Effect of Emotion Management Program for Patients with Schizophrenia on Their Emotion Recognition and Emotional Expression

Eslam Mohamed Ahmed Gado[1], Sahar Elsayed Gaber Behilak[2] & Farida Elsayed Abd Elkawy Othman[3]
[1.] Lecturer of Psychiatric and Mental Health Nursing, Faculty of Nursing, Tanta University, Egypt.
[2.] Assistant Professor of Psychiatric Nursing, Faculty of Nursing, Mansoura University, Egypt
[3.] Lecturer of Psychiatric and Mental Health Nursing, Faculty of Nursing, Tanta University, Egypt.

Abstract

Background: One of the goals of psychiatric social rehabilitation for patients with schizophrenia is to improve their ability to recognize and express their emotions. **Aim:** to evaluate the effect of an emotion management program for patients with schizophrenia on their emotion recognition and emotional expression. **Setting:** This study was carried out at Tanta University Hospital's neuropsychiatric inpatient department. **Research design:** quasi-experimental research design was used. **Subjects:** This study used a convenience sample of 50 patients with schizophrenia. **Tools**: Three tools were used: **Tool I:** Socio-demographic and clinical characteristics Questionnaire, **Tool II:** Berkeley Expressivity Questionnaire (BEQ),and **Tool III:** Trait Meta-Mood Scale-short form(TMMS-S) **Results:** This research showed that the studied patients' emotion recognition and emotional expression scores improved immediately and after 3 months of the program when compared to before the program. **Conclusion:** emotion management program has a positive effect on improving emotional recognition and expression of people with schizophrenia. **Recommendations:** Emotion Management Program should be implemented regularly as an integral part of rehabilitation interventions for patients with schizophrenia.

Keywords: Emotion management program, Emotion expression, Emotion recognition & Patients with schizophrenia.

Introduction

Schizophrenia is a serious mental disorder that affects approximately 24 million people or 1 in 300 people (0.32%) worldwide. A variety of symptoms make up this disorder: hallucinations, delusions, cognitive impairment, disorganized behavior, apathy, social withdrawal, affective flattening, and others **(Debsubhra et al., 2018)**. Social skills decline in patients with chronic schizophrenia due to emotional and cognitive deficits **(Cho et al., 2017, Andrew et al., 2013)**.

Schizophrenia appears to have a key characteristic of impaired emotional processing, which includes difficulties in understanding, identifying and expressing emotions **(Castro et al., 2016)**. The concepts of emotion recognition and expression have been shown to be an important predictor of relapse and well-being. These concepts also allows a person to establish and adapt interpersonal relationships, promoting the creation and maintenance of a social support network **(Abramowitz et al., 2014, Liwen et al., 2020)**.

Deficit in emotion recognition in patients with schizophrenia is thought to be the consequence of social-cognitive impairment. Patients with schizophrenia withdraw from social relationships in an effort to minimize exposure to arousing stimuli, and with continued withdrawal, show impairment in the recognition of certain emotions, particularly negative emotions. **(Painter et al., 2019, Javed & Charles 2018, Kolavarambath et al., 2020 & Huang et al., 2017)**.

Emotion recognition refers to identifying emotion in another person or stimulus; most commonly studied using pictures of faces with various emotion expressions. Nonverbal cues include facial, vocal, postural, and gestural cues displayed by a sender, that is, a person displaying an emotional reaction. Emotion recognition has important implications for life quality and well-being. Patients with schizophrenia have difficulty to recognize, explain, understand, and regulate their emotions, which is related to the disorganized symptoms and ineffective community functioning. **(Huang et al., 2017, Hargreaves et al., 2016, Souto et al., 2020 & Bonfils et al., 2017)**.

