

Effect of Family Caregiver Expressed Emotion Control Program on Relapse among Patients with Schizophrenia

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Abstract

Background: Family caregivers of patient with schizophrenia face many problems related to caregiving as, stress, anxiety and a high level of expressed emotion, the permanent negative expressed emotion of caregiving are likely to generate relapse and increase rehospitalization the schizophrenia patient. **Aim of study:** This study aimed to evaluate the effect of family caregiver expressed emotion control program on relapse among patients with schizophrenia. **Study design:** A quasi-experimental design was utilized to conduct this study. **Setting:** This study was conducted at Psychiatric Mental Health Hospital in Benha City, Qalyubiya Government. The hospital is affiliated to General Secretariat of Mental Health. **Sample:** Convenience subject of 40 family caregivers were chosen for conducting this study. **Tools of Data collection:** Three tools were used, **I:** Socio-demographic questionnaire for patients with schizophrenia and family caregivers. **II:** A caregivers' knowledge questionnaire about the schizophrenia and relapse and **III:** Expressed emotions scale. **Results:** There was highly statistically significant correlation between total patterns of expressed emotion and total knowledge during pre/ post program implementation at ($P < 0.001$). **Conclusion:** Family caregivers of patient with schizophrenia had high levels of expressed emotion, which decreased after implementation of the family caregiver expressed emotion control program. **Recommendations:** Designing a systematically continuous family intervention programs in psychiatric hospitals to provide proper information and psychological support that help the family caregivers to handle the difficult thoughts and emotions, reduce negative expressed emotion and reduce relapse of patients.

Key words: Family Caregiver- Expressed Emotion Control Program- Patient with Schizophrenia.

Introduction:

Schizophrenia is a complex psychiatric disorder. It is a severe form of mental illness that results in cognitive, emotional, and social impairment. With the progression of illness, impairment takes place in the general functioning of the individuals. This impairment is mostly felt in the cognitive domain. As a result, some patients display poor insight or awareness about the

neurocognitive deficits about the disease caused (Pompili et al., 2016).

It is one of the main psychological disorders, so about 1-2% of people are diagnosed for schizophrenia and 25-30% of psychiatric patients have schizophrenia. Schizophrenic patients are hospitalized for the severe period of their disease and then being discharged from hospital and returning to the home. However, lack of social support

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programs for such a chronic disease leads to a periodical return of the disease and frequent hospitalization of the patients (Grover et al., 2017).

Majority of people with schizophrenia patients live in their own home and most of their care is provided by their family. In Egypt the family caregivers spend a more time with the person to assisting with activities of daily living, provide personal care and higher levels of supervision. Family members also play an important role in bringing the patient in contact with the mental health care professional and providing financial as well as psychosocial support to the patient during the process of treatment (Abd El-Ghafar et al., 2018).

Expressed emotion (EE) is considered to be a measure of family environment, which takes into account the quality of interaction patterns and nature of inter-personal relationships among the family members and patients with schizophrenia. Expressed emotion is a significant characteristic of the family milieu that reflects key aspects in inter-personal relationships (Safavi et al., 2017).

Caring for schizophrenic patients requires that nurses have a great capacity for understanding expressed emotion and relapse of disease. Nurses must be able to understand that these people live in a frightening unreal world and has difficulty distinguishing reality from delusions and hallucinations. Teaching relatives that hallucinations and delusions are part of the disorder and become easier after the medication begins work. When relatives and patients believe and acknowledge that their thoughts are delusions and some of their perceptions are hallucinations, they can develop strategies to manage their symptoms (Pasadas & Manso, 2015).

Psycho education provides to the family members full information about schizophrenia and all aspects of the treatment if the relative is not fully informed about the treatment, the side effects, EE, relapse, there higher risk for relapse due to high EE. The high EE is one of the main reasons of the relapse of schizophrenia (Okpokoro et al., 2014).

Significant of the study

The EE is especially relevant in the Egyptian cultural context, where patients have longer and more enduring contact with family. Family members play an important role as caregivers during the process of treatment and rehabilitation. Family members also play an important role in bringing the patient in contact with the mental health care professional and providing financial as well as psycho-social support to the patient during the process of treatment and rehabilitation. Even in the scenario of relapse, family members remain the primary caregivers for the patients. However, high expressed emotion may also act as a barrier to care, as the patient may conceal relapse status from his family members for avoidance of excessive criticism, which in turn may delay and hamper the treatment process (Mittal, 2019).

Aim of the study

This study aimed to evaluate the effect of family caregiver expressed emotion control program on relapse among patients with schizophrenia.

Research hypothesis:

The family caregiver expressed emotion control program would decrease relapse among patients with Schizophrenia.

Subject and Methods

Research design:

A quasi- experimental research design was used in this study.

