukens and McFarlane, 2004). Such instruction might take the form of providing clients or caregivers with psychological skills to lessen symptoms and increase functioning, or it can take the form of providing clients or caregivers with information regarding diagnosis and treatments (psycho-information). According to Dixon *et al.* (2001), family psychoeducation encompasses topics like knowledge about severe mental illnesses, information resources, particularly during times of crisis, skills and ongoing guidance about managing mental illnesses, problem-solving, and social or emotional support.

An unpaid or compensated member of a person's social network who assists them with daily living activities is known as a caregiver or caretaker. Giving care is most frequently employed to treat disabilities brought on by old age, disability, disease, or mental illness (Koopmanschap *et al.*, 2008). There are two main categories of caregivers are (primary caregivers and secondary caregivers). Primary caregivers will be considered in the present study since they frequently offer daily care for a loved one who is ill. Primary caregivers give direct assistance with daily tasks like clothing, bathing, and taking prescriptions. Patients can rely on these caregivers for weekend visits, errand running, helping with doctor's appointments, and other tasks. So, improving patients' conditions at home, in hospitals, and in other settings requires caregivers to have a certain level of education, awareness, mindfulness, etc. related to treating kidney dialysis patients.

Patients on hemodialysis experience significant disability, loss of function, and family life; as a result, they require additional support from others, with family caregivers playing the most important role in providing appropriate support and care and in helping patients adjust to and manage this chronic disorder (Leavy and Coresh, 2012; Janssen *et al.*, 2012). According to studies, family caregivers of patients with chronic illnesses endure a wide range of psychological symptoms, including melancholy, anxiety, depression, rage, and feelings of guilt and shame, as well as physical and emotional pain (Low *et al.*, 2008). Also, taking on the job of a family caregiver a situation that is on the rise affects people's quality of life, making it one of the issues affecting community health (Leavy and Coresh, 2012). As a result, family caregivers are frequently referred to as hidden patients since they are susceptible to illness (Palma *et al.*, 2012).

According to the literature, family caregivers are under extreme physical and mental stress while also playing a crucial part in the treatment of patients. For instance, a recent study by Abbasi *et al.* (2011) examined the strain of hemodialysis patients' caregivers and found that 74.2% of these people experienced severe hardship brought on by patient care. It was also mentioned that as the patient's condition deteriorates over time, the burden on the caregivers rises and they will eventually develop more physical and mental issues, such as social isolation and strained family ties, which may prevent them from providing the best possible patient care (Vaghee *et al.*, 2015; Chang *et al.*, 2010). Healthcare professionals are responsible for the care of these patients in medical settings, while family caregivers are accountable for their care at home because hemodialysis patients typically go to dialysis centres for treatment. As a result, family caregivers

must possess appropriate knowledge of patient home care and hemodialysis problem management.

Education programs for these patients' family members and caregivers dramatically improve the standard of in-home care (Khorami-Markani *et al.*, 2015). One of the therapies used to promote problem-nature knowledge and attitude as well as communication and problem-solving abilities is family-based training programs (Pahlavanzadeh *et al.*, 2010). Using different training techniques helps patients and their families learn more about the illness and improves their ability to adapt to it, as well as their communication and problem-solving abilities, ability to control their anger and stress, and quality of life (Carretero *et al.*, 2009; Ducharme *et al.*, 2011; Masoodi *et al.*, 2010). The care burden encountered by caregivers of other chronic conditions like cancer, heart failure, dementia, and mental disorder has been found in some studies to be reduced by family-based training programs (Navidian *et al.*, 2010). There are not many instructional programs that address the difficulties faced by caregivers of hemodialysis patients. For instance, Mollaoglu *et al.* (2013) evaluated the impact of educational programs on the burden of hemodialysis caregivers in Turkey and found that these programs were successful in easing caregiver stress. Nevertheless, there is no control group in this study. Khorami-Markani *et al.* (2015) assessed the impact of a family-centered teaching program on the understanding of home care provided by caregivers of patients receiving hemodialysis and observed favorable findings. Yet, the knowledge of caregivers is the focus of this study.

