Effect of Emotion Management Program on Self-Compassion and Emotional Regulation Difficulties among Patients with Schizophrenia

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Abstract

Background: Schizophrenia is a serious mental disorder with a wide variety of symptoms which negatively affect patients' self-compassion and emotion regulation. Emotion management program is a nursing intervention that can be administered to patients with schizophrenia to reduce these problems. **Aim**: Evaluate the effect of emotion management program on self-compassion and emotional regulation difficulties among patients with schizophrenia **Research design:** The aim of this study was achieved through utilizing a quasi-experimental research design. **Sample:** included 50 patients with schizophrenia were chosen as a purposeful sample. **Setting:** this research was applied at the psychiatric inpatient unit of Minia Psychiatric Health and Addiction Treatment Hospital in New Minia city. **Tools:** Three tools; Structured Interview Questionnaire, self-compassion scale short-form (SCS-SF) and difficulties in emotion scale (DERS) were used **Results**: showed that there was a statistically significant variance in total score of self-compassion, and emotional regulation difficulties scores among the studied patients after program implementation. **Conclusion:** It was concluded that emotion management program effectively enhances self-compassion and decreases emotional regulation difficulties among patients with schizophrenia. **Recommendation:** Establishing training programs for psychiatric mental health nurses to apply programs to assist patients in enhancing their self-compassion and emotion regulation.

Keywords: Schizophrenia, Self-compassion, Emotion regulation, Difficulties, Emotion management

Introduction

Schizophrenia (SCZ) is a psychotic disorder characterized by disturbances in thinking (cognition), emotional responsiveness, and behavior that disconnects the mind from reality **(Osburn, 2023)**. Globally, SCZ impacting around 1.1–1.8% of the overall population **(Au& Harvey, 2020)** and remains one of the top 10 causes of disability worldwide **(Paul et al., 2022)**. Moreover, schizophrenia is considered one of the most common chronic mental disorders in Egypt, with a poor prognosis, including delayed recovery, impaired daily functioning, social roles, and quality of life **(Hamed et al.,2024)**.

Self-compassion refers to how the person understand and act kindly towards self when faced with personal failure, suffering, and feelings of inadequacy **(Rushforth et al., 2023)**. The construct of Self-compassion is conceptualized as a bipolar continuum ranging from uncompassionate self-responding to compassionate self-responding in moments of distress **(Neff, 2022)**. the construct consists of three interrelated elements: self-kindness versus self-judgment, a sense of common humanity versus isolation, and mindfulness versus over-identification. **(Arslan, 2023)**.

Self-kindness includes forgiveness, empathy, sensitivity, warmth, and patience toward all aspects of oneself in times of suffering, accompanied by complete acceptance of one's own fallibility and the desire to care for oneself in moments of grief and pain. (**Ewert et al., 2021).** In addition, common humanity, which pertains to the acknowledgment that all human beings face challenges in life and hence are subject to drawbacks and suffering; and mindfulness, which has to do with an awareness of personal discomfort while maintaining the perspective on other more

positive aspects in life **(Muris& Otgaar, 2023)**. These three positive elements of self-compassion promote an attitude of compassion towards self and other **(Spears, 2023)**.

Interestingly, Self-compassion can be viewed as a useful emotion regulation strategy to cope with adversity since it provides soothing oneself with warmth, acceptance, and care **(Kim et al., 2022)** In individuals with SCZ, self-compassion is negatively associated with positive symptoms, negative symptoms, as well as cognitive disorganization, excitement, and emotional distress The higher the self-compassion the lower the discomfort patients felt with their symptoms**(Mavituna et al., 2023 & Athanasakou et al., 2020)**.

Emotion regulation is an individual's ability to control and modify their emotional reaction to facilitate adaptive responses to their environment **(Barden, 2023)**. It consists of three stages , identification, selection and implementation **(Bartolomeo et al.,2022)**. Identification (detecting an emotional response and determining whether to make an emotion regulation attempt or not), selection (choosing an emotion regulation strategy that is contextually appropriate), and implementation (executing the selected strategy). **(Berglund et al., 2023)**.

Unfortunately, SCZ is a disorder characterized by abnormalities at each stage of emotion regulation **(Berglund et al., 2023)**. Most importantly, difficulty in emotion regulation is associated with a wide range of adverse clinical outcomes, including positive symptoms, negative symptoms, and impaired functional outcomes **(Bartolomeo et al., 2021; & Fitzpatrick et al., 2023)**. In addition, in patients with SCZ self-compassion are associated positively with positive affect, affect regulation, and variables relating to psychological recovery **(Mavituna et al., 2023).**

Emotion management program is considered an evidence-based nursing care focused on emotional problems of patients with psychiatric disorders (**Tawfik et al., 2021**). The program aims at developing both the ability to identify the targets of change to actively modify emotions in an adaptive manner and the ability to tolerate and accept distressing emotions when they cannot be changed. Finally, the ability to provide self-support as referred to self-compassion when experiencing unwanted emotions is also developed (**Nandrino et al., 2021**).

Psychiatric nurses play key roles in communicating with, determining needs, maintaining the care and treatment of schizophrenic patients **(Uzun& Lok, 2022).** Also, observe the emotions experienced by the patients, recognize the difficulties that schizophrenic patients experience in recognizing and regulating emotions, encourage a gentle, accepting, and kind response towards the self during emotional suffering and provide important data for the interventions of emotion management. These interventions include many attempts such as teaching healthy emotion regulation patterns, enhancing emotion regulation by improving emotional memory, and determining the meanings and causes of emotions **(Çam & Soylu, 2021)**.

