psychiatric patients.[3-5] Being diagnosed with a serious mental illness can be a shock- both for the person diagnosed and for his or her family and friends. On the other hand, finally obtaining a diagnosis and treatment plan can sometimes help relieve stress in the family and start moving recovery forward. Family members can be an invaluable resource for individuals dealing with serious mental illnesses. By learning more about the illness, they can support their loved one through diagnosis and beyond.[6] An important way of changing the attitude toward a phenomenon is giving information about it.[7] On the other hand, the attitude toward mental disorders plays an important role in the stigmatization of psychiatric patients. Stigma causes the following effects on patient's life: (a) the patient feels inability to achieve social ideals due to the symptoms and the negative outcomes of the disease, feeling shame and hopeless; (b) the patient tries to hide his disease for self-protection by isolation and withdrawal himself from society; and c) the patient losses individual and social rights.[8]

Results of a survey on patients referred to mental health services showed that patients with mental disorders reported the most discrimination from their friends, family and coworkers (52%, 56% and 47% respectively).[9]

Thorneycroft believes that psychiatric patients are more vulnerable than others. They also have little close relationships, less likely to marry, lose custody and guardianship of their children, more likely to be abuses by friends and neighbors and there are few recreational facilities for them and their life span is usually low.[10] Another negative consequence of stigma is low patient adherence medication that increases the rate of relapse and readmission.[11] The results of some studies showed that people's attitude toward psychiatric disorders are very discriminatory.[12-15]

Over the last decade, focus on the family environment has been increased. It is believed that the family environment plays an important role in the progression and prognosis of the illness. So, it led to development of psychosocial interventions broadly, with focus on the family unit.[12]

These interventions can be helpful for families to better understand the nature, treatment plan and prognosis of the psychiatric disorders.[13] The results of a study conducted by Griffiths and coworkers on consequences of stigma toward a patient with mental illness showed that the majority of public people did not accept to hospitalize their patients due to the fear of stigmatization.[16] Results of Angermayer and Matshinger study also showed that labeling as mental illness had a negative impact on public attitudes towards people with schizophrenia and made strong negative effect on the people's reaction to someone with schizophrenia and increased their preference for social distance.[15] In the study was investigated by Mosses, adolescents with mental disorder reported that they have been treated by inappropriate behavior such as distrust, humiliation, ridicule, being neglected in family decision-making and unfairly blamed by their families.[17] Kavanagh conducted a meta-analysis in which the effect of six family interventions on recovery of patients with schizophrenia were assessed. The results showed that the rate of relapse was very low in the experimental group.[18]

Miklowitz et al. conducted a randomized study of family-focused psycho-education and pharmacotherapy in the outpatient management of bipolar disorder. The results showed that the patients in the experimental group significantly showed more improvement and lower relapse in comparison with the patients of the control group.[19]It can be concluded that the family environment should not be ignored in the disease process. Because in that case, the family resists against the treatment plans by the denial, prejudices and sense of shame of his patient.[19,20] Therefore, the treatment plan should be focused on the patient and family environment.

The reaction of a family to his patient with mental disorder is significantly important. It should be considered for some reasons include: a) family plays main role in the relapse of the disorder, b) the family is in crisis when his patient is hospitalized c) how family copes with this situation is very important and d) due to reduced patient length of hospitalization, the family is responsible for patient care.[20]

The review of the literature showed that family attitude toward mental illnesses is the key factor to determine the quality of caring of mental patients. It is concluded the family plays the main role in the patient's treatment process. Since no similar study was found in Iran in the search of the databases, this study aimed to examine the effect of group psychoeducational programme on attitudes toward mental illness in families of patients with schizophrenia.We hope that the results can be helpful to introduce the best way to improve attitude toward mental patients in the family.

Materials and methods

This study was a quasi-experimental study with a control group. The study population includes the families of the patients with schizophrenia disorder that their patients were admitted to the psychiatric wards of Razi hospital in the time of sampling. The study sample size was calculated using the results of the study conducted by Shahveysi et al.[21]

Accordingly, with a type I error probability of 0.05 and a power of 0.80, the sample size was determined to be 68 families.

Due to the possibility of sample loss in clinical studies, the number of participants in each group increased to 37 and finally, a total of 74 families were recruited for sample size.

