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Original Article

Comparing the effect of in our own voice-family with psychoeducation on stigma in families of schizophrenia patients

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ABSTRACT

Background & Aim: Families of patients with schizophrenia face with stigma as the most challenging psychosocial pressure; due to its negative consequences on mental health of family and important role of family in a treatment of these patients, it is considered as important mental health issues. Comparing the effect of in our own voice-family with psychoeducation on stigma in the families of patients with schizophrenia.

Methods & Materials: A total of 90 caregivers of patients with schizophrenia who hospitalized in Ibne-Sina Hospital of Mashhad have been selected randomly, and they have been placed in three groups of in our own voice-family (in accordance with the National Union of standard list of psychiatric diseases), psycho education (according to Falloon et al. educational model) in two sessions of 4 hours, and control (without intervention). Data have been obtained by The Modified Version of the Internalized Stigma of Mental Illness scale (immediately before intervention and 1 month after intervention). Data were analyzed by SPSS software and ANOVA and t-test.

Results: An average score of stigma reduced significantly in our own voice-family in comparison with psychoeducation group ($P < 0.001$). However, the results were different in various subscales of stigma. So that, there was no significant difference between in our own voice-family group and psychoeducation in terms of average crossovers of alienation subscale and stereotype endorsement after intervention ($P > 0.050$). However, in our own voice-family group indicated significant reduction in comparison with psychoeducation in terms of subscales changes of discrimination experience and social withdrawal after intervention ($P < 0.050$).

Conclusion: According to the effects of in our own voice-family on reducing stigma in individual and social aspects, it is recommended to psychiatric nurses and nurses who work in psychiatric parts to use this method to reduce stigma among families with the psychiatric patients.

Introduction

Schizophrenia is one of the most serious and weakening psychiatric disorders (1); because of disorders in vast functional areas (occupational, educational, marital and self-care), it has a significant individual, social and economic pressure (2). In addition to the patient, it imposes many medical and non-medical costs to the family and society (3). According to the National Institute of Health, the prevalence rate of schizophrenia is between 0.6% and 1.9%; it also has been raised in all races and no cultural and social group would be safe (4). After the movement of deinstitutionalization due to the lack of financial resources and facilities in 1950, the burden of caring patients with schizophrenia was increasingly taken to their families (5). Although it decreased many medical costs (6), it had many negative consequences for their

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families. So that, they experience significant stress, depression and anxiety due to a lack of financial, emotional, and personal resources to create a balance between work, home, and caring off, so they ignored their physical and mental health (7).

This tension and psychological pressure of home caregivers of patients with schizophrenia are common in Iran and worldwide; if it became quitted without any intervention or treatment, it may lead to decrease the quality of care and disrupt the relationship with patient, as well as it decreases the health of caregivers as hidden patients (7, 8).

Stigma associated with mental illnesses is one of the most common and challenging mentioned mental pressures among family members and caregivers of patients with schizophrenia in developed and developing countries (7). In several studies, stigma has been raised as the most important obstacle for searching and continuation of the treatment and rehabilitation processes (9, 10); as well as it is considered as a global phenomenon and source of stress for home caregivers (7).

For the first time, the word stigma was used by Erving Goffman in 1963. He named Stigma as one of the "deeply discrediting" features that lead to trample the social identity of the person with stigma (11). Furthermore, a diagnosis of mental illness was always associated with stigma (from medieval times to the present day) (12), and stigma has the most condition for stigmatization among mental illnesses (13). Stigma would be transmitted to the family of patient with schizophrenia by association and it was called "courtesy or associative stigma" by Goffman (11).

Family's emotional consequences of general stigma include disregard, disrespect, and discrimination in the society. In such situation, families avoid social interactions and try to conceal the secret of their relationship with patient. They may move to other areas and finally it leads to family isolation and losing social support (14). So that, the researches of Ahmadi et al. (15) indicated that stigma associated with mental illnesses leads to a drop in social status and religious indicators among caregivers of patients with schizophrenia.

The most traumatic consequences of stigma occur when family members accept the stigma of the society and operate it on themselves; i.e., to develop self-stigma with consequences of low self-esteem, feeling guilty, self-reproachful, and physical complaints such as sleep disorders and chronic fatigue (16).

In fact, family stigma occurs because of some unusual degrees in family and these unusual degrees may be different in various communities and cultures (14). So that, deviation from norms in individualist cultures (America, Germany and Australia) is more easily tolerated than collectivist cultures (Asia, Africa and Arab) due to cultural diversity and freedom illegitimate (17). On the other hand, although Asian cultures are different, the most of Asian individuals have common values in accordance with norms such as emotional self-control, collectivism, recognition of family in achievements, and filial piety (18).