Significance of the Study

Approximately 24 million people, or 1 in 300 persons, worldwide suffer from schizophrenia **(WHO, 2022)**. Importantly, SCZ is the most common chronic psychosis in Egypt, accounting for the majority of inpatients in mental hospitals **(Alam et al., 2023)**. There are between 0.5 and 1.5 million people with schizophrenia in Egypt, and between 10,000 and 25,000 new cases are reported each year **(Abd ElWahab, et. al., 2020**). In addition, an Egyptian study conducted by **Hamed, et al., (2024)** found that most of studied patient of schizophrenia had a lower level of self-compassion. Also, in individuals with schizophrenia, lower levels of self-compassion have been linked to lesser levels of well-being and higher symptomatology **(Hochheiser, 2020).**

Indeed, emotional dysregulation is prevalent among individuals with schizophrenia and is considered a core feature of the disorder **(Kimhy et al., 2020).** Also, an Egyptian study conducted by **Ebeid et al., (2022)** reported that 64% of patients with SCZ had a high level of emotional regulation difficulties. More over in patients with SCZ, positive symptoms such as hallucinations and delusions and negative symptoms such as withdrawal are associated with maladaptive emotion regulation strategies and patient with SCZ prefers to use the maladaptive emotion regulation strategies (e.g., suppression) more often and the adaptive emotion regulation strategies (e.g., reappraisal) less frequently than the healthy controls **(Tunc & Gul, 2023)**.

Aim of the Study

The current research aimed to evaluate the effect of emotion management program on self-compassion and emotional regulation difficulties among patients with schizophrenia.

Research hypothesis:

H1: Patients who will receive emotion management program will exhibit higher level score of self-compassion after the program implementation.

H2: Patients who will receive emotion management program will exhibit lower level score of emotional regulation difficulties after the program implementation.

Research design: -

Pre and post-test quasi-experimental research design was utilized to accomplish the aim of the present research.

Setting:

This study was conducted at Minia Psychiatric Health and Addiction Treatment Hospital in New Minia city. This hospital consists of two floors; the first floor is for the outpatient clinics, pharmacy and female inpatient unit, while the second floor includes administrations offices, addiction treatment department and male inpatient unit and also the nursing office. The capacity of the psychiatric departments in the hospital is 53 beds. The hospital serves Minia governorate and its nine districts.

Sample: -

A purposive sample of 50 patients diagnosed with schizophrenia was included in the study. According to the previously mentioned hospital registration office, the total number of patients with schizophrenia admitted to the inpatient's psychiatric unit in 2023 was 180 patients. The following calculation formula was utilized to determine the appropriate sample size: **(Taherdoost, 2017).**

$$N = \frac{t2 \quad x \quad p\,(1\text{-}p)}{m2}$$

Accordingly, the size of the sample was determined to be 50 patients based on the calculation considering a margin of error set at 5%, a confidence level of 95%, and a population size of 180.

Description:

N= required sample size.

t = confidence level at 95 % (standard value of 1.960).

p = estimated prevalence of patients with schizophrenia admitted to the inpatient's psychiatric unit in Minia Psychiatric Health and Addiction Treatment Hospital in 2023.

m = margin of error at 5 % (standard value of 0.050).

Inclusion criteria:

1. Age from 18 years and more.
2. Patients diagnosed with schizophrenia by the psychiatrist.
3. Patients who can communicate effectively.

Exclusion criteria:

1. Patients with Mental Retardation (MR).
2. Patients with dual diagnosis.
3. Patients with organic brain disease.
4. Patient in acute symptoms phase of the disease.

Study tools:

The required data were gathered using the subsequent tools: -

Tool I: Structured Interview Questionnaire:

The researcher developed this tool, which was comprised of 2 portions:

Part 1: Demographic questionnaire: -

This questionnaire was developed by the researcher after reviewing relevant literature. The tool covered the patient's socio-demographic data including age, sex, residence, educational level, marital status and occupation.

Part 2: - Patient's clinical data sheet: -

This sheet included: duration of illness, frequency of hospitalization, duration of hospitalization and mode of admission.

Tool II: Self-Compassion Scale–Short Form [SCS–SF]):

Self-Compassion Scale–Short Form [SCS–SF] was developed by **(Raes et al., 2011).** Consisting of 12 items from the original version of the questionnaire that measure the six core dimensions of self-compassion: self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification. The SCS-SF items are rated on a 5-point response scale ranging from 1 (almost never) to 5 (almost always) including two items on each of the six components. The six components represent three compassionate and three uncompassionate approaches to oneself in the face of suffering. Each of the two subscale items on the components self-judgment, isolation and over-identification are negative and are reversed before computing the total score. Thus, scores range

from 12 to 60, with higher scores indicating higher self-compassion.

Scoring systems:

- 12-27 indicated a low level of self-compassion.
- 28-43 indicated a moderate level of self-compassion.
- 44-60 indicated a high level of self-compassion.

Tool III: Difficulties in Emotion Regulation Scale (DERS):

DERS was developed by **Gratz & Roemer (2004)** to measure any difficulties in emotion regulation. The original research reported that the scale included 36 items and six subscales. The subscales are: (1) Non acceptance of emotional responses; (2) Lack of emotional, (3) Lack of emotional awareness;(4) Difficulties engaging in goal-directed behavior in stressful situations; (5) Impaired ability to control impulsive behaviors; and (6) Limited access to different ER-strategies.

Participants was asked to indicate how often the items apply to themselves, with responses ranging from 1 to 5, where1=almost never,2= sometimes, 3 = about half the time, 4 = most of the time, and 5 = almost always. The total score ranged from (36 to 180) obtained by summing the corresponding items. Higher score suggested greater problems with emotion regulations. There were 11 negative items which had reverse score include the items (7, 10, 12, 13, 14, 15, 16, 17, 20, 26, 31).

