International Journal of Advanced Psychiatric Nursing

E-ISSN: 2664-1356
P-ISSN: 2664-1348
www.psychiatricjournal.net
IJAPN 2023; 5(2): 10-20
Received: 06-04-2023
Accepted: 11-05-2023

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Effect of psycho-educational program on social functioning and self-stigma among schizophrenic patients

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DOI: https://doi.org/10.33545/26641348.2023.v5.i2a.126

Abstract
Schizophrenia is a severe form of psychosis with a wide spectrum of symptoms which negatively affect patients' social functioning and increase their self-stigma. This study aimed to evaluate the effect of psycho-educational program on social functioning and self-stigma among schizophrenic patients. This study used a quasi-experimental research design. 50 hospitalized patients with schizophrenia at Minia Hospital for Mental Health and addiction treatment were included. Personal and clinical data sheet, social functioning scale, and internalized stigma of mental illness scale were utilized. The study's results revealed a significant increase in the social functioning scores at the posttest and follow-up's test than at pretest. Conversely, self-stigma score was decreased significantly at the posttest and follow-up's test compared to the pretest. Also, a negative correlation was found between social functioning and self-stigma. Conclusion: Psycho-educational program was effective in enhancing schizophrenic patients' social functioning and reducing their self-stigma. Continuous provision of psycho-educational programs was recommended for schizophrenic patients to increase their social functioning and decrease their self-stigma.

Keywords: Schizophrenic patients, social functioning, self-stigma, psycho-education

Introduction
Schizophrenia is an overwhelming condition with a highly variable set of symptoms. World Health Organization claims that, schizophrenia is the eighth cause of disability in subjects aged between 15 and 44 years [1]. The fifth edition of the Diagnostic and Statistical Manual of Mental Disorders recognized that schizophrenia is characterized by five-dimensional psychotic symptoms. These symptoms are organized by category as positive symptoms, negative symptoms, cognitive deficits, mood issues, and signs of disorganization [2].

In addition, impaired social functioning is one of the detrimental symptoms and a key component of schizophrenia [3]. In this regard, Nemoto *et al.* [4] referred to social functioning as people's capacity to fulfill specific social tasks and their pleasure with this capacity, as well as their capacity for self-care and leisure interests. Moreover, schizophrenia's functional impairments can be observed in five domains including interactions with others; work; school; activities of daily living; and in self-care activities [5].

Furthermore, being diagnosed with schizophrenia cause people to feel undervalued and subjected to prejudice because of misconceptions about the condition. Due to their awareness of negative perceptions about them, people with schizophrenia may experience self-stigma in this situation. Self-stigma refers to a state in which someone accepts and internalizes negative public stereotypes which may be associated with poor social functioning, hopelessness, increased psychiatric symptoms, and poor treatment compliance among schizophrenia patients [6, 7].

Psycho-education is one of the first and best-known psychosocial therapies for treating schizophrenia [8]. Psychiatric nurses play an active role in psycho-education of schizophrenic patients because they are in a great position to carry out the necessary interventions through using various techniques which can help the patients to improve their social functioning. In addition, psychiatric nurses can teach patients effective coping styles that assist the patients to reduce negative effects of stigmatization and integrate them into society [9, 10, 11, 12].

Significance of the study

Schizophrenia is a chronic psychotic condition affecting approximately 24,000,000 individuals worldwide and constitutes the majority of patients in psychiatric facilities of Egypt [13, 14]. Social functioning is very impaired among schizophrenic patients and is repeatedly associated with poor adherence to medical treatment, poor prognosis, higher relapse rate, and increased risk of premature mortality [15, 16]. A study conducted by Al-Maghraby *et al*. [17] found that (78%) of the studied subjects were having poor social functioning. Also, Tawfik *et al*. [18] revealed that, (90%) of the psychiatric patients had poor social functioning.

In addition, self- stigma is considered a major problem associated with schizophrenia and the schizophrenic patients experience higher levels of self- stigma. In a study conducted by Shaimaa and Shalaby [19], it was discovered that, (63% & 31%) of the schizophrenic persons exhibited medium to high degree of self-stigma. Moreover, self-stigma at high levels can worsens the mental disorder, reduces help-seeking, reduce ability to participate in vital life activities, and contributes to the increased mental illness-related mortality and morbidity as it increases the likelihood of committing suicide [20].

Furthermore, large and growing body of researches supported the positive impact of psycho-education for schizophrenic individuals. Dubreucq *et al*. [21] proved that psycho-education is very effective in improving social functioning and self-stigma among schizophrenic patients. Moreover, researches that support the utility of psycho-education in counteracting the social deficits and self-stigma among schizophrenic patients, haven't been conducted at Minia governorate before. Consequently, this research aims to assess the effect of psycho-educational program on social functioning and self-stigma among schizophrenic patients.