Research setting:

This study was conducted at the Psychiatric and Mental Health Hospital in Banha City, which is affiliated to the General Secretariat. It has (7) departments (4 male, 1 female, 1 Addiction department and 1 outpatient clinic), with a capacity of (201) beds. The hospital provides care for patients diagnosed with acute and chronic mental illness who need institutional care. It works 7days/week, 24hrs/day.

Sample

Type of subject:

A convenience subject was recruited for study.

Subject size:-

The study subjects were chosen as the number of available family caregivers of patient with schizophrenia and the caregivers of the present study were 40 family caregivers. The study subjects were fulfilling the following inclusion criteria;

- Who are provided the care for schizophrenia patients

Inclusion Criteria of patients:

- Diagnosis schizophrenia as according to DSM5.
- Both sexes.
- Admitted minimum two times.

Tools for data collection: Three tools were used to collect data.

Tool (1): Socio-demographic questionnaire for patients with schizophrenia and their family caregivers divided into two parts It was developed by the researcher and includes the following: -

- **Part one** Socio-demographic data of the family caregivers.

- **Part two** Socio-demographic data of the patient.

Tool (2): A caregivers' knowledge questionnaire divided into two parts:

Parts 1: Knowledge of caregiver about the schizophrenia and included 11 items.

Part 2: Knowledge of caregiver about the relapse that occurs to the patient and included 10 items.

This scale was adapted from **Elattar, (2015)** to be used for assessing the level of knowledge by the family caregivers of patients with schizophrenia. The researcher edited and rephrasing items of tool to meet the aim of the study after reviewing literature in this field. It was translated into an Arabic language.

Scoring system:

Knowledge's scoring system: All knowledge variables were weighted according to items included in each question. Each question had multiple correct answers. The answers of the questions were classified into 3 categories. The answer would have score (2) for adequate knowledge if more than 60% of given answer was selected, would have score (1) for inadequate knowledge if less than 60% of given answer was selected, and the answer would have score (0) if it was (I don't know).

The score of total knowledge was classified as the following:

- Good: ($\geq 75\%$ correct answers).
- Average: (50 - < 75% correct answers).
- Poor: (< 50% correct answers).

Tool (3): Caregiver Expressed Emotion scale:

The Level of Expressed Emotion (LEE) scale adapted from **Abdel Aal &Sayed, (2017)** was used to assess family caregiver's Expressed emotion to ill relative with schizophrenia. It is consisting of 60 items and

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has answer true and false. The researcher edited and rephrasing items of tool to meet the aim of the study after reviewing literature in this field. It was translated into an Arabic language, and composed of five subparts:

It included the following subparts:

The questionnaire assesses five domains, 1- Criticism, 2- Hostility, 3- Over involvement. These for High Expressed Emotion, and also assessing Low Expressed Emotion, as 4- Warmth and 5- Positive remarks.

Scoring system:

Each item of the expressed emotion scale that requires participants to respond on a 3-points ranging from 3 (always) to 2 (sometimes) and 1 (never)

Validity of tools:

To achieve the criteria of trustworthiness of the data collection tools in this study, tools were tested and evaluated for content validity. Content validity was tested by five experts in psychiatric mental health nursing specialties. They were from different academic categories, i.e., professor and assistant professor in British, Tanta and Benha University. To ascertain relevance, clarity and completeness of the tools, experts elicited responses, which were either agree or disagree for the content reliability. Also, the items on which 85% or more of the experts have agreed were included in the tool. Based on expert's comments and recommendations, minor modifications had been made such as rephrasing and rearrangements of some sentences.

Reliability of tools:

The reliability of tools was assessed through measuring their internal consistency by Cronbach Alpha Coefficient test ($\alpha = .84-.95$).

Pilot study:

A pilot study was undertaken after the adaptation of the tools and before starting the data collection. It was conducted on 15 family

caregivers of patient with schizophrenia the subject representing 30% of the study subject.

Ethical considerations: -

1. A written initial approval was obtained from the research ethical committee at the faculty of nursing, Benha University.
2. Individual oral consent was obtained from each participating family caregivers after explaining the nature and benefits of the study.

Field work:

A) Assessment and planning phase

The researcher attended the Psychiatric outpatient's clinics at Psychiatric Mental Health Hospital in Benha city and met each group of service providers two days a week from 9 am. Until 2.00 pm. Data collection continued for more than twelve months, from the beginning of September 2019 to the end of February 2020, for 28 relatives. A state of emergency was declared in Egypt for the spread of Corona virus, preventing gatherings, and the education program was suspended from March 2020 to July 2020 due to the outbreak of the COVID-19 virus. The researcher completed the program from mid-July 2020 to the end of September 2020 for 12 relatives, while taking the necessary precautions to prevent infection with the new Corona virus, such as spacing, wearing a muzzle, and constantly disinfecting surfaces. The number of caregivers interviewed per week ranged from 3 to 5 relatives.