Early research, including those of Ghane *et al.* (2017) demonstrated that psychoeducation helps caregivers live better lives and lessens their stress and unanticipated mental health issues. In the present study, caregivers of CKD patients will receive psychoeducation to help them recover from a severe mental health issue. In order to help patients and their loved ones better comprehend and manage the disease, psychoeducation is an evidence-based therapeutic intervention. Although the term has also been used to refer to programs that address physical illnesses like cancer, psychoeducation is most frequently associated with serious mental illnesses like dementia, schizophrenia, clinical depression, anxiety disorders, psychotic illnesses, eating disorders, personality disorders, and autism. It is a therapy method that is administered by a professional that integrates and synergizes activities that are psychological and educational (Lukens and McFarlane, 2004).

The family intervention program is a method that might be used to enhance family members' knowledge, attitudes, and skills in managing problems, which would lessen the load on the family, promote welfare, and improve the patient's condition (Ainsworth, 2020; Reinhard *et al.*, 2012). Additionally, it emphasizes advice for therapy and drug adherence while concentrating on providing knowledge about the disorder being experienced (Ainsworth, 2020). The quality of life of patients and their families can be improved through a variety of interventions, including education, improving communication and problem-solving abilities, and stress management (Ducharme *et al.*, 2011).

Rationale of the Study

Mental health has different aspects (e.g., depression, anxiety, stress, anger, phobia, panic attack, bipolar disorder, obsessive-compulsive disorder etc.). But in the present study somatic symptoms,

'anxiety and insomnia', social dysfunctions and severe depression aspects of mental health will be studied in terms of caregivers of chronic kidney disease (CKD) patients in the context of Bangladesh. So, it is necessary to conduct this study as would entail an immense benefit to caregivers, patients and other relevant stakeholders. The present researchers believe that psychoeducation will improve the knowledge level of caregivers, help to cope with their caregiving roles, help to level of competence in handling caregiving situations, increase their knowledge of the illness and diseases, will aware of a family setting caregiving etc. which will unitedly improve the quality of life of caregivers by reducing psychological disturbances which will also help to heal physiological disturbances. Not only that psychoeducation intervention will improve both the caregivers' and care-recipients' well-being and also will improve the patient's health.

Considering many literature reviews, arguments, explanations etc. focus that there is a lot of research conducted on the mental health of caregivers with CKD (Gilbertson *et al.*, 2019; Ghane *et al.*, 2017; Leavy and Coresh, 2012). But most of the studies were done in a Western collectivist society. Even mostly medical scientists did this research. But we cannot exclude the importance of the effect of psychological aspects on caregivers in terms of their mental health. But there is no mentionable research regarding this in Bangladesh especially in Psychology and Behavioral Sciences. Even the literature especially focuses on depression, self-esteem, coping strategies etc. regarding caregivers of patients with CKD. But no study covers broadly mental health (e.g., somatic, 'anxiety & insomnia', social dysfunctions and severe depression) issues of caregivers in one study which is also totally unseen in the context of Bangladesh. So, there is a clear research gap here. Considering this, it will be tried to explore the effect of psychoeducation on mental health among caregivers of patients with CKD from the perspective of Bangladesh.

Research questions

The following research question was raised and answered in the present study.

Can psychoeducation reduce the levels of mental health problems (somatic, anxiety & insomnia, social dysfunctions and severe depression) among the caregivers of patients with CKD?

Main Objective of the Study

To understand the effect of psychoeducational knowledge on mental health problems among caregivers of patients with CKD.

Specific objectives

1. To investigate whether psychoeducational knowledge has any effect in reducing mental health problems among caregivers of patients with CKD.
2. To investigate whether psychoeducational knowledge has any effect in reducing somatic problems among caregivers of patients with CKD.
3. To know whether psychoeducational knowledge has any effect in reducing anxiety and insomnia among caregivers of patients with CKD.
4. To investigate whether psychoeducational knowledge has any effect in reducing social dysfunctions among caregivers of patients with CKD.
5. To investigate whether psychoeducational knowledge has any effect in reducing severe depression among caregivers of patients with CKD.

Materials and Methods

Participants

At first, 250 participants were selected conveniently then a total of one hundred and fifty (150) caregivers of patients with CKD were selected from the National Institute of Kidney Diseases and Urology (NIKDU) Hospital, Dhaka as a sample in the present study. Among them, 60 participants had been selected who had psychological disturbances by the screening of General Health Questionnaire-28. Then participants were divided randomly into two groups. They were the experimental group and the control group. The experimental group contains 30 participants and the control group contains 30 participants. Participants were the patients' family caregivers like husband, wife, son, brother, sister etc. With the help of the NIKDU authority, the primary caregivers of patients with CKD were identified and selected.

Design

The quasi-experimental research design was used in the present study.