Aim of the study

This research aimed to evaluate the effect of psycho-educational program on social functioning and self-stigma among schizophrenic patients.

Research Hypotheses

- **H1:** Schizophrenic patients who will attend psycho-educational program will exhibit high scores in social functioning after the program's implementation than before.
- **H2:** Schizophrenic patients who will receive psycho-educational program will exhibit lower scores in the self-stigma after the program's implementation than before.

Subjects and Methods

Research Design

Quasi-experimental (pre, post, and follow up) design was used to achieve the study aim.

Setting

The study was carried out in Minia Hospital for Mental Health and Addiction Treatment at New Minia City, Upper Egypt.

Subjects

A purposive sample of 50 hospitalized schizophrenics was included.

Inclusion criteria

- Age (18 – 55) years old.
- Both genders.
- Diagnosed as a schizophrenia disorder based on DSM-V.

Exclusion criteria

- Presence of evidence of mental retardation.
- History of neurological disorder.
- Patients with comorbid diagnosis of substance dependence.

Study tools

Personal and clinical data sheet

This questionnaire was designed by the researchers for assessing the personal and clinical characteristics of schizophrenic individuals that include: age, gender, residence, education, marital status, occupation, living condition, admission mode, number of hospitalization, and duration of illness.

The Social Functioning Scale (SFS)

This tool was designed by Birchwood *et al*. [22] for the purpose of assessing social functioning among people with schizophrenia. All items in scale are assigned to 7 subscales as: Social Withdrawal/Engagement, Interpersonal Functioning, Independence Competence, Independence Performance, Pro-social Activities, Recreation, and Occupation. The scale modified by the researcher and the items numbered (16, 17, and 21) were deleted from subscale of pro-social activities because these items (Disco, Nightclub, and Pub) are not suitable for our culture. Each subscale score is the sum of all item values of that subscale. The total score ranges from 0 to 235, and is obtained by summing of the scores of the 7 domains. The score less than 78 indicate low social functioning level; the score from 78 to 156 indicates moderate level; and the score from 157 and above indicates high level of social functioning.

The Internalized Stigma of Mental Illness Scale (ISMIS)

This tool was designed by Ritsher *et al*. [23] to assess individuals' subjective experience of stigma. ISMIS includes 29 items. All items are assigned to 5 domains: alienation, stereotype endorsement, discrimination experience, social withdrawal, and stigma resistance. Each item was scored on four-point Likert scale, where one represents strongly disagree and four represents strongly agree. The "Stigma Resistance" subscale's items are reverse scored.

Summing five subscales' scores was used to determine the final ISMIS score which ranges from 29 to 116 points. The scores ranged between (29- 58) refer to low self-stigma, the scores ranged between (59- 87) refer to moderate self-stigma and the scores (more than 87) refer to high level of self-stigma.

Validity and reliability of study tools

Five professors in Psychiatric and Mental Health Nursing examined the content validity of the scales by reviewing the study scales for clearness, thoroughness, and suitability. For each instrument of the standardized interview questionnaires, the internal consistency was confirmed using Cronbach's alpha coefficients test for reliability and the results for the Social Functioning Scale and the Internalized

Stigma of Mental Illness Scale were (0.821 and 0.90 respectively).

Pilot study

The researcher evaluated the tools clarity, applicability, and the time required to fulfill each sheet through a pilot study with five patients. No changes have done in the assessment, so the sample selected for the pilot study was included in the study sample.

Ethical Considerations

A formal permission was granted by the Research Ethical Committee of the Faculty of Nursing, Minia University. Then, formal agreement was derived from the General Secretariat of Mental Health and Addiction Treatment, Ministry of Health & Population to conduct the study. Since the study adhered to the standard clinical ethical guidelines for clinical research participation, there was no harm to the researched patients during the implementation of this research. Privacy was protected when collecting the data. The data were coded to ensure anonymity and confidentiality, and patients have the right to decline study participation for any reason. Both educated and uneducated study participants gave their spoken informed agreement to take part. The hospital's patient rights committee also provided written consent.

Program description

Program's general objective

The program was created with the general objective of teaching schizophrenic patients the necessary skills needed for improving their social functioning and reducing their self-stigma.

Program's specific objectives

Following the program's implementation, the patients would be able to

- Gain information on the nature of schizophrenia, its main signs and symptoms, immediate influence of these symptoms on patients.
- Practice effective conversational skills with others.
- Be aware of the various communication styles (passive and aggressive communication).
- Understand and recognize the different skills of being assertive such as making and refusing requests and also skills of expressing unpleasant and positive feelings.
- Apply effective problem solving skills.
- Practice self-care activities such as grooming care and personal hygiene.
- Identify stigma its causes, and the ways to overcome it.
- Identify the ways of improving self-confidence which sequentially improve self-esteem and relieve feelings of stigmatization.