According to the researchers, schizophrenia is characterized by a failure of prefrontal circuitry, which in health supports the link between emotion and goal-directed behavior, and this failure may contribute to deficits in processes related to emotion-cognition interaction. This would explain why patients with schizophrenia often appear bored, disinterested, and unmotivated. Emotional problems

are more severe symptoms of schizophrenia than hallucinations. (**Park 2018, Tsotsi et al., 2017** & **Park 2016**).

Affective flattening is a prominent symptom of schizophrenia. It was marked by a fixed expression and a significant reduction in body gestures at the service of communication in patients with schizophrenia (**Kupper et al., 2020**). **Expressed emotion** (EE), is the outward expression of emotional feelings through various channels such as the face, voice, and body. Our emotional state is apparent in our facial expression, tone of voice, gestures, and physiological parameters (**David et al., 2018 & Angie et al., 2020**).

Regarding the progress of patients with chronic schizophrenia, it appears that most of them are unable to regulate or appropriately express their emotions because they lack relevant resources (**Zou et al., 2018, Cho & Jang 2019& Kyung et al., 2021**). In the literatures, the most well-replicated findings on emotional responding in schizophrenia is that people with schizophrenia are much less expressive (both facially and vocally) in response to a variety of emotional situations and stimuli than people without schizophrenia. People with schizophrenia make fewer positive and negative facial expressions in response to emotionally stimulating foods, films, and social situations than those who do not have schizophrenia (**Rowland et al., 2013, Abd-Allah et al., 2018 & Peritogiannis et al., 2020**).

A medication-based approach to treating schizophrenia may be able to reduce immediate clinical symptoms, but its capacity to enhance social, cognitive, and emotional functions is limited. As a result, psychiatric rehabilitation programs may be used to enhance interpersonal relationships. Such improvement can be achieved through improving and developing new strategies of emotion management of patients (**Hutchison et al., 2017**)

The program's primary goal of the current study was to manage emotional problems and reduce the negative effects of disruptive emotions on social and cognitive functioning (**Hutchison et al., 2017, Guimond et al., 2020 & Yolland et al., 2020**). It was an eight-step training program that started with the patients' emotional descriptions and continued through evaluations of their unplanned coping mechanisms to the development of their own specific coping mechanisms. It was utilized for psychiatric patients who were in the psychosocial rehabilitation using a various training techniques like videos, role play, and colorful pictures of emotions. The program was based on assumption that expression of emotion and behaviors were affected by emotional perceptions, which are related to social interactions and social behaviors (**Yolland et al., 2020**).

Significance of the study:

Schizophrenia is the most expensive mental illness in terms of direct health costs, indirect productivity losses, and the impact on the family and society. Specific emotion training programs can help patients to improve their emotional recognition and expression, develop appropriate personal relationships, and improve their social interaction in social situations. (**Kyung et al., 2021, Rowland et al., 2013 & James et al., 2018**) A psychiatric nursing intervention is therefore required for patients returning to society after their acute symptoms have been managed in order to provide emotional support and mental stability to patients with chronic schizophrenia and help in their recovery from social decline and isolation. But currently common interventions for schizophrenia's emotional problems were as cognitive self-instructional training, integrated psychological therapy, and cognitive behavioral. The main goal of these treatments was behavioral modification, not emotional improvement. (**Rowland et al., 2013& Guimond et al., 2020**).

Aim of the study

This study aimed to;

Evaluate the effect of an emotion management program for patients with schizophrenia on their emotion recognition and emotional expression.

Hypothesis

After program implementation, emotion recognition and emotional expression of patients with schizophrenia will be improved.

Subjects and Method

Research design

A quasi-experimental study design (single-group pre/posttest) was used.

Setting:

This study was carried out at Tanta University Hospital's Neuropsychiatric inpatient department which is affiliated to "Ministry of High Education". The Neuropsychiatric Department has a total of (31) beds, which are divided into two male patient wards (17 beds) and two female patient wards (14beds).