Following approval by the ethics committee of the research deputy of Tabriz University of Medical Sciences, convenience sampling was performed for recruiting the families in the study. The families were selected based on the inclusion criteria that were: (a) willingness to participate in the study by signing a written informed consent; (b); literacy; (c) main caregiver(a person who have main responsible for patient care like as a parent, spouse, or child); and (d)having no psychiatric problems. The inclusion criteria for patients were: (a) being diagnosed as a schizophrenia disorder based on diagnostic interview and SCID-I/CV test results (b) having no comorbidity disorders and (c) having no mental retardation. For the random allocation, each participant assigned to experimental or control group randomly. This means that an identifier was given to each participant and then participants were assigned to experimental or control group randomly. The allocation sequence was prepared by a person not involved in the study. Therefore, the data collector was unaware of the type of groups (experimental or control).

In addition, the below activities were done for ethical considerations: (a) describing the objectives, (b) obtaining informed consent and (c) ensuring confidentiality of information. Furthermore, the participants of the control group were informed that if they were interested, the researcher would hold training sessions for them after conducting post-test for both groups.

Data were collected through a two parts questionnaire; first part was about personal-social information (age, sex, marital status, education, job and type of relationship with the patient) and second part included Opinions about mental illness scale (OMI) that was developed by Cohen and Struening.[22] OMI is a five-point Likert scale (1 = strongly agree to 5 = strongly disagree).This scale measures beliefs and attitudes towards the etiology, treatment, and prognosis of mental illness. It is a self-report scale and based on six dimensions comprising 34 items.

The dimensions include: a) separation (10 items), b) stereotyping (4 items), c) restrictiveness (4 items), (d) benevolence (8 items), e) pessimistic prediction (4 items) and (f) stigmatization (4 items). OMI ranges from

34 to 170. Acquiring the score higher than the average (more than102) is considered as a positive attitude. Opinions about mental illness scale was selected for this study because of the satisfactory psychometric properties of the scale and broad using in many studies.[22-26] For face and content validity, the instrument was presented to 10 faculty members of Nursing and Midwifery Department at Tabriz University of Medical Sciences. The final questionnaire was developed after collecting comments and making the required corrections. The reliability of the scale was determined by Cronbach's alpha coefficient (α= 0.71) after pilot study. Reliability of OMI scale in the other studies was approved.[27-29]

The pre-test was done for all participants, then the group psychoeducational programme was conducted in eight continuous 90-minute three times a week sessions in the afternoon for experimental group. Lecture, group discussion and question and answer methods were used to manage sessions. All participants of the experimental group were taught in a class together. At the beginning of each session, the researcher explained the topic selected for that session for 15 minutes.

Then participants were asked to discuss about their experience in 20 minutes. The researcher taught the families about the selected topic in 40 minutes. In the remaining 15 minutes, a conclusion form the discussion was made by the participants. The topics specified for each session included: a) the nature of the mental illness, b) prognosis, c) progression of disease, d) treatment modalities, e) how to manage patients' inappropriate behaviors, f) how to manage anger, g) how to de-stigmatization of patients with mental disorders and h) how to empower patients to improve their performance. During the study, two participants in the control group and two participants in the experimental group were unwilling to continue; therefore, final analysis was based on 70 participants (Figure 1).