Development of the educational program:

The following phases were involved in the proposed program's execution:

Assessment phase

This stage looked at assessing social functioning and self-stigma among schizophrenic patients. In order to get the necessary information, each patient was interviewed during this phase. The researcher completed the scale after explaining to the patients what each question meant so they could comprehend it. According to the results of the assessment, the researcher created the program material as well as exercises with help of videos and posters and then, the dissertation supervisors revised the program's exercises and content.

Planning (preparatory phase)

The program's strategy, duration, sessions' number, teaching techniques, and supporting media were all designed during the planning 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, patient experience sharing, photographs, posters, and role playing. The number of sessions was 10 sessions and the time spent to conduct each session was 2 hrs according to the needed explanation.

Implementation of the program

The patients were classified into five subgroups by the researcher; each subgroup consisted of ten participants to facilitate interaction. Each subgroup of patients received the same program sessions until finishing the five subgroups. At the start of every session, the investigator greeted the participants, explained the session's goals and content, and then took on role with one participant. Lately, the researcher repeated the process with a different participant and then 2 participants were selected to complete these activities.

On each session's termination, the investigator offered a brief summary of the session's content, asked patients if they had any questions, informed them about the of following session's time and assigned them session homework. The investigator also summarized the previous session in order to ascertain how well the patients understood the exercises that were covered and to go over the session's material once more. The investigator gathered the data and carried out the program within (10) months from the start of (October, 2021) to the close of (July, 2022).

Program evaluation

The program was evaluated twice; using the same study tools;

a) First, immediately a week after the program implementation (post-test).
b) Second, three months after implementation of the program (follow up's test) in order to verify the program's long term effectiveness in the future.

Statistical analysis

Data were collected, codified, classified, presented, scored, tabulated, and entered into the SPSS version (21). For qualitative variables, the data were data were presented using descriptive statistics in the form of frequencies and percentages. For quantitative variables, data were described by mean and standard deviation. The non-parametric Friedman tests were utilized in order to distinguish significance level between quantitative data in the three different tests. Kruskal Wllis and Man-Whitteny tests were used to test the relation between personal and clinical data with the score of social functioning and self-stigma using mean and standard deviation. Pearson correlation was used to test the correlation between various numerical variables scores were examined. P value less than 0.05 was considered statistically significant.

Results

Table 1: Socio-demographic data of the schizophrenic patients (n = 50)

Personal data	No.	%
Age / years		
18-39	34	68
40-49	11	22
50-60	5	10
Gender		
Male	44	88
Female	6	12
Residence		
Urban	10	20
Rural	40	80
Marital status		
Single	21	42
Married	23	46
Divorced	6	12
Educational Status		
Illiteracy	6	12
low education	36	72
High education	8	16
Occupation		
Working	6	12
Not working	44	88
Living condition		
Alone	7	14
With family and relative	43	86

Table (1) presents that, (68%) of the research subjects belong to age between (18- 39) years old, (88%) of them are males and not working, (80%) are from rural areas, and (46%) of them are married. Also, (72%) of the studied patients are low educated and (86%) of them are living with their families or relatives.

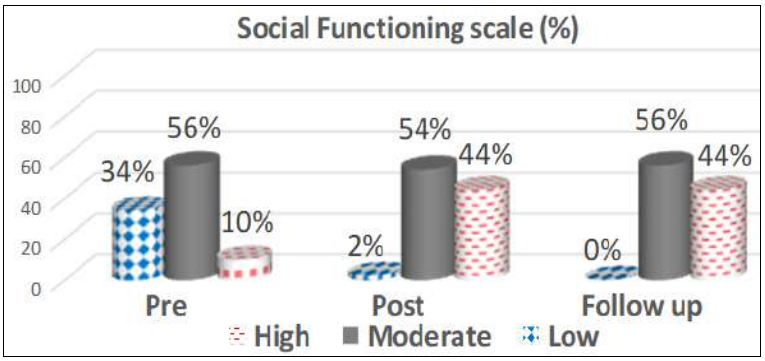

Fig 1: Frequency distribution of the total social functioning (n = 50).

Figure (1) shows that, at the pre-test, there were (34%) of the studied patients who exhibit a low social functioning level, greater than half (56%) of them exhibit a moderate social functioning, and only (10%) of them exhibit a high social functioning level. Regarding posttest and the follow up test, the same figure indicates that, the percentage of subjects who have low social functioning is decreased to (2% and 0% respectively), while the percentage of subjects who have high social functioning is increased to (44%).