B) Implementation phase:

The teaching sessions were conducted in a classroom located at the ground floor of the psychiatric hospital. The classroom was air conditioned, quiet, well ventilated, well furnished, and had adequate lighting and adequate spacing for implementing expressed

emotion program activities. The program content and its objectives were developed by the researcher in the form of 13 sessions each session take about 30- 90 minutes according to the caregiver understanding and span of attention. Sessions of expressed emotion management program focus on:

The session 1: Introductory about program objectives and the expected outcome and describe schedule of the program.

The session 2: theoretical about the schizophrenia information.

Session 3: theoretical & practical about the side effect for mediations and how to deal with it.

Session 4: theoretical & practical about the relapse, training to prevent relapse and dealing with their patients.

Session 5: theoretical about the expressed emotion.

Session 6: practical about the time management to cope with the tasks of caregiving and apply using self-positive reassurance.

Session 7: practical about the deep breathing technique and the positive meditations.

Session 8: practical about the implement of progressive muscles relaxation technique.

Session 9: practical about the social relation skill with others strengthen the spiritual side.

Session 10: practical to demonstrate critical problem-solving techniques to management the range of difficult behavior.

Sessions 11&12: practical about the family caregivers' skills to train their patient on daily life activities.

Session 13: Summary about the program sessions and post assessment test.

Statistical analysis

The collected data were organized, analyzed using appropriate statistically

significant tests. The data were collected and coded using the Computer Statistical Package for Social Science (SPSS), version 20, and was also used to do the statistical analysis of data. Data were presented using descriptive statistics in the form of frequencies and percentages. Chi-square tests were used to compare frequencies and correlation between study variables.

Degrees of significance of results were considered as follow:

- p-value > 0.05 Not significant (NS)
- p-value < 0.05 Significant (S)
- p-value < 0.01 Highly Significant (HS)

Results:

Table (1): Reveals that, the subject of studied subjects consist of more than one third (35%) of them their ages ranged from 36 to 45 years old with mean age (36.8±9.80) and nearly to two thirds (65.0%) of them were females. Moreover, less than two thirds (60%) of family caregivers were married and more than two thirds (70%) were live in the rural. Concerning level of education, less than two thirds (65%) of the patients had intermediate education. Regarding to occupation, less than one third (30%) of the family caregivers unemployed and about half (50%) of them had fairly sufficient income. Also, more than one third (40%) of family caregivers were Sibling of the patients.

Table (2): Reveals that, nearly to half (47%) of the studied patient their ages between 26 and 35 years old with mean age 34.28±8.97. Moreover, more than two thirds (67.5%) of them were Males. Concerning level of education, more than one third (40%) of them had Intermediate education. Regarding to marital status more than half (57.5%) of them were Single and, more than

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two thirds (70%) of the studied patients unemployed.

Figure (1): Clarifies that, only less than one fifth (15%) of the family caregivers had good total knowledge regarding schizophrenia and relapse at preprogram, but this percentage increased to three quarters (75%) at post program.

Table (3): Shows that, at preprogram there were statistically significant relation between family caregivers ' residence, occupation, income and total knowledge score regarding schizophrenia and relapse at ($P < 0.05$), and there were highly statistically significant relations were noticed as regards level of education and total knowledge score regarding schizophrenia and relapse motherhood at preprogram at ($P < 0.001$) Also, at post program there were statistically significant relations at ($P < 0.05$) between family caregivers ' age, residence, marital status, level of education and total knowledge score regarding schizophrenia and relapse. However, there were no statistically significant relation between (family caregivers' gender, and relationship between

caregiver and patient) and total knowledge score regarding schizophrenia and relapse at pre- and post-program, at ($P > 0.05$).

Table (4): Shows that, at preprogram there were statistically significant relations at ($P < 0.05$) between (family caregivers' level of education, income state) and total levels of expressed emotion. However, at post program there was statistically significant relation between family caregiver's level of education and total patterns of expressed emotion at ($P < 0.05$). However, there were no statistically significant relation between (family caregivers age, gender, marital status, residence, occupation and relationship between caregiver and patient) and total knowledge score regarding schizophrenia and relapse at pre- and post-program, at ($P > 0.05$)

Table (5): Denotes that, there was highly statistically significant correlation between total patterns of expressed emotion and total knowledge during pre/ post program implementation at ($P < 0.001$)

Table (1): Distribution of the family caregivers according to their characteristics