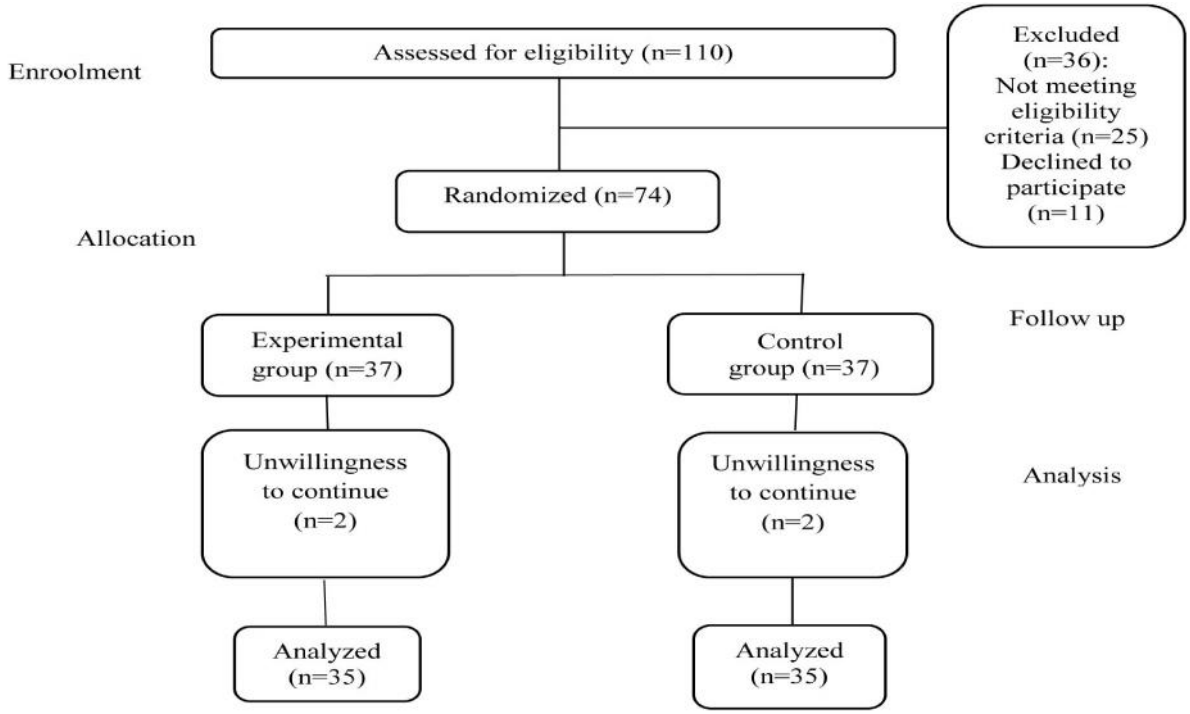

Figure 1. Consort flow chart of participants

Data was analyzed by using SPSS statistical software ver. 13. The normality of data was confirmed by using Kolmogorov-Smirnov statistical test. The distributions of all demographic variables, total OMI score and all its dimensions were normal. Chi square test was used for qualitative variables.

Independent-samples t-test was used for comparison of the scores of normal variables between two groups before and after the intervention. In addition, paired- samples t-test was used for comparison of total OMI score and all its dimensions before and after the intervention within each group.

Results

The mean age (SD) of all families in the experimental group and the control group was 35.56 (9.04) years and 34.27 (9.52) years respectively. The age of all participants ranged from 29 to 55 years. Most of the participants (30.64%) were male. The majority of them (60.48 %) were employed, their highest level of education (70.35%) were diploma and type of relationship with patient was parent (37.54%).There were no statistical differences between two groups before intervention in age, education and job variables (P> 0.05).

As seen in table 1, most of families in experimental group and control group had negative attitude toward mental illness before intervention (71.43% and 74.30, respectively). But in comparison with control group, most of families in experimental group had positive attitude toward mental illness after intervention (80.00% and 28.57%, respectively).

The mean score of pre-test for all participants was 88.90 (8.34) in both groups. The score of OMI scale ranged from 75.90 and 107.09 in pre-test.

As shown in table 2, there was no significant difference among the groups' OMI score before intervention 90.08 (9.69) vs. 87.72 (8.90), P > 0.05 and no statistical differences between two groups in subscales of OMI before intervention (P> 0.05). But, in comparison with the control group, total mean score of post-test was significantly higher in experimental group 88.86 (7.50), vs. 108.86 (14.19), P<0.05. Changes of OMI subscales mean score between the two groups also statistically significant.

Discussion

This study aimed to investigate the effect of the group psychoeducation on the attitude toward mental illness in families of the patients with schizophrenia. The results of this research showed that the most families had negative attitude towards mental illness.

This result is consistent with other results of the researches conducted by Shahveysi et al. Namdar et al. Shibreh et al. and Ostman et al. [21, 30-32] They claimed that families of the psychiatric patients feel ashamed of their psychiatric patient.

Table 1. Frequency distribution of attitude toward mental illness in the experimental and control groups (n= 70)

	Experimental group N (%)	Control group N (%)	Statistical indicators*
Pre-test			
Negative attitude	25 (71.43)	26 (74.30)	P>0.05
Positive attitude	10 (28.57)	9 (25.72)	P>0.05
Post-test			
Negative attitude	7 (20.00)	25 (71.42)	P<0.05
Positive attitude	28 (80.00)	10 (28.57)	P<0.05

*Chi square

Table 2. Comparing mean scores OMI dimensions before and after intervention in experimental and control groups (n= 70)