Table 2: The mean score of social functioning and its subscales (n = 50):

Social Functioning (subscales)	Pre-test Mean± SD	Post-test Mean± SD	Follow up test Mean ±SD	Friedman Test	P Value
Social Engagement	7.2±3.9	11.1±2.7	10.7±2.5	27.2	0.0001*
Interpersonal Behavior	10.4±6.1	15.2±4.8	15.1±4.8	30.7	0.0001*
Pro-social Activities	18.4±12.3	33.6±19.01	33.4±17.1	44.6	0.0001*
Recreational Activities	16.1±7.2	11±4.1	10.7±3.5	67.5	0.0001*
Independence Competence	9.5±4.3	26.2±5.6	26.2±4.3	57.3	0.0001*
Independence Performance	23.6±9.2	32.2±4.6	31.7±4.1	45.9	0.0001*
Employment	20.2±8.5	31.1±4.8	29.7±3.6	8.5	0.4
Total Social Functioning	98.8±38.9	153.7±24.8	151.1±19.8	68.8	0.0001*

Tables (2) shows highly statistically significant differences between pre, post, and follow up with P- value (0.0001*) regarding the total social functioning score, which was increased to (153.7±24.8) at the post-test. While, at the follow up, it was (151.1±19.8).

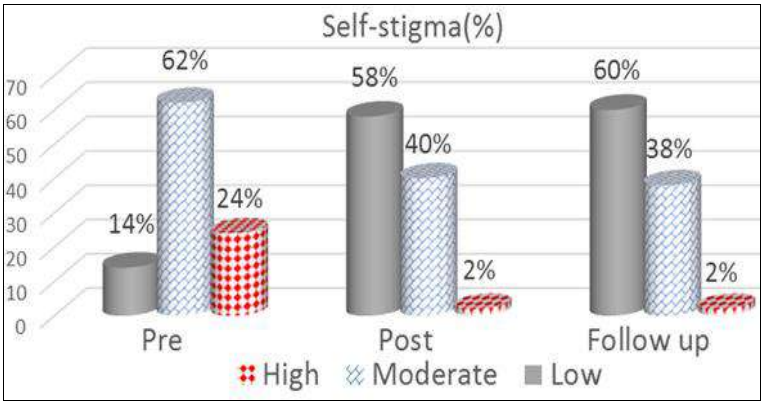

Fig 2: Frequency distribution of the patients' total self-stigma (n = 50).

Figure (2) illustrates that, at the pre-test, about one quarter (24%) from participants experience high self-stigma, (62%) of them had a moderate self-stigma level, while only (14%) had a low self-stigma level. Regarding posttest and the follow up test, the same figure indicates that the proportion of subjects who have high self-stigma is decreased to only (2%). Also, the proportion of subjects with a medium degree of self-stigma is decreased to (40% and 38% respectively), while (58% and 60%) from subjects had low self-stigma degree at immediate posttest and follow up's test respectively.

Table 3: Self-stigma scores at pretest, posttest, and follow up's test (n = 50):

Items	Pre	Post	Follow up	Friedman test	P value
	Mean± SD	Mean± SD	Mean ±SD		
Alienation	17.4±5.04	12.6±4.7	12.5±4.2	21.8	0.0001*
Stereotype endorsement	18.3±6.2	13.8±5.08	13.3±4.3	23.7	0.0001*
Discrimination experience	14.8±4.3	10.2±4.4	9.9±3.04	35.1	0.0001*
Social withdrawal	14.8±6.2	11±4.1	10.7±3.5	21.7	0.0001*
Stigma resistance	9.5±4.3	11.1±4.8	10.7±4.2	6.4	0.1
Total Self-stigma	74.9±16.8	58.6±12.09	57.3±11.04	41.9	0.0001*

Table (3) illustrates that, there were highly statistically significant differences with P- value (0.0001*) between pre, post, and follow up regarding the total self-stigma. The same table reveals that, the total mean score of self-stigma was decreased to (58.6±12.09) at the post-test, while, it was (57.3±11.04) at the follow up.

Table 4: Relation between personal characteristics and social functioning (n = 50)

Personal data	Social functioning scale								
	Pre			Post			Follow up		
	Mean± SD	Kruskal Wallis	P	Mean ±SD	Kruskal Wallis	P	Mean± SD	Kruskal Wallis	P
Age / years									
18-29	102.8±42.6	1.8	0.5	156.2±25.1	2.05	0.7	155.5±17.8	2.3	0.7
30-39	104.7±38.01			158.2±18.8			152.2±14.5		
40-49	88.5±34.3			147.5±33.8			148.7±27.8		
50-60	85.4±41.1			142.2±21.9			137±22.5		
Marital status									
Single	95.1±42.3	6.6	0.06	155.5±22.5	2.1	0.1	150.3±19.8	4.6	0.03*
Married	110.7±37			157.8±21.4			157.1±12.9		
Divorced	72.7±15.7			135.8±35.8			134.8±29.3		
Educational level									
Illiteracy	102.3±31.2	2.9	0.2	148.1±29.1	0.4	0.8	147.5±12.6	0.5	1.07
Low education	95.1±42.5			154.2±25.7			151.2±21.8		
High education	113±23.5			156.8±12.2			154.6±14.9		