Scoring systems: The levels of difficulty in emotion regulation and its' subscales was obtained by the following way:

- 36-83 referred to a lower level of emotional regulation difficulties.
- 84-131 indicated a moderate level of emotional regulation difficulties.
- 132-180 indicated a higher level of emotional regulation difficulties.

Validity:

The validity of the study tools was tested by panels of five Psychiatric and Mental Health Nursing experts. The researcher translated the scales into Arabic and then reviewed them by the five experts for comprehensiveness, item sequencing, clarity, relevance, formatting, applicability, and length. Minor changes have been made such as rephrasing of certain sentences based on the suggestions of experts. All modifications were done.

Reliability

Self-Compassion Scale-Short Form (SCS–SF) and Difficulties in Emotion Regulation Scale (DERS) were calculated using Cronbach's alpha coefficients test which was 0.92 & 0.90, respectively which indicate a good reliability.

The training Program:

The training program had been executed by undertaking the subsequent phases:

1- Assessment phase:

The aim of this phase was to assess self-compassion and emotional regulation difficulties among patients with schizophrenia. Once offering a detailed explanation about the nature and purpose of the study, each patient was personally interviewed to gather the necessary data. According to the results of the assessment in this phase, the program and media was prepared by the researcher in the form of teaching methods such as lectures, discussion and others which reviewed by supervisors.

2- Preparatory phase:

The program's strategy, duration, session's number, teaching methods, and supporting media were all designed during this phase. Additionally, the suitability of the program's facilities and the teaching environment was examined. The program comprised a variety of teaching methods, including lectures, group discussions, photographs, role playing. videos, PowerPoint, emotional word cards, emotional face cards, emotional sentence cards and emotional mask. The total number of the sessions was short 6 sessions and the duration of program was only 3 weeks, two sessions every week; the duration of each session was ranged from 60-120 minutes according to the needed explanation. Teaching sessions of the program was conducted at the inpatient units of male and females separately of Minia psychiatric health and addiction treatment hospital.

3- Implementation phase.

The program was implemented for ten subgroups; each subgroup contained five participants to facilitate the interaction. The same training program was implemented for each subgroup of the participated patients. During the beginning of each session, the researcher welcomed

the patients and take their consent to participate in the study. After that, the researcher clarified the session's purpose and content.

Throughout the training program, teaching techniques as group discussion, modelling, and role-playing has been used. The researcher used different methods of reinforcements as bringing different kinds of sweets and simple presents, and moral support as encouraging them through using words of praise which motivate the patients to participate during the sessions and practice the skills efficiently.

At the end of each session, the researcher provided a summary about the content of the session, asked if the patients had any questions, and told them about the time of the next session. Also, the researcher provided the patients with homework assignment related to each session. After finishing the implementation of the program for the 1St subgroup; the program was applied on the second five patients and soon until finishing the ten subgroups. Each new session was started with feedback about the previous one and discussion about the planned activities were done. The topics were presented slowly and briefly using simple and understandable language; mutual interactions and continuous repetitions were carried out.

The subsequent sessions would cover the training program:

Session 1: Introduction about (the program, purpose, session's time, session's interview place and content) and brief explanation about schizophrenia, its signs as well as its treatment.

Session 2: Consists of brief explanation about self-compassion definition and its elements, definitions, importance, stages of emotion regulation and role of self-compassion in emotion regulation.

Session 3: Emotional perception training (practicing the patient to be aware and recognize one's own emotions) and relaxation is practiced as a skill to control emotions and release the negative emotions through (deep breathing).

Session 4: Emotion expression training which comprises four types of exercises (firstly, making facial expression exercise secondly, facial expression relay exercise followed by express emotion by using image and finally, express emotion by using sentence).

Session 5: Emotion application training (training the patient on sharing their feelings and emotion inference).

Session 6: Emotional control training which help the patient cope with negative emotions (positive reappraisal ,acceptance and putting into perspective strategies)

4-Evaluation of the program:

The program was evaluated two times using the same study tools; firstly, before implementing the program (pretest); secondly, one month after implementation the program (posttest).

Pilot Study: -

As a mean of assessing study's tools regarding their clarity, applicability, and time needed to complete them, a pilot study was performed on exactly 10% (5 participants) of the entire sample size. The outcomes of the pilot study had been utilized in order to validate the outlined statistical and data analysis techniques. The instruments were successfully finished without any troubles, supporting the equipment's validity. This study excluded patients who took part in the pilot study.

Ethical Considerations:

A written initial approval was obtained from Ethical Committee of the Faculty of Nursing, Minia University (code of protocol acceptance **REC2024310**). An official permission was obtained from the General Secretariat of Mental Health and Addiction Treatment, asking for permission to conduct the study. The patients of schizophrenia were given a detailed explanation of the study's purpose, nature and then asked to provide an oral and written consent in order to gain their acceptance and cooperation. Studied patients were being notified that their involvement in the study was entirely optional and they could leave the study whenever they wanted without giving justifications. patients' confidentiality was being ensured to every patient.

Statistical Analysis

Data were analyzed using the statistical package for social science (SPSS) version 22. Numerical data were expressed as mean and SD. Quantitative data were expressed as frequency and percentage. For quantitative data, comparison between two variables mean were done using t-test, and comparison between more than two variables mean used ANOVA test. Wilcoxon test was used to compare more than two percentage. It was used for comparing more two independent samples of equal or different sample sizes. Also, relations between

different numerical variables were tested using Pearson correlation. Probability (p-value) less than 0.05 was considered significant and less than 0.001 was considered highly significant.