Openions about mental disorders scale dimensions scores	Experimental group (n = 35) Mean (SD)	Control group (n = 35) Mean (SD)	Mean changes (95% CI)	Statistical Indicators*
Separation (10-50)				
Pre	24.64 (2.92)	24.16 (4.49)	0.48 (-2.28,1.32)	P>0.05
post	28.86 (3.45)	24.96 (2.71)	3.90 (2.90, 5.40)	P<0.05
dependent t-test result	P<0.05 ,df=34, t=3.02	P>0.05, df=34, t=0.73		
Stereotyping (4-16)				
pre	8.93 (1.21)	)1.09 (8.87	0.06 (-1.09, 1.47)	P>0.05
post	11.45 (2.91)	8.95 (1.64)	2.50 (1.47, 3.12)	P<0.05
dependent t-test result	P<0.05 ,df=34, t=3.64	P>0.05, df=34, t=0.63		
Restrictiveness (4-16)				
pre	8.84 (2.33)	8.87 (2.09)	0.02 (-1.03, 1.08)	P>0.05
post	10.79 (2.41)	9.02 (2.16)	1.77 (0.67, 2.87)	P<0.05
dependent t-test results	P<0.05 ,df=34, t=3.65	P>0.05, df=34, t=0.65		
Benovalence (8-32)				
Pre	20.92 (3.78)	19.23 (2.88)	1.69 (-0.08, 2.29)	P>0.05
post	24.49 (3.54)	19.62 (3.05)	4.87 (3.28, 5.44)	P<0.05
dependent t-test results	P<0.05, df=34, t=3.11	P>0.05, df=34, t=0.53		
Pessimistic prediction (4-16)				
pre	8.58 (2.38)	8.67 (2.14)	0.09 (-1.03, 1.17)	P>0.05
post	10.63 (2.16)	8.77 (2.20)	1.86 (1.02, 2.10)	P<0.05
dependent t-test result	P<0.05, df=34, t=3.91	P>0.05, df=34, t=0.21		
Stigmatization (4-16)				
pre	8.23 (2.31)	9.19 (2.59)	-0.95 (-1.21, 1.73)	P>0.05
post	11.62 (3.23)	7.10 (1.99)	4.51 (3.23, 5.79)	P<0.05
dependent t-test result	P<0.05, df=34, t=3.30	P>0.05, df=34, t=0.77		
Total score (34-170)				
pre	90.08 (9.69)	87.72 (8.90)	2.35 (-6.32, 1.61)	P>0.05
post	108.86 (14.19)	88.86 (7.50)	17.46 (15.48, 20.49)	P<0.05
dependent t-test result	P<0.05, df=34, t=2.65	P>0.05, df=34, t=1.17		

* Independent t- test

Fontaine believes that caring of patients with schizophrenia in home imposed on families a lot of stress. The families often have little knowledge about the nature of mental illness and receive little information from mental health professionals about how manage their patient's behavior. Mental illness also has negative impact on families' physical and mental health. Therefore, the family and caregivers should be informed about mental illness and receive more support from medical staff to cope with their situation.[33]

The results also showed that the mean scores of the separation, stereotyping and restrictiveness dimensions were lower in the pre-test of both groups. It can be concluded that, the families tended to neglect their patients and apply limited measures against

them. These results are consistent with the results of Shahveysi et al., and Millasa et al., studies.[21,34] Furthermore, the results showed that the mean score of OMI in post-test have been increased. This means that family psychoeducational intervention has been effective on improving family attitude toward mental illness. These results are consistent with the results of some studies.[35,36] The results of these studies showed that psychoeducational family programs designed to improve attitude toward mental illness have been successful. Furthermore, these programs had effectiveness on medication compliance, positive coping with stressors and reducing the risk of relapse in the first year following hospital discharge. Desousa et al. in their study concluded that family psychoeducation is an integral part of schizophrenia treatment programs. Recent shifts to briefer hospitalization and a focus on community care have emphasized the significance of relative education in this phase of treatment.[37]

A review conducted by Barbato and coworkers to update evidence from studies on family intervention in schizophrenia looking carefully at methodological issues. They concluded that the efficacy of a variety of different family intervention models was supported by a large body of research.[12]

Limitations of this study included: (a) one type of the mental disorders was studied, (b) No follow-up was done after completion intervention and (c) low follow rate due to excluding four participants from the study.

Future work needs to address improving delivery of existing psychosocial interventions and identifying the amount of treatment (e.g., number of sessions) needed before treatment response is expected. In addition, we suggest that further studies investigate the effects of family psychoeducational program on the other outcomes like as relapse rate, patient functioning and medication adherence after hospital discharge.

Conclusion

Family psychoeducation is an effective psychosocial treatment for schizophrenia. As the results of this study showed that attitude toward mental illness improved with the use of family psychoeducation intervention. Thus, family psychoeducation is an important part of comprehensive care for patients with schizophrenia and is applicable in clinical settings. The application of group psychoeducation is recommended as a supportive intervention for improving families' attitude toward mental illness.

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Ethical issues

None to be declared.

Conflict of interest

The authors declare no conflict of interest in this study.

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