Table (4) shows that, in the follow up, the subjects' marital status and social functioning are statistically significant related where P- value is (0.03*). In addition, at pre-test, post-test, and follow up's test, married patients have the highest social functioning scores compared to single as well as divorced patients as (110.7±37 & 157.8±21.4 & and 157.1±12.9 respectively). As regard educational level, the highest social functioning scores are among the highly educated patients as (113±23.5 & 156.8±12.2 & and 154.6±14.9) at pre, post, and follow up respectively

Table 4 (cont.): Relation between personal characteristics and social functioning (n = 50)

Personal data	Social functioning								
	Pre			Post			Follow up		
	Mean± SD	Mann-Whitney	P	Mean± SD	Mann-Whitney	P	Mean± SD	Mann-Whitney	P
Gender									
Male	101±39.5	114.5	0.7	155.9±24.9	68.5	0.05*	152.9±19.2	76	0.09
Female	89.3±35.7			138.1±18.6			138±20.4		
Residence									
Rural	93.7±36.9	89.5	0.03*	151.8±24.2	126.5	0.2	149.2±18.5	126.5	0.1
Urban	122±39.7			161.5±26.9			159±23.8		
Occupation									
Working	121.6±28.8	72	0.1	161.3±21.1	99.5	0.3	160.1±16.3	85	0.1
Not working	93.5±39.3			152.7±25.3			149.9±20.09		

Table 4 (cont.) illustrates a statistically significant relation between subjects' gender regarding social functioning at posttest in which P- values is (0.05*). Also, there is relation of significance between patients' residence regarding social functioning at the pretest with P- values = (0.03*). The same table shows that, the highest mean score of social functioning is in male patients as (101±39.5 & 155.9±24.9 & and 152.9±19.2) at pre, post, and follow up respectively; and among patients who lived in urban areas as (122±39.7 & 161.5±26.9 & and 159±23.8) at pre, post, and follow up respectively; as well as among the working patients as (121.6±28.8 & 161.3±21.1& and 160.1±16.3) at pre, post, and follow up respectively.

Table 5: Relation between personal characteristics of patients regarding self-stigma mean scores (n = 50):

Personal data	Self-stigma								
	Pre			Post			Follow up		
	Mean± SD	Kruskal Wallis	P	Mean± SD	Kruskal Wallis	P	Mean± SD	Kruskal Wallis	P
Age / years									
18-29	73.8±14.5	1.9	0.8	55.2±9.1	7.2	0.1	55.7±12.4	7.08	0.2
30-39	73.2±15.4			63.8±13.3			62.2±11.4		
40-49	78.6±19.2			57.2±11.4			53.7±11.9		
50-60	76.6±26.5			55±15.3			54±12.8		
Marital status									
Single	76.7±16.3	2.05	0.8	59.5±14.1	2.4	0.8	58.6±12.4	0.04	0.8
Married	73.6±15.7			57.9±10.8			57.8±9.8		
Divorced	73.6±24.6			57.8±10.5			53.5±11.09		
Educational level									
Illiteracy	74.1±18.1	1.7	0.4	63.6±10.1	1.8	0.3	63.16±8.1	2.8	0.2
Low education	76.4±17.7			57.6±10.4			56.1±8.8		
High education	69±12			59±19.4			58.2±19.5		

Tables (5) illustrates that, the mean score of self-stigma is not statistically significant related with the patients' age, marital status as well as educational level. The same table shows that, the highest self-stigma score is for single patients as (76.7±16.3 & 59.5±14.1& and 58.6±12.4) at the pre, post, and follow up respectively. Concerning educational level, this table shows that, at the pretest, the highest mean scores of self-stigma were among the low educated patients as (76.4±17.7) while, at post-test and follow up's test, the highest mean scores of self-stigma were among the illiterate patients as (63.6±10.1& and 63.16±8.1 respectively).

Table 5 (cont.): Relation between personal characteristics of patients regarding self-stigma mean scores (n = 50).

Personal data	Self-stigma								
	Pre			Post			Follow up		
	Mean± SD	Mann Whitney	P	Mean± SD	Mann Whitney	P	Mean± SD	Mann-Whitney	P
Gender									
Male	73.9±16.5	109	0.5	73.9±16.5	107	0.4	57.3±11.3	123	0.8
Female	82.1±19.2			82.1±19.2			57.7±9.1		
Residence									
Rural	78.8±15.6	65	0.001*	59.2±12.3	179	0.4	57.7±11.4	177.5	0.6
Urban	59.6±12.7			56.2±11.06			55.7±9.5		
Occupation									
Working	68±16.5	106.5	0.4	73.9±16.5	102	0.3	57.3±11.3	105	0.4
Not working	75.9±16.9			82.1±19.2			57.7±9.1		

Table 5 (cont.) illustrates that, subjects' residence and self-stigma scores are statistically significant related with P-value = (0.001*) at the pretest. The same table shows that, at the pre, post, and follow up, the highest mean scores of self-stigma were among the female subjects as (82.1±19.2& 82.1±19.2& and 57.7±9.1 respectively); among subjects who lived in rural areas as (78.8±15.6 & 59.2±12.3 & and 57.7±11.4 respectively); as well as among subjects who are

not working as (75.9±16.9& 82.1±19.2& and 57.7±9.1 respectively).