Socio- demographic characteristics of family caregivers		
Items	No	%
Age		
18≤25	6	15.0
25≤35	12	30.0
35≤ 45	14	35.0
>45	8	20.0
Mean± SD = 36.8±9.80		
Gender		
Male	14	35.0
Female	26	65.0
Marital status:		
Single	12	30.0
Married	24	60.0
Widowed	3	7.5
Separated	1	2.5
Residence		
Rural	28	70.0
Urban	12	30.0
Level of education		
Not read and write	2	5.0
Read and write	4	10.0
Intermediate education	26	65.0
University education	8	20.0
Occupation		
Unemployed	12	30.0
Free business	10	25.0
Private sector	10	25.0
Governmental sector	8	20.0
Income		
Insufficient	12	30.0
Fairly sufficient	20	50.0
Sufficient and saves from it	8	20.0
Relationship between caregiver and patient		
Parents	10	25.0
Spouse	8	20.0
Sibling (brother or sister)	16	40.0
Sons and daughters	6	15.0

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Table (2): Distribution of schizophrenic patients according to their socio demographic characteristics

Socio-demographic data of schizophrenic patients		
Item	No	%
Age		
18≤ 25	7	17.5
25≤35	19	47.5
35≤ 45	10	25.0
>45	4	10.0
Mean± SD = 34.28±8.97		
Gender		
Male	27	67.5
Female	13	32.5
Level of education		
Not read and write	10	25.0
Read and write	12	30.0
Intermediate education	16	40.0
University education	2	5.0
Marital status		
Single	23	57.5
Married	5	12.5
Widowed	1	2.5
Separated	11	27.5
Occupation		
Unemployed	28	70.0
Free business	6	15.0
Private sector	4	10.0
Governmental sector	2	5.0

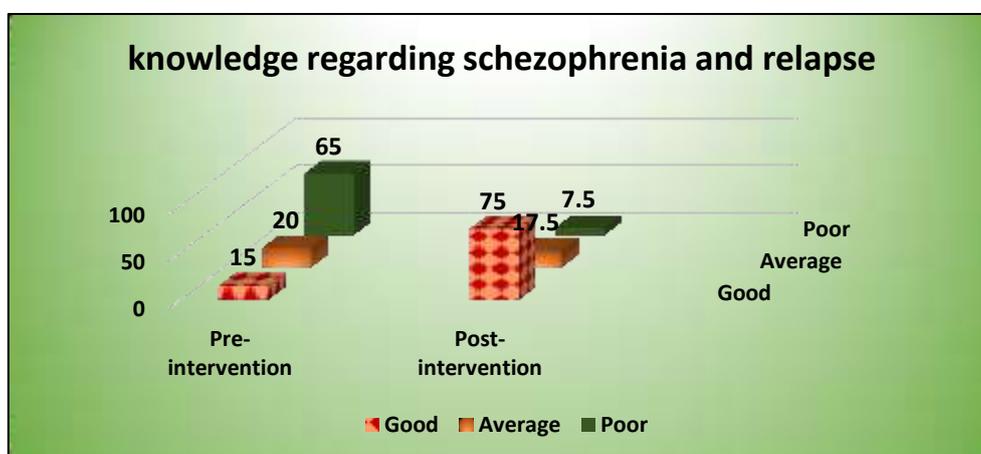


Figure (1): Percentage distribution of studied family caregivers according to their total knowledge regarding schizophrenia and relapse at pre and post program

Table (3): Distribution of the studied family caregivers according to their domain of total expressed emotion at pre- and post-program.

Levels of family caregivers ' expressed emotion		Pre- intervention		Post-intervention		X ²	P-value
		No	%	No	%		
Criticism	High	27	67.5	11	27.5	12.83	< 0.001**
	Low	13	32.5	29	72.5		
Hostility	High	25	62.5	9	22.5	13.09	< 0.001**
	Low	15	37.5	31	77.5		
Over involvement	High	28	70.0	10	25.0	16.24	< 0.001**
	Low	12	30.0	30	75.0		
Warmth	High	31	77.5	12	30.0	18.15	< 0.001**
	Low	9	22.5	28	70.0		
Positive remarks	High	30	75.0	9	22.5	22.06	< 0.001**
	Low	10	25.0	31	77.5		
Total expressed emotion score	High	26	65.0	8	20.0	16.57	< 0.001**
	Low	14	35.0	32	80.0		

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Table (4): Relation between socio-demographic characteristics of the studied family caregivers and total knowledge score regarding schizophrenia and relapse at pre and post program