Results:

Table (1): Frequency distribution of patient's demographic data (no.=50).

Patient's socio-demographic data	no.=50	
	no.	%
Age		
● 18-<30 yrs.	20	40.0
● 30-<45yrs	28	**56.0**
● 45 and more.	2	4.0
Mean ± SD	**40.18± 3.33**	
Sex		
● Male	31	**62.0**
● Female	19	38.0
Residence		
● Urban	18	36.0
● Rural	32	**64.0**
Level of education		
● Illiterate	9	18.0
● Secondary education	29	**58.0**
● High education	12	24.0
Marital status		
● Single	28	**56.0**
● Married	18	36.0
● Divorced	4	8.0
Occupation		
● Worked	24	48.0
● Not Worked	26	**52.0**

Table (1) shows that concerning age, 56% of the patients were between 30-<45 years old with Mean ± SD (40.18± 3.33). More than half of patients were male (62%), while 64% of patients were living in rural areas. In addition, slightly more than half were having secondary education (58%). Also, 56% of patients were single and about half of them (52%) were not worked.

Table (2): Frequency distribution of patient's clinical data (no.=50).

Patient's clinical data	no.=50	
	no.	%
Duration of illness		
● <1 yrs.	13	26.0
● 1-<3yrs.	10	20.0
● 3-<5yrs.	6	12.0
● 5 yrs. and more	21	**42.0**
Mean ± SD	**3.28± 2.02**	
frequency of hospitalization		
● Once	16	**32.0**
● Twice	12	24.0
● Three times	12	24.0
● More than 3 times	10	20.0
Duration of current hospitalization		
● One week	12	24.0
● Two weeks	29	**58.0**
● One Month	8	16.0
● More than month	1	2.0
Mode of admission		
● Voluntary	5	10.0
● Involuntary	45	**90.0**

Table (2) demonstrates that 42% of the studied patients have the disease since 5years and more with Mean ± SD (3.28± 2.02), while 32% of them are hospitalized for the first time. Slightly more than half of patients are hospitalized for two weeks (58%). Also, 90% of them are admitted to the hospital involuntarily.

Table (3): Comparison between mean scores of patients' total self-compassion and its dimensions pre as well as post the program (no=50)

Items	Pre- Program	Post- Program	Test of significance	
	Mean ± SD	Mean ± SD	t-test	P
1-Self kindness	4.22± 1.74	6.94± 2.38	8.62	0.001**
2-Self-judgment	**5.10± 2.22**	**6.94± 2.35**	5.22	0.001**
3-Common humanity	4.40 ± 2.19	7.36± 2.46	8.40	0.001**
4-Isolation	4.54± 2.22	7.10± 2.59	6.81	0.001**
5-Mindfulness	4.44± 1.98	7.36 ± 2.17	8.55	0.001**
6-Over- identification	4.92± 2.42	7.20± 2.59	6.31	0.001**
Total Self-Compassion	**27.62± 8.22**	**42.90± 11.73**	9.89	0.001**

No significant difference (p value >0.05) *: Significant difference (p value ≤ 0.05)
**: highly significant difference (p value ≤ 0.001)

Table (3) shows that there are highly statistically significant differences between the pretest and posttest regarding total self-compassion and its all dimensions with (p-value 0.001**). Moreover, the highest mean score is related to self-judgment dimension with M±SD (5.10± 2.22), were increased at post-test to (6.94± 2.35). Regarding the total self-compassion, mean score is (27.62± 8.22) at the pre-test, while it was increased at post-test to (42.90± 11.73).

Table (4): Comparison between mean scores of patients' total difficulties in emotion regulation and its dimensions pre as well as post the program (no=50)

Items	**Pre- Program**	**Post- Program**	**Test of significance**	
	Mean ± SD	**Mean ± SD**	**t-test**	**P**
1-Nonacceptance of emotional responses	18.28± 7.02	11.82± 6.16	7.29	0.001**
2-Lack of emotional clarity	14.74± 5.57	8.70± 3.36	8.07	0.001**
3-Lack of emotional awareness	22.06 ± 4.61	17.28± 4.87	6.79	0.001**
4-Difficulty engaging in goal-directed behavior	15.98±5.99	10.08± 4.58	7.96	0.001**
5-Impulse control difficulties	18.72±7.81	10.84± 4.90	7.58	0.001**
6-Limited access to emotion regulation strategies	**28.08 ±7.06**	**16.90± 7.42**	9.66	0.001**
Total Difficulties in Emotion Regulation	**117.86±23.05**	**75.62±24.64**	10.68	0.001**

No significant difference (p value >0.05) *: Significant difference (p value ≤ 0.05)
**: highly significant difference (p value ≤ 0.001)

Table (4) demonstrates that there were highly statistically significant differences between the pretest and posttest regarding total difficulties in emotion regulation and it's all dimensions with (p-value 0.001 **). In addition, at the pre-test, the highest mean score is related to limited access to emotion regulation strategies dimension with M±SD (28.08± 7.06), while this score decreased at post-test to (16.90± 7.42). Regarding the total difficulties in emotion regulation, the mean score is (117.86± 23.05) at the pre-test, while it decreased at post-test to (75.62± 24.64).