In Iran, with collectivist culture, family members are concerned about the negative impacts of others' point of view about their family more than negative effects of mental disorder on themselves. So that, the more self-evaluation focused on negative aspects such as worthlessness and incompetence and experiencing this state as self-criticism, most likely leads to emotional problems because of patient (19).

Hence, it is considered as a fundamental and important issue due to negative consequences of stigma on family mental health and the importance of family in taking care and continuing treatment of patients with schizophrenia; that is, related to the entire field of mental health (20). Nurses, as the best person to help home caregivers in critical conditions, can support them by some decisions and planning for health and educational programs (7), as well as they can use emotional sensitive methods to understand caregivers experience and relieve their stigma due to significant effect of cultural conditions (14).

In this regard, in our voice has been designed as an anti-stigma program by National Alliance of Mental Illnesses in 1996. This program includes a standard presentation, so consumers of mental health services (patients or their families) share their experiences in compliance with stigma in five levels of emotional responses (dark days, acceptance, treatment, coping skills, successes, and hope) in two parts include video shows and group discussions; so they help to each other for better understanding of mental illness and its acceptance (21, 22). So that, the studies of Corrigan et al. (23) indicated that in our own voice method during 90 and 30 minutes in comparison with training have led to change

stigma and it made more positive thinking toward mental illnesses for students. However, the studies of Pinto-Foltz et al. (24) showed that in our own voice method had no effect on stigma of psychiatric patients in students of secondary schools.

On the other hand, the importance of psychoeducation in recuing stigma has been referred in different studies (7, 25). Since wrong interpretations are considered as the main reason for family stigma and psychiatric patient stigma (25, 26). Indeed psychoeducation can change stigma ideas by providing real information about features and treatment of psychiatric patients (27).

Psychoeducation is an intervention that would be utilized to promote awareness and change the attitudes of families toward the nature of illness, its method of treatment, and increasing communicational and problem solving skills, as well as it has different models include educational model of Falloon et al. (1985) that aimed to group training for families of patients with schizophrenia in two sessions of 2 or 3 hours and it has been designed standard (27, 28). So that in the studies of Uchino et al. (29), psychoeducation led to decrease stigma in patients with schizophrenia and schizoaffective, also the studies of Lotfi Kashani et al. in Iran (30) led to compliance with schizophrenia in parents of patients.

On the other hand, despite the importance of education in reducing stigma, studies indicate that medical staff that includes psychiatrists are an important source for stigma; because even our academic educations made no change in attitudes (31). While studies show that in addition to developing knowledge, In Our Own Voice-family can change attitudes by describing the effects of both biological and environmental factors from peers in a self-narrative way; because according to the narrative paradigm of Walter Fisher, narrative stories have the ability to challenge and change current views, because it helps listener to reach human experience (22, 32). So that according to the studies of Perlick et al. (33), in our own voice-family indicated significant reduction in stigma of schizophrenic patients' families in comparison with the educational program designed by the researcher, and the study of Rusch et al. (34) led to decrease the stigma of mood disorders among psychology students.

Carried out interventions in Iran were limited despite the importance of stigma in families with chronic mental patients, especially schizophrenic disorders and its negative effect on care and treatment of patients, and on the other hand because it is dependent to the culture and community. Hence, due to the important educational and consulting role of nurses and psychiatric nurses in problems of patients and their families, the researcher tried to compare the effect of in our own voice-family with psychoeducation on stigma in schizophrenic patients' families.

Methods

It was a three groups randomized clinical trial with pre- and post-test in the late winter of 2014. It has been carried out on families of hospitalized schizophrenic patients of Ibne-Sina Psychiatric Hospital. A sample size was estimated 28 individuals for each group based on a preliminary study and by formula of "average comparison and standard deviation of both populations" through calculating average and standard deviation of stigma total score in intervention group (37.7 ± 5.8) and control group (42.5 ± 3.8) with 95% of confidence coefficient has been calculated. The sample size was estimated 32 subjects in each group (64 subjects in total) by considering 15% of dropping in sample size. Then, it randomly has been divided into three groups of in our own voice-family, Psychoeducation, and Control group by table of random numbers. At the end of the study two individuals of control group refused to take part in post-test, two individuals of in our own voice-family group were absent in one of the sessions and one individual from psychoeducation group was absent in post-test, and there was one absent in sessions, so the final sample size after dropping was 90 individuals. The inclusion criteria for the present research included two parts related to the patient and family. Inclusion criteria for the family were being family members of the patient (preferably primary caregiver), passing secondary school as minimum educational experience, being resident of Mashhad and Iran, being more than 18 years old, lack of physical, hearing and vision defects, having no known mental disorders, having social phobia score < 50 (Social Phobia Inventory of Connor), having no educational experience in medical sciences. Inclusion criteria for the patient