Measures

The following measures were used in the present study.

1. Personal Information Form (PIF)
2. Bangla version of the General Health Questionnaire (GHQ-28: Goldberg and Williams, 1988)
3. Psychoeducation Materials (Hossain *et al.*, 2023)

1. Personal Information Form (PIF): A specially designed questionnaire was used to collect data into two sections; the first section consisted of the participant's age, sex, education, marital status, economic status, the relationship between the caregivers and the patient, caregiving duration, family types, habitat and the second sections consisted of by patients' sex, illness duration, present health condition, treatment nature etc. were collected as PIF.

2. General Health Questionnaire (GHQ-28): The General Health Questionnaire (GHQ-28) was developed by Goldberg and Williams (1988) for assessing psychological disturbances in terms of both a full-scale score and scores on four subscales and each sub-scale contains 7 items. The four sub-scales are somatic symptoms, anxiety and insomnia, social dysfunction, and severe 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 scale ranging from "0" to "3". This measure has been reported to have good psychometric properties. Items from 1-7 measure somatic symptoms, items from 8-14 measure 'anxiety and insomnia', items from 15-21 measure social dysfunction, and items from 22-28 measure severe depression. The highest possible total score of GHQ-28 is 84 whereas the highest score of each subscale is 21. Cut off score is 39. A score from 0 to 6 is considered as having low, 7 to 13 as moderate, and 14 to 21 as severe levels in each subscale. The total score which is obtained by summing up the scores of all subscales ranges from 0 to 84 with the higher scores indicating a greater level of disturbance across the four domains. Reliability coefficients have ranged from .78 to .95 in various studies. GHQ was shown to have constructed, content, and concurrent validity. In the present study, the GHQ-28 scale was adapted Bangla version and

validated in the context of Bangladeshi culture for collecting data from participants. The adapted internal consistency of GHQ also indicates that the scale has good reliability which is 0.89 (Hossain *et al.*, 2023).

3. **Psychoeducation Materials:** In the present study Psychoeducation Materials (developed by Hossain *et al.*, 2023) were applied to the participants by Counselling. At first massive works of literature were reviewed for making Psychoeducation Materials. For example, many pieces of literature, including internationally published studies on psychoeducational interventions, psychological interventions, journals focusing on anxiety and depression, and numerous CKD-related medical books and Clinical Psychology books were examined for this study. A total of 20 contents and notions were created as psychoeducational resources following a review of the literature. Then the researchers synthesized all the contents and categorized them under major eight contents through judges' evaluation, expert opinion and some statistical procedure. Eight contents are Kidney and Kidney-Related Disease, Home Care of Kidney Dialysis Patient, Coping Strategies of Caregivers, Problem-Focused Coping Strategies, Effective Communication Skills, Stress Management, Anger Management and Caregiver Support Group, Empathy & Counseling. It has good inter-rater reliability and face validity in the context of Bangladesh.

Procedures

Standard data collection procedures were followed in the present study. At first, the present researchers applied to the Director of the National Institute of Kidney Diseases and Urology (NIKDU) Hospital, Dhaka for seeking permission for data collection. After getting permission then the researchers started data collection. Among the total participants, 150 were selected as respondents. Participants were selected by purposive sampling method. Among them, 60 participants were finally selected as a sample who had psychological disturbances by the screening of GHQ-28. Cut off of point of the GHQ-28 is 39. Among them, 30 participants included the experimental group and 30 participants included the control group. Experimental and control participants were selected randomly. In the beginning, participants were briefed about the general purpose of the study and a good rapport was established with them. They were informed that the investigation is purely academic and their responses to the questionnaires were kept highly confidential. After having verbal consent from the caregivers, they were provided with a necessary questionnaire to fill up. The present study was conducted in two training phases (Before Psychoeducation and After Psychoeducation). In the before Psychoeducational training, to measure the mental health level of caregivers GHQ-28 scale was used for both groups. Then the researchers conducted a day-long training about counselling (psychoeducation) with Psychoeducational Materials to the experimental group in the conference room of NIKDU Hospital. In this case, Psychoeducation Materials have supplied to the experimental group for one month for preparation. On the other hand, the control group did not get any intervention. After taking data of all phases, for ethical consideration, each participant of the control group was supplied with Psychoeducation Materials for their better improvement of mental health in their future life. They were also requested to receive tele counseling. In the after-Psychoeducational training phase, after one-month duration, the mental health of caregivers of the experimental group and the control group was measured again.