Subjects:

A convenient sample of 50 DSM-5-Diagnosed with schizophrenia patients from the above-mentioned setting. This estimated numbers of sample was calculated using the Epi-Info software statistical package. The following criteria were used to calculate sample size: The level of confidence is 95%, and the expected outcome is 70% with margin of error: 5%. The sample size based on the previously mentioned criteria should be N >92.

Inclusion criteria of the study subjects

- Adult patients (18 years and above).

- At rehabilitation stage of treatment.
- Willingness to participate in the study and communicates well

Exclusion criteria:

- Acute stage of schizophrenia.
- Co-morbid psychiatric disorder.

Tools for collecting data:

Data from study subjects were collected using three tools:

Tool I: Socio-demographic and clinical characteristics questionnaire

It was formed by a researcher after a review of the literature. It includes; gender, age, marital status, level of education, occupation, income, place of residence, cohabitation, age of onset, duration of illness, mode of admission, and number of previous psychiatric hospitalization.

Tool II: Berkeley Expressivity Questionnaire (BEQ)

It was adopted from **Gross & John (1997)** to assess the participants' emotional expression. It consisted of 16 items with 5-point Likert ranging from 1 (strongly disagree) to 5 (strongly agree). The scale is divided into three sections: Negative Expressivity, Positive Expressivity, and Impulse Strength.

- Items 3, 8, and 9 are scored in reverse.
- Negative Emotionality facet is made up of items 3, 5, 8, 9, 13, 16;
- Positive Emotionality facet is made up of items 1, 4, 6, 10;
- Impulse Strength facet is made up of items 2, 7, 11, 12, 14, 15.

Scoring system: The total score ranged between 16 and 80, with higher scores indicating greater emotional expression.

Tool III: Trait Meta-Mood Scale-short form (TMMS-S)

It was adopted from **(Salovey et al 1995)**, to asses an individual's emotional recognition. It consisted of three subscales;

- **Emotional attention:** 1-8 items, (e.g 'I usually care a lot of how I feel'),
- **Emotional clarity: -** items from 9-16, (e.g. 'I can describe the feelings rounded in my mind')
- **Mood repair:** items from 17-24, (e.g. 'I have more strength when I feel happy').

  Scoring system: the tool is consisting of 24 items with 5-point Likert ranging from 1 (strongly disagree) to 5 (strongly agree). All items were summed then total scores range from 24 to 120 points: Higher scores show that a person accurately recognizes their own feelings.

Method

1. After explaining the purpose of the study, the Dean of the Faculty of Nursing granted official permission to the manager of the study setting to conduct the study.

2. **Ethical considerations:** An ethical approval was obtained from the Faculty of Nursing's ethical committee, Tanta university code No. (153-12-2022), oral consent for voluntary participation was obtained from all patients participating in the study, the subjects were informed about the aim of the study and reassured that any obtained information will be confidential and used only for the purpose of the study. The right of study subjects to refuse to participate or withdraw from the study at any stage was also emphasized. The nature of the study did not cause any harm to the subjects. Respecting the study subjects' right to refuse to participate or withdraw from the study at any time was emphasized.

3. **Developing tools:**

- The study's tools (II and III) was translated into Arabic by researchers then tested for content validity by a jury of five psychiatric nursing experts to determine the appropriateness of items for measuring what they were supposed to measure, and both tools were found to be valid.

- The Arabic version of the tool's Cronbach's alpha, which was 0.87, was used to test the tool's reliability.

- A pilot study with 10% of the patients was conducted to determine the clarity and applicability of the study tools. It was also necessary to estimate the approximate time required for the subject being studied, as well as to identify any obstacles that might be encountered during data collection. Following the collection of pilot study data, it was found that each patient took 35- 40 minutes to complete all tools, no modifications were made to any of the tools, and that it was applicable and clear to patients in the pilot study. The pilot subjects were later removed from the study sample.