Table (5) Relation between patients' demographic and their self-compassion (no.50)

Patient's socio-demographic data	**Pre- Program**	**Post-Program**
	Mean ± SD	**Mean ± SD**
Age		
● 18-<30 yrs.	25.40±7.62	42.150±11.15
● 30-<45yrs	29 ±8.64	43.04±12.61
● 45 and more.	**30.50+4.95**	**48.50+3.54**
Anova test (p-value)	1.26 (0.293NS)	0.26 (0.770NS)

Patient's socio-demographic data	Pre- Program	Post-Program
Level of education		
• Illiterate	24.44±6.62	40.67±14.59
• Secondary education	26.31±7.36	42.41±11.44
• High education	**33.17+9.21**	**45.75+10.56**
Anova test (p-value)	4.28 (0.020*)	0.53 (0.591NS)
Marital status		
• Single	**29.86+8.77**	44.71±11.19
• Married	24.33±6.86	39.50±12.94
• Divorced	26.75±5.68	45.50+7.85
Anova test (p-value)	2.67(0.080NS)	1.19 (0.311NS)
Sex		
• Male	**28.32+8.96**	**46.35+10.03**
• Female	26.47±6.92	37.26±12.36
t-test (p-value)	0.77(0.446NS)	2.85(0.006*)
Residence		
• Urban	29.17±8.75	43.11±10.80
• Rural	**26.75+7.91**	**42.78+12.39**
t-test (p value)	0.99 (0.323NS)	0.09 (0.925NS)
Occupation		
• Worked	**28.25+8.98**	42.25±12.14
• Not Worked	27.0385±7.576	43.50±11.54
t-test (p-value)	0.52(0.608NS)	0.38(0.711NS)

No significant difference (p value >0.05) *: Significant difference (p value ≤ 0.05)
**: highly significant difference (p value ≤ 0.001)

Table (5) illustrates that there is significant relation between patient's self-compassion mean score and their sex at posttest at p-value (.006*). Moreover, the highest mean score is among male at pre and posttest with M±SD (28.32±8.96, 46.35±10.03) respectively. Also, it was observed that there is a significant relation between patient's self-compassion mean score regarding education at pretest at p-value (0.020*). The highest mean score is among patients who have a high level of education at pre and posttest with M±SD (33.17±9.21, 45.75±10.56) respectively.

Concerning the highest mean score of self-compassion is among age group (44 and more) years during pre and posttest with M±SD (30.50±4.95, 48.50±3.54) respectively. While, the highest mean scores of self-compassions is among single patients with M±SD (29.86±8.77) at the pre-test. Regarding residence, it was observed that the highest mean score of self-compassion is among patients live in urban area with M±SD (29.17±8.75) at the pre-test and (43.11±10.80) at the post-test as well as the highest mean scores of self-compassions is among worked patients with M±SD (28.25±8.98) at the pre-test.

Table (6) Relation between patients' demographic and their difficulties in emotion regulation (no.50)

Patient's socio-demographic data	Pre- Program	Post-Program
	Mean ± SD	Mean ± SD
1-Age		
• 18-<30 yrs.	**123.70+20.33**	**78+26.98**
• 30-<45yrs	113.61±24.95	74.89±23.88
• 45 and more.	119±12.73	62±5.66
Anova test (p-value)	1.13(0.333NS)	0.40 (0.672NS)
2-Level of education		
• Illiterate	119.56±17.29	83.22+31.80
• Secondary education	**121.72+21.77**	74.76±23.99
• High education	107.2500±27.88	72 ±21.97
Anova test (p-value)	1.76(0.184NS)	0.57(0.572NS)
3-Marital status		
• Single	115.86±23.42	74.71±22.63
• Married	**123.50+22.23**	**80.33+28.49**
• Divorced	106.50±23.19	60.75±16.52
Anova test (p-value)	1.14(0.329NS)	1.08 (0.348 NS)

Patient's socio-demographic data	Pre- Program	Post-Program
	Mean ± SD	Mean ± SD
4-Sex		
• Male	119.39±25.18	69.48±21.66
• Female	115.37±19.445	**85.63+26.46**
t-test (p-value)	0.60(0.555NS)	2.35 (0.023*)
5-Residence		
• Urban	111.56±23.93	71.44±21.76
• Rural	**121.41+22.12**	**77.97+26.16**
t-test (p value)	1.47(0.149NS)	0.90(0.374)
6-Occupation		
• Worked	115.50±25.65	75.71±26.17
• Not Worked	**120.04+20.63**	75.54±23.66
t-test (p-value)	0.69 (0.492NS)	0.02 (0.981NS)

No significant difference (p value >0.05) *: Significant difference (p value ≤ 0.05)
**: highly significant difference (p value ≤ 0.001)

Table (6) shows that there is significant relation between patient's difficulties in emotion regulation mean score regarding to sex at posttest at p-value (.023*). Moreover, the highest mean score is among female during the post-test with M±SD (85.63+26.46). Concerning the highest mean score of difficulties in emotion regulation is among age group (18-<30) years during pre and posttest with M±SD (123.7000+20.331, 78.0000+26.983) respectively. Concerning the highest mean scores of difficulties in emotion regulation is among patients who have secondary education with M±SD (121.72+21.77) at the pre-test. Also, the highest mean score of difficulties in emotion regulation is among patients who are married during pre and posttest with M±SD (123.50+22.23, 80.33+28.49) respectively. Regarding residence, it was observed that the highest mean score of difficulties in emotion regulation is among patients live in rural area with M±SD (121.41+22.12) at the pre-test and (77.97+26.16) at the post-test as well as the highest mean scores of difficulties in emotion regulation is among unemployed patients with M±SD (120.04+20.63) at the pre-test.