Ethical Issues

In this study, participants were saved from all forms of potential risks. They informed that their attendance would be willful, and their information only would be used for research purposes and kept highly confidential. The informed consent was taken after necessary debriefing including research purpose, its significance, and also their right to refusal or withdrawal from participation.

Results and Discussion

After collecting the data, it was analyzed by using the SPSS program. The results of the present study such as descriptive statistics and t-tests etc. are presented in the following Tables consecutively.

Table 1. Mean, standard deviation and independent sample t-test scores of caregivers of CKD patients before and after psychoeducational training for experimental and control groups in mental health problems

| <i>Conditions</i> | <i>Group</i> | <i>N</i> | <i>M</i> | <i>SD</i> | <i>df</i> | <i>t</i> | <i>p</i> |
|---------------------------|-----------------------|----------|----------|-----------|-----------|----------|----------|
| Before Psychoeducation | Experimental Group | 30 | 53.20 | 8.857 | 58 | 3.428 | .001 |
| | Control Group | 30 | 46.00 | 7.344 | | | |
| After Psychoeducation | Experimental Group | 30 | 35.63 | 8.401 | 58 | 4.274 | .001 |
| | Control Group | 30 | 43.63 | 5.875 | | | |

$p < .05$

Table 1 indicates that before the psychoeducational training, there is a significant difference between the experimental group and the control group ($t = 3.428$, $p < .05$) in mental health problems. On the other hand, after the psychoeducational training, the Table indicates that there is also a significant difference between the experimental group and the control group ($t = 4.274$, $p < .05$) in mental health problems. After receiving psychoeducational training experimental participants' psychological disturbances were reduced than control participants.

Table 2. Mean, standard deviation and independent sample t-test scores of caregivers of CKD patients before and after psychoeducational training for experimental and control groups in somatic symptoms

| <i>Conditions</i> | <i>Group</i> | <i>N</i> | <i>M</i> | <i>SD</i> | <i>df</i> | <i>t</i> | <i>p</i> |
|---------------------------|-----------------------|----------|----------|-----------|-----------|----------|----------|
| Before Psychoeducation | Experimental Group | 30 | 14.87 | 2.801 | 58 | 4.303 | .001 |
| | Control Group | 30 | 11.87 | 2.596 | | | |

| <i>Conditions</i> | <i>Group</i> | <i>N</i> | <i>M</i> | <i>SD</i> | <i>df</i> | <i>t</i> | <i>p</i> |
|--------------------------|-----------------------|----------|----------|-----------|-----------|----------|----------|
| After Psychoeducation | Experimental Group | 30 | 9.63 | 2.428 | 58 | 2.412 | .019 |
| | Control Group | 30 | 11.13 | 2.389 | | | |

$p < .05$

Table 2 shows that before the psychoeducation training, there is a significant difference between the experimental group and the control group ($t = 4.303$, $p < .05$) in somatic symptoms. On the other hand, after the psychoeducation training, the Table shows that there is also a significant difference between the experimental group and the control group ($t = 2.412$, $p < .05$) in somatic problems. After receiving psychoeducational training experimental participants' somatic problems were reduced than control participants.

Table 3. Mean, standard deviation and independent sample t-test scores of caregivers of CKD patients before and after psychoeducational training for experimental and control groups in anxiety and insomnia

| <i>Conditions</i> | <i>Group</i> | <i>N</i> | <i>M</i> | <i>SD</i> | <i>df</i> | <i>t</i> | <i>p</i> |
|---------------------------|-----------------------|----------|----------|-----------|-----------|----------|----------|
| Before Psychoeducation | Experimental Group | 30 | 14.97 | 3.146 | 58 | 1.894 | .063 |
| | Control Group | 30 | 13.43 | 3.126 | | | |
| After Psychoeducation | Experimental Group | 30 | 9.97 | 2.906 | 58 | 3.614 | .001 |
| | Control Group | 30 | 12.57 | 2.661 | | | |

$p < .05$

Table 3 implies that before the psychoeducation training, there is no significant difference between the experimental group and the control group in anxiety and insomnia. On the other hand, after the psychoeducation training, the Table implies that there is a significant difference between the experimental group and the control group ($t = 3.614$, $p < .05$) in anxiety and insomnia. After receiving psychoeducational training experimental participants' anxiety and insomnia problems were reduced than control participants.