Socio-demographic characteristics	Pre-intervention								Post-intervention							
	Poor		Average		Good		Chi - square test	P-value	Poor		Average		Good		Chi - square test	P-value
	No	%	No	%	No	%			No	%	No	%	No	%		
Age																
18≤ 25	4	15.4	1	12.5	1	16.7	6.59	.360	2	66.7%	0	0.0	4	13.3	12.99	.043*
25≤ 35	9	3.46	3	37.5	0	0.0			0	0.0	3	42.9%	9	30.0%		
35≤ 45	9	3.46	1	12.5	4	66.7			0	0.0	1	14.3	13	43.3%		
>45	4	15.4	3	37.5	1	16.7			1	33.3%	3	42.9%	4	13.3		
Gender																
Male	11	42.3%	2	25.0	1	16.7	1.84	.397	2	66.7%	3	42.9%	9	30.0%	1.842	.398
Female	15	57.7%	6	75.0	5	83.3			1	33.3	4	57.1	21	70.0		
Marital status																
Single	8	30.8%	3	37.5	1	16.7%	6.82	.337	2	66.7%	3	42.9%	7	23.3%	14.52	.024*
Married	15	57.7	4	50.0	5	83.3			0	0.0	2	28.6	22	73.4		
Widowed	3	11.5%	0	0.0	0	0.0			1	33.3	1	14.3	1	3.3		
Separated	0	0.0	1	12.5	0	0.0			0	0.0	1	14.3	0	0.0		
Residence																
Rural	22	84.6%	5	62.5	1	16.7	10.98	.004*	3	100.0%	7	100.0	18	60.0%	5.71	.057*
Urban	4	15.4	3	37.5	5	83.3			0	0.0	0	0.0	12	40.0		
Level of education																
Not read and write	0	0.0	2	25.0	0	0.0	26.36	<0.001**	1	33.3	1	14.3%	0	0.0	16.21	.013*
Read and write	3	11.5%	1	12.5	0	0.0			1	33.3	2	28.6	1	3.3%		
Intermediate education	21	80.8	4	50.0	1	16.7			1	33.3	4	57.1	21	70.0		
University education	2	7.7	1	12.5	5	83.3			0	0.0	0	0.0	8	26.7%		
Occupation																
Unemployed	9	34.6%	3	37.5%	0	0.0	18.41	.005*	2	66.7%	4	57.1%	6	20.0%	7.98	.239
Free business	8	30.8	2	25.0	0	0.0			0	0.0	2	28.6%	8	26.7%		
Private sector	7	26.9%	2	25.0	1	16.7			1	33.3	1	14.3	8	26.7%		
Governmental sector	2	7.7	1	12.5%	5	83.3			0	0.0	0	0.0	8	26.7%		
Income																
Insufficient	9	34.6%	3	37.5	0	0.0	10.23	.037*	3	100.0	2	28.6%	7	23.3%	10.1	.038
Fairly sufficient	14	53.8	4	50.0	2	33.3			0	0.0	5	71.4%	15	50.0%		
Sufficient	3	11.6	1	12.5	4	66.7			0	0.0	0	0.0	8	26.7%		
Relationship between caregiver and patient																
Parents	7	26.9%	1	12.5	2	33.3	4.72	.580	1	33.3	1	14.3%	8	26.7%	3.15	.789
Spouse	5	19.2%	2	25.0	1	16.7			1	0.0	2	28.6%	5	16.7%		
Sibling (brother or sister)	12	46.2%	3	37.5	1	16.7			0	33.3	3	42.9%	13	43.3%		
Sons and daughters	2	7.7%	2	25.0	2	16.7			1	33.3	1	14.3%	4	13.3%		

Table (5): Relation between socio-demographic characteristics of the studied family caregivers and total patterns of expressed emotion at pre and post program.