Table 6: Correlation between social functioning and self-stigma at the pre, post, and follow up tests (n = 50).

Social functioning	Self-stigma r (p)		
	Pre	Post	Follow up
Pre	-0.58 (0.0001*)		
Post		-0.44 (0.001*)	
Follow up			-0.48 (0.0001*)

Table (6) represents that, there were negative correlations of statistically significance between social functioning and self-stigma at pre, post, and follow up.

Discussion

Part I: Personal data of study subjects (Table 1)

The current study results demonstrated that greater than two thirds of subjects were in the age between (18- 39). This might be attributed to that schizophrenia is a chronic condition that typically emerges in early adulthood and late adolescence. This result agreed to that of Abdelgelil *et al.* [10] which discovered that (66.7%) from examined schizophrenia patients were between the ages of 18 and 39.

As regard gender, it was found that the most of schizophrenia subjects being males. This may be because schizophrenia affects men more frequently than it does women, and because men experience schizophrenia at a younger age than women do. This finding is congruent with Nagy *et al*., [24] who stated that (90%) of subjects were men. The present finding is also agreed by Dewedar *et al.* [25] who stated that (85.8%) of the schizophrenics were males. Also, Ebrahim *et al.* [26] discovered (82.5%) of schizophrenics being male. Similarly, Elghamry *et al.* [27] found that the majority of schizophrenics (94%) were male.

Concerning level of education, findings of this research indicated as about three-quarters of participants were with low levels of education. This could be interpreted as schizophrenia negatively affects the cognitive functions which consequently influence on school achievement. In addition, the earlier onset of the schizophrenia and severity of its symptoms are considered barriers for continuing education. The finding is similar to El-Monshed *et al.* [28] who indicated that (73.9%) of patients with schizophrenia in basic and secondary education. Also, El-Azzab *et al.* [29] reported that (70%) of schizophrenics could read and write and low educated.

The findings of the current research illustrated that, most of examined people not working. The finding could be explained that patients' low level of education, their frequent hospitalization, and stigma of schizophrenic disease. Moreover, the presence of illness manifestations and the poor social skills are considered hinders for working. The finding is consistent with that of Amin *et al.* [30] which revealed (94%) of the schizophrenics not working.

Part II: The Social Functioning Scale (SFS) (figure (1) and table (2))

This study indicated that, at the pre-test, there were greater than a third of the patients in the study experience a low social functioning level, greater than half were having a moderate degree of social functioning, and only a very small number of them were having a high functioning level (figure 1). The outcome is explained by the impact of schizophrenia on cognitive, perceptual, motor, and emotional aspects which cause distress, a loss of control, and a lack of choice, diminished activity, and demoralization. All of these in turn, lead to negative effect on social functioning inevitably. The present finding is supported by that of Mahanta *et al.* [31] as he discovered that there were (36.7%) of the patients who were the subject of the study had a low level of social functioning, (60%) of them had a moderate to severe impairment of social functioning, and only (3.3%) of them had no impairment of social functioning. Similarly, Salokangas *et al.* [32] found that (38.5%) of the patients that were being studied were having a low level of social functioning, (46.2%) of them were having a moderate to severe social functioning impairment, and only (15.3%) of them with good social functioning.

Regarding the sub-domains of social functioning scale, the present study demonstrated that at pre-test, the lowest mean scores were related to social engagement, independence competence, and interpersonal behavior. This impairment in social functioning perhaps connected to the schizophrenia's negative symptoms in which patients lack the motivation to communicate with others and become more and more socially isolated, unable to identify, articulate, and express their own emotions and needs. Additionally, some people with schizophrenia display social impairment because they misjudge personal space and exhibit speech volume or tone dysregulation. Moreover, high perceived shame and sensation of being rejected by the community can also lead to the social withdrawal of patients and decrease social functioning. The result is somewhat consistent with Saris, *et al.* [33] who discovered that the lowest scores were related to interpersonal behavior and social engagement.