were confirming schizophrenia by psychiatric, passing at least 6 months after diagnosis, lack of physical chronic diseases, cognitive disorders, and being addicted at the same time, having no mental illnesses as the result of being war veterans and sacred defense, having at least one experience of hospitalization in psychiatry ward. Study exclusion criteria included being absent in one of the educational sessions, discharging patient from hospital before completing training course, having experienced a major stress such as death of family members or divorce after completing educational process until post-test (for the main caregiver), taking part in other training programs (in the context of schizophrenia) during the research.

To obtain data, research course selection form, demographic data questionnaire (patient and family), and Modified Version of the Internalized Stigma of Mental Illness Scale of Ritcher et al. (2003). This scale is a standard self-report scale with 17 items and has 4 subscale include 4 items alienation subscale, 4 item stereotype endorsement subscale, 4 item discrimination experience subscale, and 5 item social withdrawal subscale and each item would be graded based four-degree Likert scale (1 = Completely disagree, 2 = Disagree, 3 = Agree, and 4 = Completely agree). The minimum score is 17 and the maximum score is 68, as well as the higher score we would have, the more sever stigma would be obtained (35, 36).

The validity of translating the Ritcher et al. (2003) Internalized Stigma of Mental Illness scale has been confirmed by a psychologist and a psychiatrist in Iran in the context of English language in the research of Ghanean et al. (37); it also has been confirmed by 7 predominant professors of Medical Sciences University of Mashhad. Stigma scale reliability of the present research was calculated by method of internal consistency and Cronbach's alpha coefficient obtained 0.86 in total stigma variable.

Interventions have been applied in different days to prevent data transition among three studying group. A simple non-random sampling was used to select from families of psychiatric patients who were hospitalized in Ibne-Sina Psychiatry Hospital of Mashhad. It means that patient records have been investigated primarily due to inclusion criteria. Then, families and the main caregivers had been called in the event that they were qualified, and they have been invited to participate in this study after written consent. Sampling was carried out in two stages (45 subjects in each stage) of 1 month time interval.

Before applying interventions in the group of in our own voice-family, one of the main caregivers of hospitalized schizophrenic patients in Ibne-Sina Hospital of Mashhad with acceptable communicational skills has been invited to provide a video film after his or her written consent. Filming process was carried out in Ibne-Sina Psychiatry Hospital by audio-visual responsible and in the presence of investigator. This video was utilized in sessions of in our own voice-family. It has been supplied in five sequences of five levels of in our own voice-family program (each level during 5 minutes) include (1) Dark days (difficult and unbearable moments of living with psychiatric patient), (2) acceptance (confirming mental illness and living with the patient), (3) treatment (applying therapeutic interventions), (4) coping skills (applying emotional and behavioral techniques toward patient), and (5) successes (hopes and dreams). After film preparing, in our own voice-family was implemented in groups of 15 and in during two sessions of 4 hours every other day (three primary levels in the first session and two final levels in the second session). It means that in each session and after playing each sequence, participants were asked to say their opinion about played sequence and mention their similar experience. The researcher facilitated the discussion and a person with Ph.D. of clinical psychology observed sessions.

It was implemented for the group of psychoeducation according to educational model of Falloon et al. (1985) which is specified for families of psychiatric patients (27), and they have been divided into groups of 15 for two sessions of 4 hours every other day (different days from in our own voice-family group). Contents of the first meeting were matched with the first sessions titles of this model such as schizophrenia expression, symptoms, illness process, etiology, prognosis, warning signs of relapse, patient's interaction with family members, available mental health services, having realistic expectations from patient, offering practical advices to reduce expressed emotion in family, and the importance of social-mental support in improving mental illness (27). Before intervention, the contents of the second session has been provided as power point and was implemented by investigator as group discussion and

question and answer, it also is matched with titles of the second sessions as brief summary of drug treatment that includes drugs, their mechanism of action, duration and the amount of consumption, the reasons for drug consumption to prevent relapse, mild and severe side effects of drugs and coping strategies, and also about using street drugs and materials that may influence on the intensity of schizophrenia or other mental disorders (27). Before presenting each topic, participants' opinion were asked in the form of question and answer, then a Power Point has been presented, afterward a group discussion was directed with participants. Control group received no intervention. Data collection was carried out in two steps immediately before intervention and 1 month after intervention at the same time in three groups and during 3 days. To consider moral considerations, 2 months after finishing the research, two sessions of psychoeducation were held for control group.