Socio-demographic characteristics	Pre-intervention						Post-intervention					
	High		Low		Chi - square test	P- value	High		Low		Chi - square test	P- value
	No	%	No	%			No	%	No	%		
Age												
18 ≤ 25	4	15.4	2	14.3	5.33	.149	0	0.0	6	18.8	6.36	.095
25 ≤ 35	9	34.6	3	21.4			2	25.0	10	31.3		
35 ≤ 45	6	23.1	8	57.1			2	25.0	12	37.5		
>45	7	26.9	1	7.1			4	50.0	4	12.5		
Gender												
Male	9	34.6	5	35.7	.005	.945	5	62.5	9	28.1	3.32	.068
Female	17	65.4	9	64.3			3	37.5	23	71.9		
Marital status												
Single	7	26.9	5	35.7	.806	.848	3	37.5	9	28.1	.938	.816
Married	16	61.5	8	57.1			4	50.0	20	62.5		
Widowed	2	7.7	1	7.1			1	12.5	2	6.3		
Separated	1	3.8	0	0.0			0	0.0	1	3.1		
Residence												
Rural	19	73.1	9	64.3	.335	.560	5	62.5	23	71.9	.268	.605
Urban	7	26.9	5	35.7			3	37.5	9	28.1		
Level of education												
Not read and write	2	7.7	0	0.0	7.62	.054*	2	25.0	0	0.0	9.35	.025*
Read and write	3	11.5	1	7.1			1	12.5	3	9.4		
Intermediate education	19	73.1	7	50.0			3	37.5	23	71.9		
University education	2	7.7	6	42.9			2	25.0	6	18.8		
Occupation												
Unemployed	7	26.9	5	35.7	4.87	.181	4	50.0	8	25.0	.395	.266
Free business	8	30.8	2	14.3			2	25.0	8	25.0		
Private sector	8	30.8	2	14.3			0	0.0	10	31.3		
Governmental sector	3	11.5	5	35.7			2	25.0	6	18.8		
Income												
Insufficient	11	42.3	1	7.1	9.37	.009*	4	50.0	8	25.0	2.70	.258
Fairly sufficient	13	50.0	7	50.0			2	25.0	18	56.3		
Sufficient	2	7.7	6	42.9			2	25.0	6	18.8		
Relationship between caregiver and patient												
Parents	7	26.9	3	21.4	1.55	.669	2	25.0	8	25.0	1.35	.716
Spouse	5	19.2	3	21.4			2	25.0	6	18.8		
Sibling (brother or sister)	9	34.6	7	50.0			2	25.0	14	43.8		
Sons and daughters	5	19.2	1	7.1			2	25.0	4	12.5		

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Table (6): Correlation between total knowledge and total patterns of expressed emotion at pre- and post-program

Variables	Total knowledge			
	pre		post	
	r	P-value	r	P-value
Total levels of expressed emotion	0.495	<0.001	0.658	< 0.001

Discussion

The result of the present study revealed that, more than one third of the studied caregivers their ages ranged from 36 to 45 years old with mean age (36.8±9.80). This finding may be due to the younger family caregivers are able to take responsibilities of caregiving of schizophrenic patients. On the same line, few study findings also reported more or less similar mean ages of family caregivers by **Gogoi, (2017)**.

The finding of the present study clarified that, nearly to two thirds of the studied caregivers were Females. From the researcher point of view, this result could be due to the care given is often expected performed by females because the women have a more responsibility towards their children and home. So, they may be trusted more in their ability to care for the patient with schizophrenic who needs more specific care as their children.

This is in consistent with **Sharma et al., (2016)** found that, nearly to half of family caregivers were female.

Concerning the marital status, the present study revealed that, less than two thirds of family caregivers were married. From the researcher point of view, married family members had higher levels of expressed emotion towards their relative patients. It may

be due to the fact that the married family members already had responsibility towards their family and an added responsibility of caring a schizophrenia patient led to more stress in them, therefore they end up showing their frustration on the patients. The current study was congruent with **Gogoi, (2017)** conducted that the majority of family caregivers were married.

As regards to the residence, the present study revealed that, more than two thirds of the family caregivers live in the rural. According to the researcher point of view, although schizophrenia is present in all cultures, races, and socioeconomic groups, it may be increased in rural areas for several reasons; low socioeconomic standard, lack of attention on education and lack of quality of health services. On the same line the study conducted by **Gogoi, (2017)**, demonstrated that, more than two thirds of the family givers were from rural areas.

Concerning level of education, of family caregivers it was found that, level of education less than two thirds of the family caregivers had intermediate education. This may be due to that family caregivers with an intermediate education level may be trusted more in their ability to understand physician

directions regarding medication schedule compared to those with lower education.

The result of the current study found that, less than one third of the family caregivers unemployed and about half of them had fairly sufficient income. This may be due to, medical treatment and the care of the patient with schizophrenia require high costs this in addition to the financial resources for the family caregiver. All of that can cause insufficient income.

This is result was similar with **Goldberg, (2020)**, reported that, about nearly to one quarter were homemaker, had not work and the majority had fairly sufficient income.

Regarding to relation between caregiver and patient it was found that, more than one third of caregivers were Sibling of the patients. From the researcher's point of view, this result may be due to the death of the parents, this could be due to the schizophrenic patient may experience difficulties in the social relationship due to societal stigmatization that led to reduced opportunities for socialization, and marriage. so that they live with their families.

This result was consistent with **Koujalgi & Patil, (2016)** revealed that, the majority of schizophrenic patients were single and live with their siblings.

The findings of the current study revealed that, nearly to half of the studied patients with schizophrenia their ages were from 26 to 35 years old with mean age 34.28 ± 8.97 , and more than two thirds of them were males. This result may be due to, the nature of schizophrenia as a disease affected men earlier than women or may have been due to male patients were usually carrying the burden of financial responsibility of the family; their illness made them unable to take the responsibility for their families.