Table 4. Mean, standard deviation and independent sample t-test scores of caregivers of CKD patients before and after psychoeducational training for experimental and control groups in social dysfunctions

| <i>Conditions</i> | <i>Group</i> | <i>N</i> | <i>M</i> | <i>SD</i> | <i>df</i> | <i>t</i> | <i>p</i> |
|---------------------------|-----------------------|----------|----------|-----------|-----------|----------|----------|
| Before Psychoeducation | Experimental Group | 30 | 14.03 | 2.977 | 58 | 2.924 | .005 |
| | Control Group | 30 | 11.93 | 2.572 | | | |

| <i>Conditions</i> | <i>Group</i> | <i>N</i> | <i>M</i> | <i>SD</i> | <i>df</i> | <i>t</i> | <i>p</i> |
|--------------------------|-----------------------|----------|----------|-----------|-----------|----------|----------|
| After Psychoeducation | Experimental Group | 30 | 9.63 | 2.356 | 58 | 2.916 | .005 |
| | Control Group | 30 | 11.33 | 2.155 | | | |

$p < .05$

Table 4 denotes that before the psychoeducation training, there is a significant difference between the experimental group and the control group ($t = 2.924, p < .05$) in social dysfunctions. On the other hand, after the psychoeducation training, the Table denotes that there is also a significant difference between the experimental group and the control group ($t = 2.916, p < .05$) in social dysfunctions. After receiving psychoeducational training experimental participants' social dysfunction problems were reduced than control participants.

Table 5. Mean, standard deviation and independent sample t-test scores of caregivers of CKD patients before and after psychoeducational training for experimental and control groups in severe depression

| <i>Conditions</i> | <i>Group</i> | <i>N</i> | <i>M</i> | <i>SD</i> | <i>df</i> | <i>t</i> | <i>p</i> |
|---------------------------|-----------------------|----------|----------|-----------|-----------|----------|----------|
| Before Psychoeducation | Experimental Group | 30 | 9.00 | 4.275 | 58 | .333 | .740 |
| | Control Group | 30 | 8.63 | 4.247 | | | |
| After Psychoeducation | Experimental Group | 30 | 6.17 | 3.185 | 58 | 2.588 | .012 |
| | Control Group | 30 | 8.60 | 4.048 | | | |

$p < .05$

Table 5 reveals that before the psychoeducation training, there is no significant difference between the experimental group and the control group in severe depression. On the other hand, after the psychoeducation training, the Table reveals that there is a significant difference between the experimental group and the control group ($t = 2.588, p < .05$) in severe depression. After receiving psychoeducational training experimental participants' severe depression was reduced than control participants.

The objective of the present study was to understand the effect of psychoeducation on mental health among caregivers of patients with chronic kidney disease. The study was also designed to explore five research objectives. The target population of the study was caregivers of patients with chronic kidney disease. A total of 60 participants were randomly selected from the NIKDU

Hospital, Dhaka. Participants' age range was 18 to 59 years and the mean and standard deviation of age were respectively 30.28 and 9.86. The obtained data were analyzed by descriptive statistics, mean, standard deviation, t-test, ANOVA etc. The discussion of the findings is given below.

The first objective was to investigate whether there has any effect of psychoeducational knowledge in reducing mental health among caregivers of patients with CKD. Results presented in Table 1 indicate that before the psychoeducational training, there is a significant difference between the experimental group and the control group ($t = 3.428, p < .05$) in terms of mental health. It also indicates that experimental participants were more psychological disturbances than control participants. On the other hand, after the psychoeducational training Table 1 further indicates that there is also a significant difference between the experimental group and the control group ($t = 4.274, p < .05$) in terms of mental health. It mentioned that experimental participants' psychological disturbances reduced than control participants after receiving psychoeducational training. Therefore, it can be said that after receiving psychoeducational training, experimental participants' mental health problems decreased than control participants.

The second objective was to investigate whether there has any effect of psychoeducational knowledge in reducing somatic problems among caregivers of patients with CKD. Results presented in Table 2 show that before the psychoeducational training, there is a significant difference between the experimental group and the control group ($t = 4.303, p < .05$) in terms of somatic problems. It also shows that experimental participants were more somatic problems than control participants. On the other hand, after the psychoeducational training Table 2 further shows that there is also a significant difference between the experimental group and the control group ($t = 2.412, p < .05$) in terms of somatic problems. It mentioned that experimental participants' somatic problems were reduced than control participants after receiving psychoeducational training. Therefore, it can be said that after receiving psychoeducational training, experimental participants' somatic problems decreased than control participants.