In all stages of research, all approved moral codes of research Deputy of Medical Sciences University that are related to the present research such as obtaining written consent from Ethics Committee of University, obtaining written introduction letter from Faculty of Nursing and Midwifery and offering to the head of Ibne-Sina Psychiatric Hospital, obtaining written informed consent from participants of the study, encoding questionnaires to keep the secrets of participants and assure them to leave the study in the case of reluctance to continue study.

Data have been analyzed by SPSS software, (version 11.5; SPSS Inc., Chicago, IL, USA). To studying natural distribution of quantitative data, Kolmogorov–Smirnov, and Shapiro–Wilk test was used. To evaluate homogeneity of variables, chi-square, Fisher exact, ANOVA, Kruskal–Wallis tests have been utilized. To compare variable between groups, ANOVA test was utilized, and t-test was used for intergroup comparison. In implemented tests, a level of confidence was estimated 95% and the level of significance was $\alpha = 0.05$.

Results

According to table 1, in comparison among three groups, there was no statistically significant difference in demographic information of the main caregiver and the patient ($P > 0.050$) and three groups were homogenous. In our own voice, female sex (76.7%) (23), secondary school education (43.3%) (13), and mother of the patient (33.3%) (10) had the most demographic information frequency of the main caregiver and their average age was 49.7 ± 11.2 and the most demographic information frequency of the patient is related to the male sex (73.3%) (22), bachelor (43.3%) (13), and under diploma education (60.0%) (18) and their average age was 36.9 ± 9.7 and duration of disease was 12.1 ± 9.4 and pervious frequency of hospitalizations was 8.1 ± 8.3.

In the group of psychoeducation, the most demographic information frequency was related to the female sex (66.7%) (20), secondary school education (46.7) (20), mother of the patient (36.7%) (11), and their average age was 48.8 ± 13.1. The most demographic information frequency was related to the male sex (93.3%) (28) and bachelor (60.0%) (18) and under diploma education (53.3%) (16) and their average age was 34.6 ± 7.8, duration of disease was 9.3 ± 6.1 and the previous frequency of hospitalization was 7.0 ± 8.3.

In control group, the most demographic information frequency of the main caregivers was related to the female sex (76.7%) (23), secondary school education (63.3%) (19) and mother (33.3%) (10) and the average of their age was 47.1 ± 12.6, as well as the most demographic information frequency of the male sex was (83.3%) (25), bachelor (73.3%) (22) and under diploma education (66.7%) (20), and the average of their age was 36.7 ± 8.7, duration of disease was 10.2 ± 6.1 and pervious frequency of hospitalization was 9.3 ± 9.1.

According to table 2, the results of ANOVA indicated that there is significant difference among in our own voice-family (2.1 ± 1.7), psychoeducation (2.4 ± 2.9), and control group in terms of mean changes alienation subscale of stigma before and month after intervention ($P < 0.001$). On the other hand, the results of Tukey *post-hoc* test showed that there is no significant difference between in our own voice-family (2.1 ± 1.7), psychoeducation group (2.4 ± 2.9) in studying mean changes of alienation subscale of stigma before and 1 month after interventions ($P = 0.860$). However, there was significant difference between in our own voice-family (2.1 ± 1.7) and control group (0.1 ± 1.9) ($P = 0.004$), also there was significant difference between psychoeducation (2.4 ± 2.9) and control group (0.1 ± 1.9) ($P = 0.001$).

Table 1. Demographic characteristics of families with hospitalized schizophrenic patients in psychiatric hospital of Ibne-Sina, Mashhad, divided into three groups of intervention and control