This result was in consistent with **Arafa, (2018)** found that, more than half their ages were more than 48 years old the mean age of the studied patients was (46.7 ± 7.132) and near to two thirds of the studied patients were male.

As regards to the educational level, the result of the present study revealed that more than one third of them had Intermediate education. This could be due to either to disease cognitive impairments or related negative symptoms that remain after treatment.

This result went parallel with **Nehra et al., (2016)** revealed that, the same result, one-third of the studied subject had Intermediate education.

Concerning the marital status, the present study revealed that, more than half of them were Single. This result may be due to, the schizophrenic patient may experience difficulties in the social relationship due to societal stigmatization that led to reduced opportunities for socialization, and marriage. This result was consistent with **Yuksel, (2015)** conducted that, more than half of the studied patients, separated or divorced and returned his results in poor adjustment as well -known major symptom of schizophrenia.

Regarding to occupation, the present study result showed that, the more than two thirds of the studied patients unemployed. They were fired or left their work because of the symptoms of their illness that hinder them to proceed in work effectively, this finding is consistent with **Arafa, (2018)** found that, the majority of patients were not working.

Concerning total knowledge of the studied schizophrenic family caregivers the findings of the current study showed that, there is a good total knowledge regarding schizophrenia and relapse at preprogram, but this percentage increased at post

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program. From the researcher view the knowledge family caregivers improved after participation in the program implementation than before, because the program practiced the family caregivers to deal with their patients, side effect of medication, early detected of sign & symptom of relapse, advice to deal with relapse to raise the level of awareness about diagnosing the warning symptoms of a relapse of schizophrenics, and training caregivers on the correct ways to interact with their patient, which leads to decreased EE and reduced patient relapse.

This is also in the same line with **Elattar, (2015)** reported that, there is a high, Statistical difference between knowledge of those patients about schizophrenia and relapse before, immediately after and three months after program implementation.

More ever, the current result revealed that the effect of the program implementation on total expressed emotion score, there was highly statistically significant correlation between Total score of caregivers' expressed emotion according to five domains during pre/ post program implementation.

These results might be due to the expressed emotion program helped the family's caregivers to replace the negative emotion with positive ones and helped them to know more about the right communication skills to communicate with their patients in effective way to cope with all live stress, burdens and high expressed emotion.

These results were consistent with a study done by **Leszko, (2019)** clarified that, the psycho educational intervention caused decreased in levels of depression, burden and improved level of expressed emotion.

Regarding to the Relation between socio-demographic characteristics of family caregivers and total knowledge score regarding schizophrenia and relapse at preprogram the findings of the present study

revealed that, there were statistically significant relations between studied family caregivers' residence, occupation, income and total knowledge score regarding schizophrenia and relapse at pre- -program. Also, at there were highly statistically significant relations were noticed as regards level of education and total knowledge score regarding schizophrenia and relapse motherhood at preprogram. Also, at post program, there were statistically significant relations between family caregivers ' age, residence, marital status, level of education and total knowledge score regarding schizophrenia and relapse.

From the researcher point of view, these results might be due to, high expressed emotion it is strongly associated with it because of the nature of the culture in Egypt, especially in urban areas, the lack of available information about the disease, the stigma felt by the patient's family, and the psychological and financial burden that leads to the caregiver busy working overtime to cover the demands of the family, especially the patient's requests, such as the constant demand for tea and cigarettes, which leads to psychological distress, and increases the emotional expression of the patient. As for education in Egypt, they are not interested in providing information on mental illness. In school curricula, it is normal for a caregiver not to know the correct information about a disease, properly deal with disease symptoms, correct treatment methods, and the best methods prevent relapse.

These findings were agreement with **Bentsen et al., (2020)**, emphasized that, there were statistically significant differences 'regarding to the relation between socio-demographic the expressed emotion of the studied families' pre- and post-protocol

interventions related to Occupation and caregivers' occupation and age.

Concerning to the relationship between demographic characteristics of the studied family caregivers with total patterns of expressed emotion the current study revealed that, there were statistically significant relations between (family caregivers' level of education, income state) and total levels of expressed emotion at preprogram. However, at post program there was statistically significant relation between family caregiver's level of education and total patterns of expressed emotion.

From the researcher's point of view, these results may be due to the high expressed emotion, and they are closely related to the level of education due to the lack of information about schizophrenia in the educational stages. Also these results of the current study may be due to in some developing countries as in Egypt; the personal characteristics may influence the direction of the expressed emotion and play an exacerbating or buffering role in emotional reactivity to daily life stress, e.g. when the caregivers are unemployed or during the work of caregiver the income not cover the all demands of family this cause negative impact on the financial situation of the family thus correlated with more worry, stress and negative expressed emotion.