Table (7): Correlations between self-compassion and Difficulties in emotion regulation among patients (no=50)

Variables	Pre- Program				Post- Program			
	Difficulties in Emotion Regulation		Self-Compassion		Difficulties in Emotion Regulation		Self-Compassion	
	r	p	r	P	r	p	r	p
Difficulties in Emotion Regulation	1	1	-.572-**	.001			-.817-**	.001**
Self-Compassion	-.572-**	.001	1	1	-.817-**	.001**		

N.B *Significant is considered highly significant at (p-value <0.01)

Table (7) represents that there is a highly statistically significant negative correlation between the difficulties in emotion regulation of the studied patient and their self-compassion in pretest at r = -.572-**, p< .001**. Also, there is highly statistically significant negative correlation between difficulties in emotion regulation and self-compassion of the studied patients in posttest at r = -.817-**, p < 0.001**.

Discussion

Self-compassion plays a significant role in the mental health of individuals with schizophrenia, it is negatively associated with excitement, emotional distress, positive and negative symptoms, as well as cognitive disorganization. The higher the self-compassion the lower the discomfort patients feel with symptoms **(Mavituna et al., 2023 & Athanasakou et al., 2020**). Also, in patients with SCZ, positive symptoms such as hallucinations and delusions and negative symptoms such as withdrawal are associated with maladaptive emotion regulation strategies **(Tunc & Gul, 2023).** So, the aim of this study was to evaluate the effect of emotion management program on self-compassion and emotional regulation difficulties among patients with schizophrenia.

Regarding demographic and clinical data of the studied patients, the present study demonstrated that more than half of the patients their age ranged from 30-<45 years. This may be due to stressful life events at this age which can trigger psychosis in

vulnerable individuals. This result was consistent with **Ali et al., (2024)** who found that less than half of the studied patients with schizophrenia were between 35 –< 45 years. In addition, a study conducted by **Abdelhameed et al., (2024)** showed that more than three quarters of patients having schizophrenia aged between 25 - 45 years.

The current study results revealed that more than half of the patients were males. This might be because; schizophrenia affects men more frequently than it does in women, and they were experiencing schizophrenia at a younger age than women do. This result was supported by the study carried out by **Ahmed et al., (2022)** who reported that, nearly three quarters of the studied schizophrenic patients were male.

Concerning the residence's type, the study's findings illustrated that, more than half of studied patients were from rural area. This might be result from cultural difference and habits of rural area, also, there is an ignorance of concept of mental health among individuals living in rural residence. In addition, this might be due to the fact that such areas had low socioeconomic status which all play a key role in incidence of schizophrenia and also its chronicity. This outcome was consistent with **Yousef et al., (2022)** who found that more than three quarters of the studied patients with schizophrenia belonged to rural regions.

In relation to level of education, the present study indicated that greater than half of the patients had secondary education. This might be due to that schizophrenia affect cognitive function negatively which including executive function, memory, attention, and abstract reasoning that have been recognized as core feature of schizophrenia which consequently influence on educational level. This finding was compatible with a research performed by **Ahmed et al., (2022)** who mentioned that more than half of the studied samples had secondary education.

As pointing to the marital status, more than half of the participants were single, which might be due to the stigma associated with the mental illness that limit most of patients with schizophrenia to be married as other individuals considering them less than others in responsibility, in addition, it might be due to those patients with schizophrenia may experience difficulties in social relationships that lead to reduce their opportunities for marriage where is a social process requiring certain social abilities to be successful. This finding was in line with the findings of **Elsaid et al. (2024)** who noted that over half of the studied individuals with schizophrenia were single.

As regarding to occupation, the study's findings highlighted that about half of the studied patients were not worked. This outcome could be explained as a consequence of level of education as well as might be linked to the effects of schizophrenic symptoms on studied patients, which can impede the patients ability to sustain jobs in which schizophrenia is responsible for the profound dysfunction in all aspects of daily life as well as occupation which affect person's ability to work. Also, this result might be due to self-stigma associated with having a mental condition which may negatively influence a person's opportunity to resume work. This finding was parallel to **Elsherif et al., (2022)** who found that two thirds of studied patients with schizophrenia were not working.

Concerning to the duration of illness, this result illustrated that nearly half of studied patients had a duration of illness since 5 years and more, this was due to the fact that schizophrenia is a chronic progressive psychiatric illness and disabling condition because of its complex etiology, significant impact on daily functioning and it often persists over time, presenting with a range of symptoms that can lead to relapsing and remitting episodes. This finding was in harmony with **Mohamed et al., (2021)** Who found that nearly three quarter of the patients with schizophrenia had the illness for more than 5 years.

Regarding hospitalization frequency, about one third of the studied patients was admitted to the hospital for the first time, this might be due lack of knowledge about mental illness and services and stigma associated with mental illness probably influence help-seeking behaviour. This finding was in accordance with **Mohammed et al., (2022)** who concluded the vast majority of the patients with schizophrenia were hospitalized for the first time.

Concerning self-compassion, this study postulated that, at pre-test; total mean score of self-compassion was low. This impairment in self-compassion might be related to the severity of positive and negative symptoms of schizophrenia in which patients become less willing to pay attention to one's present moment experience as it is happening, and it interfere with patients' ability to process emotion and feel warmth or kindness toward themselves. This outcome was confirmed by **Hamed, et al., (2024)** who reported that, in the studied patient with schizophrenia the total mean score of self-compassion was low. In addition, these results in contrast with the study conducted by

Uzer-Kremers et al., (2020) who found that the self-compassion total score and its subscales were at moderate level among patient with schizophrenia.

According to self-compassion's subscales; the present study's findings predicted that that at pre-test, the highest mean scores of self-compassions was observed in self-judgment subscale. This might be related to patient with SCZ may had self-stigma that arise from societal attitudes and personal beliefs about their condition, leading to feelings of shame and inadequacy and make them focus exclusively on their suffering and have harsh self-criticism. This result is in harmony with **Toshi, et al., (2025)** who confirmed that studied patients with schizophrenia had highest mean score in the self judgement subscale.