The impact of the program on social functioning

The present study's findings demonstrated that the total social functioning score was increased at post and follow up's tests with a highly statistically significant difference (table 2). This can be because of the beneficial impact of the psycho-educational program on improving social functioning of the studied sample through teaching individuals the skills of effective communication, problem solving skills, and how to express their emotions and requests so that they are more likely to accomplish their goals and fulfill their requirements for social interactions and the responsibilities necessary for independent life. The outcome is consistent with the findings of Karaman *et al.* [34] which revealed that there was a significant increase in social functioning among the study subjects following the educational intervention. Similarly, Yüksel *et al.* [35] reported that, there were a statistically significant difference between the pre-test and post-test regarding the total social functioning mean score.

Regarding how the program affected the subscales of social functioning, this study discovered that there were highly statistically significant differences in all social functioning subscales except for occupation across the before, post, and follow-up assessments. This could be interpreted as psycho-educational program help persons with schizophrenia to learn a wide range of skills such as how to conversate; skills of behaving assertively; problem solving skills; and skills of self-care activities and keeping personal hygiene which can increase self-confidence and their capacity for contact with others and consequently, improve their functional ability. This result is in agreement with Abaoğlu *et al.* [36] as he

reported that, the mean scores for all subscales of social functioning were statistically different between the pre-and post-test.

Part III: The internalized stigma of mental illness scale (ISMI) (figure (2) and table (3))

This study indicated that, at pre-test; near one quarter from subjects in the study had a high self-stigma level, less than two thirds experienced a moderate level, while only 14% from subjects were having a low self-stigma (figure 2). This outcome might have the explanation of the fact that mentally ills are perceived as dangerous, destructive, and uncontrollable, that they are punished with this illness, and that they are subject to the influence of the bad spirit. As a result, individuals experience internalizing feelings of guilt, blame, shame, and discrimination resulting in self-stigma. In addition, lack of providing psycho-educational programs to schizophrenic patients in order to reduce destructive views about them, is associated to this increase in self-stigma among those patients. This result is in line with a research done by Mohammed *et al*. [12] which found that (60%) from subjects experienced moderate self-stigma, (26%) experienced high self-stigma, and (14%) experienced low self-stigma. Similarly, Dewedar *et al*. [25] stated that (63.3%) from participants in the study experienced medium degree of stigma and (22.5%) experienced severe degree, while (14.2%) experienced low stigma.

Regarding the (subscales), the present study revealed that, at pre-test; the stigma factor with the highest average score was stereotyping followed by alienation, and social withdrawal; and that that stigma resistance had the lowest mean. The possible explanation is the frequent labeling of mentally ills as violent, harmful, uncontrolled, and devil-possessed in several societies. Consequently, patients may support the stereotypes as a result of their preconceived notions and traditional opinions about these patients. In another sense, the psychiatric patients in the study lacked the full courage to confront the people in their environment about their illness due to feelings of frustration and worthlessness, which highlights the idea of internalizing stigmatization and, as a result, they become socially isolated and susceptible to illness stereotypical views. The outcome is consistent with Kim *et al*. [37] who discovered that stereotype endorsement is having greatest average value, then alienation and social withdrawal; and that the least average value is connected to stigma resistance.

The impact of the program on self-stigma

The present findings showed highly statistically significant difference in the total self-stigma score between pre, post, as well as follow up; and that the overall score of self-stigma was decreased at post-test and follow up. Thus, psycho-education has a beneficial impact on decreasing self-stigma through providing the patients with the correct information about illness to help them change their negative beliefs and thoughts. In addition, by receiving psycho-educational program, patients are empowered with successful strategies that enable them to deal with the stigma and illness-related emotional reactions. In the same line, patients learn the skills of enhancing self-esteem and self-care activities, which in turn can support daily coping and self-management and increase their sense of control over one’s difficulties. The finding is congruent with Awad *et al*. [38] who discovered a significant marked decrease on score of self-stigma in post-test and follow up's test than in pre-test.

Regarding the impact of the program on stigma (subscales), the present study found that pre, post, and follow up were all highly statistically significant different regarding the scores of alienation, stereotype endorsement, discrimination experience, and social withdrawal. This result could be interpreted as psycho-educational program provides the patient the opportunity to change how they react towards their illness, correcting their wrong perceptions, disclose the negative consequences of stigma, and positively accept their disease. This was achieved through providing information to the patients about their illness and how their mental condition has affected their life. Moreover, the program sessions concerning improving social skills, assertiveness skills, and skills of dealing with stigmatizing social situations, all can also lead to decrease in self-stigmatization. This result agrees with Mostfa *et al*. [39] who discovered that that the stigma subscales score of alienation, stereotype endorsement, perceived discrimination, and social withdrawal decreased significantly following the empowerment program.