These results were consistent with a study was conducted by **Abo Shereda et al., (2019)**. shows that, there were significant associations of expressed emotion of family members with their monthly income and educational level of family members groups at pre the psycho educational nursing intervention.

Concerning to the relationship between sociodemographic characteristics of the

family caregivers with total patterns of expressed emotion the current study revealed that, there were no statistically significant relation between (family caregivers age, gender, marital status, residence, occupation and relationship between caregiver and patient) and total knowledge score regarding schizophrenia and relapse at pre- and post-program. This may be due to the nature of Egypt as a developing country, there is a general literacy about mental illness and that people had different views about mental illness, especially schizophrenia ,its expressed emotion and how to cope with high expressed emotion, which make the experience of caring for schizophrenia patients is extremely strange , vague duty because decrease of knowledge will increase stress ,burden , expressed emotion , increase the relapse to hospital, And that regardless of the age, gender, marital status, residence, of the family caregivers have poor knowledge about expressed emotion and schizophrenia illness were the common theme of most of our study participants so all family caregivers have desire to educate and participate with program.

These results were harmony with a study was conducted by **Abo Shereda et al., (2019)**. shows that, there were not significant associations of expressed emotion of family members with their monthly gender, marital status, residence and educational level of family members group at pre the psycho educational nursing intervention.

Concerning to correlation between total knowledge and total patterns of expressed emotion at pre and post implement program the present study represented denoted that, there was highly statistically significant correlation between total patterns of expressed emotion and total knowledge during pre- and post-program implementation.

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According to the researcher's points of view, the result of the current study due to expressed emotion and the knowledge are correlated to each other. Families who have a high level of worry, tension, negative feelings and high expressed emotions experience cycles of grief, disappointment and perceived their caring situation as more stressful. All of these can cause a higher level of expressed emotion due to the lack of available knowledge in Egyptian culture for schizophrenic patients and family caregivers. The lack of information and the feeling of overload and insecurity can contribute to caregivers becoming more critical, over-involved and hostile with their families.

Sazvar, (2017) showed that this intervention decreased expressed emotion levels. Another study, after implementing a psycho-educational intervention program with family caregivers of people with schizophrenia found its effectiveness in total patterns of expressed emotion.

Conclusion

Family caregivers of patients with schizophrenia had high levels of expressed emotion, which decreased after implementation of the expressed emotion management program. Also, there were highly statistically significant correlations between total knowledge and patterns of expressed emotion among family caregivers during pre-post implementation of the program.

Recommendations

1. Replication of the current study on a larger subject is recommended to achieve generalization of the results and wider utilization of the designed program.

2. Preparation of booklets about the types of support systems that are available in Al-Qalyubia governorate and how to reach them to help the

family caregivers to overcome the high EE that they face in caring of the patient with schizophrenia.

3. Establish awareness program in the psychiatric hospitals for family caregivers of patients with schizophrenia about meaning of expressed emotion and its effect on patient's condition as improvement or deterioration.

4. Continuous training of psychiatric nurses' team to know how to assist the caregivers and teaching new skills to deal with their negative thoughts and emotions in a positive and productive manner.

5. Establish educational seminars for all psychiatric team and graduated psychiatric nurses about utilization of expressed emotion management program for those caregivers of patients with schizophrenia.

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تأثير برنامج التحكم في التعبير الإنفعالي لمقدمي الرعاية من الأسرة علي الوقاية من الانتكاسة لدي مرضي الفصام

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يواجه مقدمو الرعاية الأسرية لمرضى الفصام العديد من المشكلات المتعلقة بتقديم الرعاية ، مثل التوتر والقلق والمستوى العالي من التعبير عن المشاعر ، ومن المرجح أن تؤدي المشاعر السلبية المعبر عنها إلى الانتكاسة وزيادة دخول مريض الفصام إلى المستشفى مرة أخرى بسبب نقص في الوعي والفهم لمرض الفصام وأسباب الانتكاسة . لذلك هدفت هذه الدراسة إلى تقييم تأثير برنامج التحكم في التعبيرات الإنفعالية الذي يظهره مقدم الرعاية الأسرية على الانتكاسة بين مرضى الفصام. وقد أجريت هذه الدراسة في مستشفى الصحة النفسية بمدينة بنها، محافظة القليوبية. المستشفى تابعة للأمانة العامة للصحة النفسية في مصر علي ٤٠ من مقدمي الرعاية لمرضى الفصام. حيث أظهرت النتائج ان برنامج التحكم في التعبيرات الإنفعالية أدي الى تحسين مستوى التعبيرات الإنفعالية لدى القائمين على رعاية مرضى الفصام . لذلك يوصى بتكرار الدراسة الحالية على عينة أكبر لتحقيق تعميم النتائج والإستخدام الأوسع للبرنامج المصمم