4. **The actual study:** The actual study was conducted through four phases:

Phase one: Assessment phase (pretest):-

The data was collected using all study tools through interviewing and asking the questionnaire to each studied subject individually in a simple and understandable manner suitable to the patient. This phase was the baseline data that determines the studied subjects' needs as a pre-intervention assessment. The filling of questionnaire was 35-40 minutes.

Phase two: Emotion management program development)

The program was created by the researcher based on a review of recent related literatures (international and local articles, text books and scientific magazines) and the findings of phase one.

General objective of the program was improving emotion recognition and emotional expression of patients with schizophrenia at rehabilitation stage.

Implementation phase: (program implementation).

- The program content was conducted through the course of eight sessions. The studied patients were divided into eight subgroups, seven subgroups (6 patients for each) and one subgroup only (8 patients). Each subgroup attended 8 sessions; two sessions /week for 4 weeks (Monday /Thursday) in morning shift. Each session take time of 45 minutes. The researchers conducted the program in the training room in the hospital.

- The program was implemented by using power point presentation, videos, and posters as educational materials. The researchers use lecture to convey theoretical knowledge interwoven with simple step by step instructions, role play for training patients.

- The handout was distributed to all studied patients and their caregivers. It was supplemented by photos and illustrations to help the studied patients in the understanding of the content simply.

- For encouraging studied patients to participate and feel comfortable during sessions, the researcher acted as the coordinator, provider, and facilitator. The researchers allow for; discussion for patients about session topic, participation in activities related to emotional, and also allow for sharing studied patient's thoughts and feelings regarding the session.

- To ensure that the patients understand the content of the program, each session was operated as following; starting with giving summary of what was given at the previous session and the objectives of the new session. The researcher also made a summary at the end of session and informed them about the time of the next session.

- The data collection took eight months from the beginning of February 2022 to the end of September 2022.

The program was implemented through the following schedule of sessions: - The program composed of four areas, each area of the program was covered through two sessions as follow;

A- Sessions related to emotional awareness and perception

Session (1): This session is an introductory session to introduce the group members and the researchers to one another and explain the goal, schedule, and program content, assessing the studied patients' own emotions

Session (2): This session emphasis was

- Explaining concepts of emotions &types of emotions.

- Training patients on how to connect facial expressions and emotional words, in addition to recognizing emotion in others based on facial expression and nonverbal ways of communication.

B-Sessions related to emotional expression

- **Session (3):** This session emphasized on stating definition and importance of emotional expression. Also methods of emotional expression; using role-play to communicate basic emotions of the participants (sadness, fear, disgust, rage, happiness, and surprise)

- **Session (4):** This session emphasized on; expressing emotions in different life situations through instructions and role-play within a group.

C-Sessions related to emotion usage

- **Session (5):** This session emphasized on ways of understanding emotions of another; using a mood mask that make patient can understand and know the feelings of another person.

- **Session (6):** This session focused on understanding complex emotions, developing the ability to switch emotions and find happiness, developing emotional inference skills, and providing hopeful and positive feedback to others.

D-Sessions related to emotional regulation

- **Session (7):** This session focused on allowing patient to recognize self-emotions before response and expression, explaining and developing emotion regulation strategies and tools needed to control emotions (and create a new future based on the past.

- **Session (8):** This session focused on recognizing and expressing a depressed mood, recognizing and dealing with rage and anxiety and negative emotions as a whole, and providing a summary of all sessions.

Evaluation phase (Post-test):

The aim of this phase was to evaluate the effect of current program on emotion recognition and emotional expression of patient with schizophrenia. This was done by re-applying tool II, III twice (post/test):

First time: Immediately following program implementation.

Second time: Following implementation of the program with three months, the researchers contact with studied patients after discharge at outpatient follow up clinics by taking telephone number of patients and their family. The researchers collect data from the studied patients during morning shift. The total period of collecting data at this phase was 6 weeks, two days/week and about 6 patients/day.

Statistical analysis: SPSS software statistical computer package version 26 was used to organize, tabulate, and statistically analyze the collected data.