The third objective was to investigate whether there has any effect of psychoeducational knowledge in reducing anxiety and insomnia among caregivers of patients with CKD. Results presented in Table 3 imply that before the psychoeducational training, there is no significant difference between the experimental group and the control group in terms of anxiety and insomnia. On the other hand, after the psychoeducational training Table 3 implies that there is a significant difference between the experimental group and the control group ($t = 3.614, p < .05$) in terms of anxiety and insomnia. It mentioned that experimental participants' anxiety and insomnia were reduced than control participants after receiving psychoeducational training. Therefore, it can be said that after receiving psychoeducational training, experimental participants' anxiety and insomnia decreased than control participants.

The fourth objective was to investigate whether there has any effect of psychoeducational knowledge in reducing social dysfunctions among caregivers of patients with CKD. Results presented in Table 4 denote that before the psychoeducational training, there is a significant difference between the experimental group and the control group ($t = 2.924, p < .05$) in terms of

social dysfunctions. It also denotes that experimental participants were more social dysfunctions than control participants. On the other hand, after the psychoeducational training Table 4 further denotes that there is also a significant difference between the experimental group and the control group ($t = 2.916, p < .05$) in terms of social dysfunctions. It mentioned that experimental participants' social dysfunctions were reduced than control participants after receiving psychoeducational training. Therefore, it can be said that after receiving psychoeducational training, experimental participants' social dysfunctions decreased than control participants.

The fifth objective was to investigate whether there has any effect of psychoeducational knowledge in reducing severe depression among caregivers of patients with CKD. Results presented in Table 5 reveal that before the psychoeducational training, there is no significant difference between the experimental group and the control group in terms of severe depression. On the other hand, after the psychoeducational training Table 5 reveals that there is a significant difference between the experimental group and the control group ($t = 2.588, p < .05$) in terms of severe depression. It mentioned that experimental participants' severe depression was reduced than control participants after receiving psychoeducational training. Therefore, it can be said that after receiving psychoeducational training, experimental participants' severe depression decreased than control participants. Such kind of results may be found as a consequence of the following reason:

Firstly, before psychoeducational training caregivers didn't have any knowledge about mental health. Secondly, prior to psychoeducational training caregivers didn't have any knowledge about psychoeducation. Thirdly, after psychoeducational training caregivers were more aware of psychological issues of themselves as well as their patients.

The above research findings are consistent with earlier researchers such as (Ghane *et al.*, 2017). They showed that psychoeducation improves the quality of life of caregivers and also decrease their burden and unexpected mental health problem. In the present study, psychoeducation was applied to caregivers of patients with CKD for relieving them from acute mental health problems. Psychoeducation is an evidence-based therapeutic intervention for patients and their loved ones that provide information and support to better understand and cope with illness. Psychoeducation is most often associated with serious mental illness, including dementia, schizophrenia, clinical depression, anxiety disorders, psychotic illnesses, eating disorders, personality disorders and autism, although the term has also been used for programs that address physical illnesses, such as cancer. It is a professionally delivered treatment modality integrating and synergizing psychotherapeutic and educational interventions (Lukens and McFarlane, 2004). Such education can be in the form of information about diagnoses and treatments (psycho-information), or teaching clients or caregivers psychological skills to reduce symptoms and improve functioning (psycho-skills). Family psychoeducation includes issues such as education about serious mental illnesses, information resources especially during periods of crises, skills and ongoing guidance about managing mental illnesses, problem-solving, and social or emotional support (Dixon *et al.*, 2001).

Conclusion

The present study was designed to understand the effect of psychoeducation on mental health among caregivers of patients with chronic kidney disease. The study comprised 60 participants in total. The findings showed that there was a significant difference in mental health between the experimental group and the control group. The findings also showed that there were significant differences in somatic problems, anxiety and sleeplessness, social dysfunctions and severe depression among caregivers of CKD patients between the experimental and the control groups. It is hoped that the findings of this study may be helpful for mental health professionals (Clinical Psychologists, Counseling Psychologists, Psychologists, Psychotherapists, Psychiatrists etc.) to develop new strategic or interventional programs to improve the mental health of caregivers of patients with CKD. The limitations of the study, sample size of the present study was small. Only educated people were included as the sample in the present study. Future studies will overcome these drawbacks and bring new outcomes.

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Conflict of Interest

The authors of this research work declared no conflict of interest.

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