Characteristics	In our own voice-family	Psychoeducation	Control	Test Result
Characteristics of the main caregiver				
Gender				
Female	23 (76.7)	20 (66.7)	23 (76.7)	Chi-square:
Male	7 (23.3)	10 (33.3)	7 (23.3)	df = 2
				P = 0.600
Education level				
Secondary school	13 (43.3)	14 (46.7)	19 (63.3)	Chi-square:
Diploma	9 (30.0)	12 (40.0)	5 (16.7)	df = 4
Academic education	8 (26.7)	4 (13.3)	6 (20.0)	P = 0.240
Family relation				
Mother	10 (33.3)	11 (36.7)	10 (33.3)	Fishers exact test:
Father	5 (16.7)	9 (30.0)	3 (10.0)	P = 0.390
Spouse	4 (13.3)	4 (13.3)	5 (16.7)	
Sister	6 (20.0)	4 (13.3)	5 (16.7)	
Brother	4 (13.3)	0 (0.0)	1 (3.3)	
Offspring	1 (3.3)	1 (3.3)	4 (13.3)	
Other relationships	0 (0.0)	1 (3.3)	2 (6.7)	
Age				
Mean ± standard deviation	49.7 ± 11.2	48.8 ± 13.1	47.1 ± 12.6	df = 2
				*F = 0.34
				P = 0.710
Characteristics of patient				
Gender				
Male	22 (73.3)	28 (93.3)	25 (83.3)	Chi-square:
Female	8 (26.7)	2 (6.7)	5 (16.7)	df = 2
				P = 0.110
Education level				
Under diploma	18 (60.0)	16 (53.3)	20 (66.7)	Fishers exact test:
Diploma	8 (26.7)	6 (20.0)	9 (30.0)	P = 0.150
Academic education	4 (13.3)	8 (26.7)	1 (3.3)	
Marital status				
Single	13 (43.3)	18 (60.0)	22 (73.3)	Chi-square:
Married	7 (23.3)	6 (20.0)	6 (20.0)	df = 4
Divorced	10 (33.3)	6 (20.0)	2 (6.7)	P = 0.100
Age				
Mean ± Standard deviation	39.6 ± 9.7	34.6 ± 7.8	36.7 ± 8.7	df = 2
				*F = 2.4
				P = 0.100
Duration of disease	12.1 ± 9.4	9.3 ± 6.1	10.2 ± 6.1	df = 2
				*F = 1.12
				P = 0.330
Pervious frequency of hospitalization	8.1 ± 8.3	7.0 ± 8.3	9.3 ± 9.1	**df = 2
				Chi-square = 1.69
				P = 0.430

*ANOVA test, **Kruskal–Wallis test

In comparison between groups, the results of ANOVA indicated that there was significant difference among In Our Own Voice-family (1.6 ± 2.1), psychoeducation (1.2 ± 2.9) and control group (-0.6 ± 1.8) in terms of mean changes of stereotype endorsement subscale before and 1 month after interventions (P = 0.001). The results of Tukey *post-hoc* test demonstrated that there was no significant difference between psychoeducation (1.2 ± 2.9) and in our own voice-family (1.6 ± 2.1) in terms of studying mean changes of stereotype endorsement subscale before and 1 month after intervention (P = 0.780). However, there was significant difference between psychoeducation (1.2 ± 2.9) and control group (−0.6 ± 1.8), also there was significant difference between in our own voice-family (1.6 ± 2.1) and control group (−0.6 ± 1.8) (P < 0.001) (Table 2).

Table 2. Comparison of stigma and its subscales among families of schizophrenic patients in three groups of intervention and control