The range, mean, and standard deviation was used for calculating quantitative data. The Chi-square test (2) was used to compare qualitative data. Pearson and Spearman's correlation coefficients r were used to assess the correlation between variables. For the interpretation of significance test results, a significance level of P0.05 was used. In addition, a highly significant level of P0.01 was chosen for the interpretation of significance test results

Results

Table (1): Percentage distribution of studied patients' socio-demographic characteristics (n=50)

Socio-demographic Characteristics	The studied patients(n=50)	
	N	%
Age (in years)		
18-<30	34	68
40-	9	18
≥50	7	14
Mean±SD 35.08±12.92		
Gender		
Male	28	56
Female	22	44
Marital status		
Single	5	10
Married	14	28
Divorced	12	24
Continue table (1)		
Widow	16	32
Separated	3	6
Level of education		
Illiterate	11	22
Read and write	12	24
Secondary education	9	18
University education	14	28
Post graduate	4	8
Occupation		
Work	16	32
Not work	34	68
Place of residence		
City	20	40
Village	30	60
Income		
Enough	17	34
Not enough	33	66
(Cohabitation)With whom you live		
Father	6	12
Mother	3	6
Sibling	5	10
Husband / wife	24	48
Single	10	20
Other mention	2	4

Table (2): Clinical characteristics of studied patients (n=50)

Clinical data	The studied patients (n=50)	
	N	%
Age of the onset of the disease		
18-<30	18	36
Continue table (2)		
30-<40	22	44
40-<50	2	4
50 years and more	8	16
Mean±SD 34.6±7.25		
Number of previous psychiatric hospitalizations		
No previous admission	6	12
< 3 Times	16	32
3-< 6 Times	20	40
6 Times and more	8	16
Duration of the onset of disease		
1 < 5 years	22	44
5- < 10 years	16	32
10 years and more	12	24
Mean±SD	7.47±5.37	
Mode of admission		
Voluntary	22	44
Involuntary	28	56

Table (3): Total level of emotion recognition of the studied patients throughout periods of study. (n=50)

Total level of emotion recognition	Pre		Immediate		Post		Chi-square			
							Pre& Immediate		Immediate& post	
	N	%	N	%	N	%	X²	P-value	X²	P-value
High	7	14	36	72	33	66	40.569	<0.001*	0.423	0.809
Moderate	12	24	10	20	12	24				
Low	31	62	4	8	5	10				

Table (4): Total level of emotion recognition subscales among studied patients throughout periods of study (n=50).

Subscales Of emotion recognition	Pre						Immediate						Post						Chi-square			
	High		Mode rate		Low		High		Mode rate		Low		High		Mode rate		Low		Pre& Immediate		Immediate & post	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	X2	P-value	X2	P-value
Emotional attention	7	14	11	22	32	64	35	70	9	18	6	12	33	66	12	24	5	10	36.656	<0.001*	0.578	0.749
Feelings Clarity	6	12	13	26	31	62	37	74	12	24	1	2	34	68	14	28	2	4	50.514	<0.001*	0.614	.736
Mood repair	8	16	15	30	27	54	38	76	10	20	2	4	36	72	11	22	3	6	42.117	<0.001*	0.302	0.860

Table (5): Total level of emotional expression of the studied patients throughout periods of study (n=50)

Total Emotion expressivity	Pre		Immediate		Post		Chi-square			
							Pre& Immediate		Immediate& post	
	N	%	N	%	N	%	X²	P-value	X²	P-value
High	10	20	38	76	36	72	33.671	<0.001*	0.224	0.894
Moderate	15	30	8	16	9	18				
Low	25	50	4	8	5	10				

Table (6): Correlations between total score of both emotion recognition and emotional expression of the studied patients throughout periods of the study (n=50)

Total score of emotion recognition	Total score of emotional expressivity	
	R	P-value
Pre	0.727	<0.001*
Immediate	0.358	<0.001*
Post	0.884	<0.001*

* Statistically significant relation: p- value less than 0.05

Table (1): Clarifies socio-demographic characteristics distribution of the studied patients. Regarding age; more than half of patients (68%) aged from 18 to less than 30 years old with a mean ±SD 35.08±12.92. More than half of patients (56%) were male. About one third of patients (32.0%) were widowed. It is founded that (28%) of the studied patients had university education. More than two-thirds of the studied patients (68%) were unemployed. Concerning the place of residence; about two thirds (60%) of them were living in village. As regards to income; two thirds (66%) of studied patients had not enough income.