The present findings showed highly statistically significant difference in the total self-compassion score between pre and posttest and that the overall score of self-compassion was increased at post-test. Also, the present study's findings indicated that there were highly statistically significant differences in all of self-compassion subscales in the pre and post assessments. Thus, emotion management program has a beneficial impact on increasing self-compassion through making the patient sharing his feelings with each other which makes the patient recognizing that the human condition is imperfect and that the person is not alone in his suffering and can't always get happiness.

Also, through writing down their self-talk. When they criticize themself, and ask themselves whether they would say these words to their friend or not as well as learning reappraisal strategy help the patients to maintains a balanced awareness of negative experiences without suppression or over-identification. Moreover, learning acceptance strategy help the patients to accept their emotional pain without judgment and this create space for self-kindness and understanding. These dimensions collectively contribute to forming a self-compassionate mindset. This result was consistent with **Borjali & Naseri Nia (2019)** who report that training of emotion regulation strategies increased self-compassion in the experimental group of addicts. Also, **Mohammadipour & Esfandyari (2019**) concluded that participants' self-compassion increased after the intervention of emotion regulation training.

Regarding difficulties in emotion regulation, this study indicated that, total mean score of emotional regulation difficulties was high at pre-test. This outcome could be explained by the impact of schizophrenia on cognitive, perceptual, motor, and emotional aspects which cause distress and impaired patient ability to process and manage their emotions effectively. These results were well matched with the study conducted by **Tarabih et al., (2025)** Who indicated that the overall mean score for difficulties in emotion regulation was high.

Concerning difficulties in emotion regulation dimensions, the present study's findings demonstrated that at pre-test, the highest mean scores was observed in the subscale of limited access to emotion regulation strategies. This might be due to patients with schizophrenia had deficiencies in defining, experiencing, and expressing emotions, leading to maladaptive strategies such as suppression. This outcome was consistent with **Tunc& Gul, (2023)** who reported that, in the studied patients with schizophrenia the highest mean score was observed in the subscales of "limited access to emotion regulation strategies".

The present study's findings demonstrated that the total difficulties of emotion regulation score were decreased at post-tests with a highly statistically significant difference. Also, the present study's findings indicated that there were highly statistically significant differences in all of difficulties in emotion regulation subscales in the pre and post assessments**.** These results could reflect the positive effect of the emotion management program on emotion regulation difficulties of the patients with Schizophrenia. The skills acquired during the implementation of emotion management program itself, as the program incorporates a wide variety of exercises that all aimed at providing patients with the opportunities to learn and apply several emotional skills such as expressing emotions by mean of facial expression, verbal language, and behaviors and ability to control their emotions through using adaptive emotion regulation strategies. These exercises were applied by materials which were more attractive and interesting for the patients which enhance learning and acquisition of skills such as cartoon films, pictures, emotional word cards, emotional face cards, emotional mask and videos.

This outcome was consistent with the study of **Arafat et al., (2024)** who proved that the nursing intervention program based on emotional awareness and regulation effectively improved emotional regulation and social function, and reduced the level of alexithymia among studied patients with schizophrenia. Also, a study conducted by **Zaki, et al., (2024)** reported that following intervention of

emotion regulation program, about three quarters of the studied patients showed a high level of the total emotion regulation. However, at the follow-up assessment, about three quarter of them displayed high level of total emotion regulation.

As regarding to relation between the patients' self-compassion mean score and their demographic data, the present study's findings revealed that no statistically significant relationships between the mean self-compassion score of the patients and their age at pre and post-test and that the highest self-compassion's mean scores were among age group (45 and more) at pre and posttest. This could be due to older people may have more objective and balanced views about themselves and their lives so they are open to their own suffering, not avoiding or disconnecting from it and having fewer uncompassionate responses to personal suffering. This finding reinforced by the study of **Bercovich, et al., (2020)** which proved that no statistically significant relationships between the patients' age and the mean self-compassion score.

As regarding to the self-compassion relation with level of education, the research findings demonstrated that, in the pre-test, there was a statistically significant relation between the subjects' self-compassion and their level of education and that the highest self-compassion's mean scores were among patients who have high level of education at pre and post-test. This might suggest that education is considered an important contributor to how stressors and personal failures were experienced by those patients and how one copes in response to these stressors and understanding to one's pain, inadequacies and failures. In addition, patients who highly educated may grasp the purpose and value of the program more quickly so they are more responsive and able to understand, integrate and apply what they learn in the program more effectively. This finding is congruent with **Chan, et al., (2023)** who mentioned that participants' self-compassion and educational level were significantly related.

According to the findings of the current study, there were a statistically significant relation between the participants' self-compassion and sex in the posttest and that the highest self-compassion's mean scores were among male subjects at pre and posttest. This could be explained that men may treat themselves openly and understandingly or might be due to males exhibited higher self-compassion potentially due to socialization patterns that emphasize emotional expression and self-care. This outcome is in the same line with **Hochheiser et al., (2020)** who found statistically relationship of significance among patients' sex and the overall self-compassion score. In addition, **Hamed et al., (2024**) noticed that males with schizophrenia had higher levels score of self-compassion than females.

Moreover, the current study revealed that patient who resided in urban areas had the highest mean scores for self-compassion at pre and post-test, this could be explained by the fact that cities are characterized by the existence and accessibility of essential services as well as the availability of health and educational programs, all of which are crucial in defining a person's degree of wellness as well as life satisfaction and enhancing self-compassion so they have a greater awareness and understanding of mental health issues and this awareness enhance their willing to engage in the program and make them more proactive in practicing what they learn in the program that foster their sense of common humanity and self-kindness by using simple materials such as emotional mask and videos which were more attractive for the patients.