Scale	Before interventions	1 month after intervention	Differences in assessment	P value (paired t-test)
	Mean ± standard deviation	Mean ± standard deviation	Mean ± standard deviation	
Alienation				
In our own voice-family	9.5 ± 2.8	7.4 ± 2.2	2.1 ± 1.7	t = 6.50 df = 29 P < 0.001
Psychoeducation	11.0 ± 2.8	8.6 ± 2.0	2.4 ± 2.9	t = 4.46 df = 29 P < 0.001
Control	10.0 ± 3.3	9.9 ± 3.1	0.1 ± 1.9	t = 0.38 df = 29 P = 0.710
P value (one-way ANOVA)	df = 2, F = 1.88, P = 0.160	df = 2, F = 7.16, P = 0.001	df = 2, F = 8.71, P < 0.001	
Stereotype endorsement				
In Our Own Voice-family	10.0 ± 2.5	8.4 ± 2.5	1.6 ± 2.1	t = 4.31 df = 29 P < 0.001
Psychoeducation	11.1 ± 2.4	9.8 ± 2.5	1.2 ± 2.9	t = 2.35 df = 29 P = 0.030
Control	10.2 ± 2.3	10.8 ± 3.0	−0.6 ± 1.8	t = 1.69 df = 29 P = 0.100
P value (one-way ANOVA)	df =2, F = 9.43, P = 0.200	df = 2, F = 6.26, P = 0.003	df = 2, F = 7.76, P < 0.001	
Discrimination experience				
in our own voice-family	10.2 ± 2.6	6.8 ± 2.7	3.4 ± 2.2	t = 8.42 df = 29 P < 0.001
Psychoeducation	10.0 ± 3.0	9.9 ± 2.1	0.03 ± 2.50	t = 0.07 df = 29 P = 0.940
Control	10.8 ± 2.7	10.2 ± 3.0	0.6 ± 2.0	t = 1.62 df = 29 P = 0.120
P value (one-way ANOVA)	df = 2, F = 0.81, P = 0.450	df = 2, F = 15.37, P < 0.001	df = 2, F = 18.91, P < 0.001	
Social withdrawal				
In Our Own Voice-family	12.8 ± 3.8	7.8 ± 2.5	5.0 ± 3.0	t = 9.10 df = 29 P < 0.001
Psychoeducation	12.3 ± 3.2	11.0 ± 3.3	1.3 ± 2.9	t = 2.50 df = 29 P = 0.020
Control	12.7 ± 3.3	12.6 ± 3.4	0.2 ± 2.5	T=0.37 df=29 P = 0.720
P value (one-way ANOVA)	df = 2, F = 0.15, P = 0.860	df = 2, F = 18.78, P < 0.001	df = 2, F = 23.85, P < 0.001	
Stigma				
In Our Own Voice-family	42.7 ± 8.9	30.4 ± 6.2	12.3 ± 5.8	t = 11.49 df = 29 P < 0.001
Psychoeducation	44.3 ± 9.2	39.4 ± 8.3	5.0 ± 8.1	t = 3.34 df = 29 P < 0.002
Control	43.8 ± 9.7	43.5 ± 11.2	0.3 ± 5.8	t = 0.32 df = 29 P = 0.750
P value (one-way ANOVA)	df = 2, F = 0.26, P = 0.770	df = 2, F = 17.29, P < 0.001	df = 2, F = 24.34, P < 0.001	

The results of ANOVA in comparison between groups indicated that there was significant difference among three groups of in our own voice-family (3.4 ± 2.2), psychoeducation (0.03 ± 2.50) and control (0.6 ± 2.0) in discrimination experience subscale before and 1 month after intervention (P = 0.001). the results of Tukey *post-hoc* test indicated that there was significant difference between psychoeducation (0.03 ± 2.50) and in our own voice-family group (3.4 ± 2.2), and also between in our own voice-family (3.4 ± 2.2) and control group (0.6 ± 2.0) in studying mean changes of discrimination experience subscale before and 1 month after intervention (P = 0.001). However, there was no significant difference between psychoeducation (0.03 ± 2.50) and control group (0.6 ± 2.0) (P = 0.590) (Table 2).

In comparison between groups, the results of ANOVA showed that there was a significant difference among in our own voice-family (5.0 ± 3.0), psychoeducation (1.3 ± 2.9), and control group (0.2 ± 2.5) in social withdrawal subscale before and 1 month after intervention (P = 0.001). The results of Tukey *post-hoc* test indicated that there was a significant difference between psychoeducation (1.3 ± 2.9) and in our own voice-family group (5.0 ± 3.0) in studying mean changes of social withdrawal subscale before and 1 month after intervention (P < 0.001). Furthermore, there was significant difference between in our own voice-family (5.0 ± 3.0) and control group (0.2 ± 2.5) (P < 0.001). However, there was no significant difference between psychoeducation (1.3 ± 2.9) and control group (0.2 ± 2.5) (P = 0.250) (Table 2).

In comparison between groups, the results of ANOVA indicated that there was significant difference among in our own voice-family (12.3 ± 5.8), psychoeducation (5.0 ± 8.1), and control group (0.3 ± 5.8) in terms of mean changes of stigma total score before and 1 month after intervention (P = 0.001). The results of Tukey *post-hoc* test indicated that there was a significant difference between psychoeducation (5.0 ± 8.1) and in our own voice-family group (12.3 ± 5.8) in studying mean changes of stigma total scores before and 1 month after intervention (P < 0.001). As well as, there was significant difference between in our own voice-family (12.3 ± 5.8) and control group (0.3 ± 5.8) (P < 0.001), also there was a significant difference between psychoeducation (5.0 ± 8.1) and control group (0.3 ± 5.8) (P = 0.020) (Table 2).