Table (2): Represents clinical data of the studied patients. Regarding the age of disease onset, it showed that 44% of the studied patients were aged from 30 to 40 years old at the onset of disease with a mean in years (34.6±7.25). Regarding the number of previous hospitalization, 40 % of studied patients were admitted from three to six times. Regarding the duration of the onset of disease, 44 % of the studied patients had the illness from 1 to 5 years with a mean in years (7.47±5.37).Regarding the mode of admission, 56% of the studied patients were admitted involuntary.

Table (3): Illustrates total level of emotion recognition of the studied patients throughout phases of the study. It demonstrates that approximately two-thirds of the studied patients (62%) had a low level of emotion recognition prior to the program, which increased to a high level immediately (72%) and three months later (66%).

Table (4): Demonstrates total level of emotion recognition subscales among studied patients throughout periods of study. According to emotional attention subscale, 64% of the studied patients had low levels prior to the program, but that levels increased immediately and after three months (70% and 66%, respectively). Regarding emotional clarity subscale, 62% of the studied patients had a low level prior to the program, while the level increased immediately and after three months (74% and 68%, respectively). Concerning the patient's mood repair level, it was found that 54% of the studied patients had a low level prior to the program, while the level increased immediately and three months later (76%

and 72%, respectively). Whereas, there is a highly statistically significant difference between the total level of all emotion recognition subscales before and after the program (p =0.001**).

Table (5): Illustrates total level of emotional expression of the studied patients throughout all study periods. It shows that half of the study subjects (50%) had low emotional expression level pre the program which increased to high level immediate (76%) and post the program with 3month (72%). Whereas, there is a highly statistical significant difference among all levels of emotional expressivity of the studied patients among pre and immediate period of the program at (p <0.001**).

Table (6): Represents correlations between total score of both emotion recognition and emotional expression of the studied patients throughout periods of the study. A highly positive statistical significant correlation between emotional recognition and emotional expression throughout periods of the study was found as **p <0.001***.

Discussion
Schizophrenia is a chronic and serious mental disorder **(Park, Jang 2021).** People with schizophrenia frequently experience difficulties at work or in their familial relationships as a result of their positive symptoms (e.g., hallucinations, delusions, and bizarre behaviors), as well as negative symptoms such as affective flattening, which reduces their quality of life. Patients with schizophrenia have a reduced capacity for reading or empathizing with the emotions of others, as well as using inappropriate emotional expression and communication techniques (**Moussa 2021).**

Emotions are important in the formation and maintenance of social relationships because they help to coordinate social interactions. Unsurprisingly, emotional disturbances have significant social consequences **(Moussa 2021).** Emotion management program for patients with schizophrenia in this study monitor two dimensions namely emotion recognition and emotional expressivity. Concerning level of emotion recognition, it was found that, the studied patient's emotion recognition level significantly increased immediately and post three months of the

program than prior program. This is supported by (**Park et al., 2021**) who found that, the estimated mean score of emotion recognition of patients with schizophrenia increased after emotion management program by 3.07 at two weeks and by 7.00 at the post-test compared with the pretest.

These findings were agree with (**Zou et al., 2018**) who found that , patients with schizophrenia who participated in the emotion management program had improvements in their emotion recognition score at two weeks (i.e., a mid-program test) and four weeks (i.e., post-test) compared to baseline.