Concerning patients' occupation, this study found that, the highest self-compassion scores were among participants who are working at pre-test. This could be explained that working individuals consciously notice the impact of personal or professional stressors, so these workers exhibited self-kindness toward themselves, which may take shape as responsive or even preventative by re-arranging their work schedule, prioritizing well-timed breaks, or taking avocation. Also work can provide a sense of purpose and meaning which can enhance self-compassion. This result is supported by **Hamed, et al., (2024)** who found that the studied patient with schizophrenia who are working had higher levels score of self-compassion than those not working.

As regarding to the relation between the patients' difficulties in emotion regulation mean score and their demographic, the present study's findings displayed that no statistically significant relation between the participants 'difficulties in emotion regulation and age in the pre and post-test and that the highest emotion regulation difficulties' mean scores were among age group (18-<30 years) at pre and post-test. This could be explained that younger individuals, particularly those aged 18-<30 years may experience more challenges in managing emotions, potentially due to developmental factors and less life experience in emotional coping strategies. This outcome is in the same line with

Milner, (2024) who reported that there was no significant relation found between age and difficulties in ER in the studied patients with schizophrenia.

In addition, the current study's results indicated that, the highest emotional regulation difficulties scores were for participants who had secondary education at pretest. This might due to individual with secondary education may face higher social, academic or occupational expectations and when psychotic symptoms interfere with roles, they might experience more stress and frustration, leading to greater difficulties in managing emotions. This outcome in contrast with **Zaki, et al., (2024)** who mentioned that the studied participant of schizophrenia who are illiterate had lowest mean score of emotion regulation which means that they have higher emotional regulation difficulties than other.

Moreover, the current study revealed that patients who are married had the highest mean scores emotional regulation difficulties at pre and post-test. This could be explained by the fact that married individuals often face difficulties in emotion regulation due to maladaptive responses to emotional experiences, leading to feeling of distress. Also married individuals often struggle with emotion regulation due to apprehension about negative emotions, difficulty managing conflicts, and the tendency to use emotional suppression, which can lead to unresolved issues and increased marital distress .This finding reinforced by **Zaki, et al., (2024)** who confirmed that the studied participant of schizophrenia who are married had the lowest mean scores of emotion regulation which mean that they have higher emotional regulation difficulties than other.

Concerning to the emotional regulation difficulties relation with sex, the research findings demonstrated that, the mean scores for emotional regulation difficulties were higher for women than men at post-test. This result could be attributed to hormonal influences as hormonal fluctuations especially estrogen and progesterone during the menstrual cycle, pregnancy and menopause can impact mood and emotional sensitivity in women and it may contribute to the challenges that the females face in regulating their emotions compared to males**.** this finding is agreed with **Milner (2024)** Who found that female of the studied patient with schizophrenia had the highest mean score of emotional regulation difficulties.

The current study's results discovered that, the highest emotional regulation difficulties scores were among participants who live in rural area at pre and post-test. This might due to patients live in rural areas face difficulties in emotion regulation due to several factors, including social stigma surrounding mental health, limited availability of mental health services, and challenges in recognizing symptoms of psychological distress. These barriers can hinder them from seeking help and support. Additionally, the sense of isolation in rural communities may exacerbate emotional challenges, making it harder for individuals to access social support networks that are more readily available in urban settings. This result was supported by **Atta, (2017)** who reported that the highest mean score of emotional regulation difficulties was among participants who live in rural areas.

Concerning patients' occupation, this study highlighted that, the highest emotional regulation difficulties were among participants who are not working at pre-test. This could be attributed to unemployed individuals often experience heightened stress and negative emotions due to financial instability and social isolation, which can lead to difficulties in emotion regulation. Also, it might be due to the inability to engage in work may lead to increased feelings of worthlessness and exacerbate emotional dysregulation, creating a cycle of negative emotional experiences. This outcome was in contrast with **Atta, (2017)** who proved that the highest mean score was among employed participant with schizophrenia.

Concerning the correlation between difficulties in emotion regulation and self-compassion, the current study found that there was highly statistically significant negative correlation between patients' emotional regulation difficulties and their self-compassion at the pre and post-test. This result contributed to self-compassion is considered a form of emotion regulation because it involves a conscious effort to manage and respond to one's emotions in a healthy and adaptive manner. It facilitates an adaptive emotion regulation by holding feelings in balanced awareness and deploying its self-soothing and motivating effect and enhances an individual's ability to tolerate negative emotions, allowing for better processing and acceptance of these feelings. This, in turn, improves cognitive appraisal of problems and fosters adaptive coping strategies. This result was supported by **Eichholz et al., (2020)** who reported that there was negative correlation between participants' emotional regulation difficulties and their self-compassion.

Conclusion

The present study concluded that the emotion management program effectively improved self-compassion and reduced the level of emotional regulation difficulties among studied patients with schizophrenia. Also, a negative correlation was found between self-compassion and emotional regulation difficulties during the pre- and post-training program.

Recommendations

The subsequent recommendations were offered based on the outcomes of the present research:

- An emotion management program should be applied for the treatment of psychiatric patients as a noninvasive, non-pharmacological, low-cost, and economical approach.
- Establishing training programs for psychiatric mental health nurses to use programs to assist patients in enhancing their self-compassion and emotion regulation.
- Further studies are necessary using a large probability sample in order to generalize the findings.
- It is essential to widen the scope of this study by including more participants and mental disorders other than schizophrenia.
- Develop regional special centers that offer education and therapeutic services to patients with mental illness.

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