Discussion

The purpose of this research was to compare the effects of in our own voice-family and psychoeducation on stigma of families with hospitalized schizophrenic patients of Ibne-Sina Psychiatry Hospital of Mashhad. According to the present research, there was statistically significant difference between in our own voice-family and psychoeducation groups in mean changes of stigma total score before and 1 month after intervention. In other word, in our own voice-family led to reduce stigma in families of schizophrenic patients in comparison with psychoeducation group and they are consistent with the results of Perlick et al. research (33) based on high effects of in our own voice-family on stigma reduction in comparison with training in families of schizophrenic patients . Moreover, the results of Rusch et al. (34) in the US were based on high effects of in our own voice-family on stigma reduction in comparison with psychoeducation in psychology students; as well as, the results of Corrigan et al. (23) was based on high effect of 30 and 90 minutes sessions of in our own voice-family on reducing stigma attitudes, it also confirms the results of the present research.

Relationship is an adjustment mechanism and allows family members to share their emotions and thoughts with each other. However, general stigma acts as an obstacle for communicating with the external environment. Because families hide mental illness of their family member from others due to the fear of negative reaction in the society and losing social support is one the negative consequences of such reaction. While, obtaining social support such as positive and essential problematic adjustment mechanisms are necessary for families of psychological patients, they can share information with other individuals (e.g., friends, relatives, even healthcare system) and receive emotional support and regard (38). Indeed, in our own voice-family stimulates participant family members to self-exposure (it leads to better, more friendly, and satisfying communication) by self-narration and playing a video film of an Iranian individual with similar problem (39), it make them to communicate with other families and

share their emotions and feelings with each other without any concern. To the extent that, they understand each other as the members of a group.

The results of Pinto-Foltz et al. (24) research were based on the fact that in our own voice-family does not reduce stigma in frequent follow-ups but it improves mental health literacy; (despite post-test of the present research was carried out 1 month later) it was not consistent with the present study. The reason of this inconsistency may be young age of students (14-17 years old) that effects on mental illness understanding and obtained information analysis.

On the other hand, different results have been observed in comparison between the effect of in our own voice-family and psychoeducation on different aspects of stigma. So that, there was no significant difference between mean changes of alienation aspect and stereotype endorsement of stigma in before and 1 month after intervention in groups of in our own voice-family and psychoeducation. It means that both in our own voice-family and psychoeducation have been effective on reducing alienation aspects and stereotype endorsement in families of schizophrenic patients; hence, it was consistent with the results of Cuhadar and Cam (40) research that was based on the effect of psychoeducation on reducing stigma in alienation aspect and stereotype endorsement in patients with mood disorders. The results of Uchino et al. (29) was based on the effect of psychoeducation on increasing knowledge toward disease and medical treatment in schizophrenic and schizoaffective patients, it also confirms the results of the present research.

According to the fact that rejection in the society is considered as the main concern of psychiatry patients, people who have relationship with them often fail to give them attention and respect that would be demanded by healthy aspects of their social identities (11). Since alienation aspect of stigma measures subjective experience of inferiority feelings (36), attending in a group (e.g., in our own voice-family and psychoeducation) with similar stigma causes some individuals to understand the experience of stigma due to their personal experiences and make a group for sympathy, so that assure individuals to take refuge for obtaining moral support and make them feel that this group is a very safe place, they are in a peace and they have been accepted like any other regular persons of the society (11). Although there were low interactions and intergroup communications in psychoeducation group (compared with in our own voice-family) due to lack of emotion expression and it has not been talked about stigmas, group discussion led to communication and gadgets among families and made the group a safe place to attend.

On the other hand, stereotypes have been considered as cognitive components of stigma and beliefs of a specific group (41); mental illnesses stigma has been influenced by stereotypes include psychiatric illnesses and madness, and families believed that psychiatric patients are powerless and there is a perilous and incurable nature for their diseases (42); as well as providing some information about schizophrenia and its treatment in psychoeducation (by group discussion) and in our own voice-family group (by self-narration) has changed this stereotype.

The study of Perlick et al. (33) was based on great effect of in our own voice-family in reducing humiliation feeling and confirming stereotypes in comparison with training in families of schizophrenic patients (with low level of social anxiety) and it was not consisted with the results of the present research. The reason of this inconsistency may be the method of teaching in the study of Perlick and their low level of social anxiety. Because social anxiety of individuals and also method of teaching can be considered as a barrier for communication among families and prevent them to express motions and interact. While in the present research, psychoeducation was applied as group discussion among families in two sessions and individuals with high level of social anxiety (more than 50) have been removed from study. Moreover, the method of teaching in the present study made participants to participate and be engaged in learning, it would have better results in changing attitudes in addition to awareness.