The current results assure the program effectiveness on all subscales of emotion recognition. As it was found that about three quadrants of the patients under the study have high level of emotional attention, clarity and mood repair immediately and post three months of the program than prior program. This indicate that content of the program was specific and comprehensive and including variety of training methods like (making masks expressing a particular emotion, role paly) in addition to using attractive photos and videos.

These findings are consistent with those of (**Cho & Jang 2019**), who found that, the emotion management program improved facial expression sensitivity, emotional attention, and emotional clarity in patients with chronic schizophrenia. These results are incongruent with (**Won et al., 2012**) who found that, emotion awareness was negatively correlated with emotion recognition. Also the present results are not in parallel with a study done by (**Moussa 2021**) who stated that, emotional recognition isn't correlated with emotional attention.

Patients with schizophrenia experience emotional problems due to a lack of emotion expression rather than a lack of feelings. In terms of emotional expression, the current study found that, half of the studied patients had low emotional expression levels prior to the program, which can be attributed to a variety of factors such as fear of mentally ill patients expressing their emotions in a small and closed community (hospital), as well as low awareness levels about the importance of expressing feelings. This finding was consistent with (**Kolavarambath et al., 2020**), who discovered that, people with schizophrenia had significantly more difficulty identifying and describing feelings than their non-ill siblings and healthy controls.

While after program, the current results stated that three quarter of the studied patient had an improvement in patients 'level of emotional expression and become high immediately and post program with three months. Participants in this study expressed their emotions by using simple words such as good or bad in the first session, progressing to I'm happy, I'm truly glad, or I feel difficult in the final session. This study found that improvements in participants' emotional expressions were statistically significant.

Such results suggest that the program and its sessions, which focus on training patients to express emotions by repeating various emotional facial expressions, using emotional words, and expressing emotions through various words, are effective. This finding is consistent with research that involved an emotion management training program based on role-playing that was conducted twice a week for 8 weeks (**Cho & Jang 2019**), which discovered that emotional expression was improved to a much greater extent in the experimental group than in the control group.

In the same line (**Kyung et al., 2021**) who discovered that patients with schizophrenia following emotion management training had significantly more difficulty identifying and describing emotions than healthy control. They also used more suppression and less reappraisal than healthy controls, and demonstrated a lower ability to effectively manage emotions, indicating a less adaptive emotion regulation profile. On the other hand, these results are incongruent with (**Cho et al., 2017**) who reported no differences between patients and healthy controls following emotion regulation program.

The present study demonstrate presence of highly positive statistical significant correlation among emotional recognition and emotional expression pre and post program. Such result was consistent with a study (**Tsotsi, Kosmidis & Bozikas 2017**), that included eight weeks of once-a-week, 90-minute training sessions, which shows the effective in helping patients with schizophrenia learn to recognize and express their emotions. This implies that, the current program can possibly be utilized as an intervention to help patients with schizophrenia in the rehabilitation stage learn how to communicate their emotions and recognize them. The researcher observed that, the patients during session were enjoyed with attractive presentation of the current program content. Also, the program was conducted on small group. Dividing current study participant into small groups facilitate group discussion, exchange experience and enrich sessions with a valuable and an interesting atmosphere, and provide adequate time for study participants to benefit from learned program content.

Conclusion

Based on the current study's findings, it was concluded that an emotion management program improve emotional recognition and expression of people with schizophrenia.

Recommendations

1. Emotion Management Program should be implemented regularly as an integral part of rehabilitation interventions for patients with schizophrenia during rehabilitation for cumulative and consistent effects.
2. Emotional Management programs for schizophrenic patients should be based on training methods that employ attractive strategies for helping patients and allowing sufficient time for improvement to occur.
3. Follow up of schizophrenic patients in the community after hospital discharge is important to ensure the continuity of improved emotional expression and recognition.

Conflict of interest

The authors states that they haven't conflict of interests **Acknowledgement**

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