However, the results indicated that there was significant difference between mean changes of aspect of experiencing discrimination and social withdrawal subscale in before and 1 month after intervention in psychoeducation and in our own voice-family group. It means that in our own voice-fami-ly was effective on the aspect of experiencing discrimination in comparison with psychoeducation among families of schizophrenic patients and it had

more effect on reducing stigma in social withdrawal subscale; it was consistent with the study of Perlick et al., (33) it was based on greater effect of in our own voice-family on elimination of concealing the illness of family members and social isolation among families of schizophrenic patients in comparison with training. The study of Lotfi Kashani et al. (30) was based on lack of influence of psychoeducation model of Atkinson and the Koya on social function of schizophrenic patients, it also confirms the results of the present research.

The studies of Lysaker et al. (43) were based on relationship between stereotypes and experiencing discrimination among schizophrenic patients during rehabilitation, as well as it confirms the results of the present research in terms of the effects of in our own voice- family to reduce stigma in aspects of stereotypes and experiencing discrimination. However, it is not consistent with the effect of psychoeducation on these two subscales of stigma. Because it would not be possible to change both cognitive (stereotypes) and behavioral (experiencing discrimination) subscales of stigma at the same time. One of the reasons for lack of coordination (cognitive and behavioral components) in education is when encouraging messages are not suitable or interesting for individuals and it creates a degree of persuasion that would not be influenced by arguments of these messages. While if such messages have strong and persuading arguments for appropriate individuals, they would be more successful in persuading and it leads to coordination in cognitive and behavioral components of attitudes. According to the theory of Walter Fisher (the narrative paradigm), encouragement occurs when people have appropriate reasons to accept proposed (advised) points of views. Due to his point of view, fiction patterns do not dictate common discussions. On the other hand, the regular people assess different discussions according to its fictional form and apply fiction criteria of coherence and honesty more than traditional reasonable criteria to obtain fans (41). hence, providing information around schizophrenia as self-narration created more acceptances among families in comparison with in our voice-family and it leads to change both cognitive and behavioral components of stigma simultaneously.

Furthermore, needs and problems of family members of chronic mental disorders are influenced by culture so that open emotion expressions would be encouraged in European countries but it is considered as a family secret in Asian countries due to their beliefs to hide some issues of the family (that leads to family discount) (7). Iran is not exempted from this culture and even due to the importance of Islamic values consideration it is very important to conceal anti-values issues in Islam (such as strange and unpredictable behaviors). In our voice-family made a safe environment for families of schizophrenic patients and made them to leave social isolation by self-exposure and provided a secure condition for them to solve their problems of living with a schizophrenic patient.

The study of Cuhadar and Cam (40) in Turkey was based on the effects of psychoeducation on reducing stigma in the aspects of experiencing discrimination and social isolation among patients with mood disorder and it was not consistent with the results of the present research. The study of Uchino et al. (29) in China was based on the effects of psychoeducation on reducing social isolation in schizophrenic and schizoaffective patients, and also it was not consistent with the results of the present research. The reason of this lack of consistency was the time of implementing post-test in the present study (1 month after intervention). Moreover, in the present research, sessions have been implemented in shorter time (two sessions) due to the Fallon model and it has not been spoken about stigmas that would effect on results of the research.

One of the limitations of the research was the fact that the present research has been carried out on home caregivers of hospitalized schizophrenic patients in hospitals who had better psychological state as the result of a reduction in care giving pressures that would effect on results of the study. On the other hand, this research has been carried out on residents of Mashhad and due to the effects of culture on stigma; it cannot be generalized to all cultures.

The results indicated that although both in our own voicee-family and psychoeducation had effect on aspects of alienation and stereotype endorsement subscales; in our own voice-family was more effective in reducing stigma in different subscales of social withdrawal and discrimination experience as negative consequences of stigma in comparison with psychoeducation. Hence, it is suggested to the nurses to use in our own voice-family to reduce

stigma in psychiatric hospitals. It is also suggested to compare the effects of in our own voice-family and psychoeducation on stigma in families of schizophrenic patients after discharging from hospital and also in different cultures in the future studies.

Conclusion

This article has been approved with clinical trial code IRCT2015062022823N1 from research plan with code of 930748 in the Research Department of Medical Sciences University of Mashhad in 2014/7/1. In this way, Medical Sciences University of Mashhad has been appreciated due to providing validity for the research, also Faculty of Nursing and Midwifery officials of Mashhad, professors and teachers in Faculty of Nursing and Midwifery of Mashhad, Ibne-Sina Psychiatric Hospital staffs and participants of the research are appreciated because of their cooperation.

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Conflict of interest

The authors declare no conflict of interest.

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