The present findings demonstrated no statistically significant difference in stigma resistance sub-domain between pre-test, post-test, and follow up's test. This can be justified by that, this domain require public awareness rather than individual choice to overcome stigma; nevertheless, the current study's program lacked emphasis on such factors. Therefore, there is a need for comprehensive interventions that include both personal and structural efforts to change societal actions and attitudes toward mental illness and to prevent the unfavorable image given to patients with schizophrenia in the media, which in turn achieve positive changes in stigma resistance. The result is in line with that of Awad *et al*. [38] who discovered no significant differences in stigma resistance between pre-test, post, as well as follow up's.

Part IV: Relations between study variables and personal data (tables 4 & 5)

The findings of the present investigation revealed a relationship statistical significance between the subjects' marital status and their social functioning in the follow up; and that married patients had the highest mean scores for social functioning before and after program implementation as well as at follow up. This could be explained that marriage may increase the social functioning due to spouse support. Indeed, compared to single patients, married patients reported less loneliness, as they encouraged via the emotional assistance offered by the family context. In addition, marriage may provide individuals with a sense of obligation to others, thus inhibiting risky behaviors and encouraging healthy one. Moreover, marriage can enhance one's quality of life, foster closer relationships with others, and give patients more confidence in them-selves which helps them to meet their needs and improve their functioning. The result is consistent with research by Elsherif *et al*. [40] who discovered a statistically relationship of significance among patients' marital status and their overall social functioning score, with married patients having the highest mean scores.

The current study also showed a relationship of statistically significance among the gender and social functioning in the post-test, and that the mean scores for social functioning

were higher for men than for women across pre, post, and follow-up tests. This could be attributed to the gender related norms and cultures that commonly present men as strong and in control, and this increase male's self-esteem and allow for male's aspirations in various activities such as education, employment, as well as engagement in physical activities and leisure. These disparities can positively affect the male's access to opportunities, resources, and services, and subsequently enhance their social functioning. In addition, the larger proportion of male patients and the smaller proportion of female patients in this sample may also contribute to explain these variations. This finding in accordance with a study by Çapar & Kavak [41] which indicated a significant relationship between gender and social functioning score and that men's functional level was greater than women's.

Moreover, the current study discovered that at the pretest, there was a relationship of statistical significance between the patients' residence and their social functioning; and that patients who resided in urban areas had the highest mean scores for social functioning at pre, post, and follow up. 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 social functioning**.** Moreover, in urban areas, there is availability of locations where people frequently go for leisure, socializing, and recreational activities, which in turn provide possibilities for individuals to go outside, interact, and engage in social activities and are especially influential on social functioning were among people who lived in these areas. The present result is consistent with Wang *et al*.'s findings [42], which demonstrated that the level of social functioning of the urban participants was significantly higher than that of rural counterparts.

Concerning the relation between self-stigma and personal data, present research's findings demonstrated that, there were no statistically significant relations between patients' self-stigma mean score and their age, gender, marital status, as well as educational level. This result is supported with Sevinik & Arslan [43] who found no significant relation between self-stigma score and the patients' gender, marital status, age, and education.

However, the present study showed relationship of statistical significance between the residence and self-stigma at the pre-test; and that patients lived in rural areas have a greater self-stigma score across pretest, posttest, and follow up's test. This could be explained by the absence of anonymity and privacy in rural areas, which could have a detrimental effect on people seeking treatment. For instance, families may try to hide the patient due to fear of categorizing mentally ill patients. This outcome is consistent with what Ibrahim & Ibrahim [44] reported as self-stigma and residence are significantly related; and that the highest self-stigma level was for patients who lived in rural areas.

With respect to the patients' occupation, present research's findings indicated that relation isn't significant between the patients' occupation and the mean score of self-stigma. Similarly, Szcześniak *et al*. [45] found that occupation had no statistically significant relationship to mean score of self-stigma score.

Part V: Correlation between social functioning and self-stigma (table 5)

The current study's findings revealed that, at the three time points (before, post, and follow up), there was a negative correlation between social functioning and self-stigma. In other way, it was discovered that Individuals having greater degrees of stigma towards themselves had lower levels of social functioning. These findings could be explained by that patients who stigmatize themselves more as a result of their mental illness tend to believe that they are less than others, have fewer skills and abilities to function in daily life, and are therefore not capable of achieving success. This results in diminished hope and self-acceptance, which affects the way one views on life in general. This finding agreed with that of Hofer *et al*. [46] who discovered that self-stigma and social functioning are negatively correlated. Similarly, Çapar & Kavak [41] mentioned that self-stigma and social function had a statistically significant negative correlation.

Conclusion

According to the results of the present research, it is possible to draw the conclusion that, schizophrenic individuals have poor social functioning level that is needed for daily living and to fulfill their roles in society. Moreover, most of the patients in the study were experiencing moderate to high self-stigma. Also, a negative correlation was found between patients' social functioning and their self-stigma. In addition, there were significant improvements in social functioning and self- stigma of schizophrenic patients after receiving psycho-education. Thus, this psycho-educational program has a beneficial impact on social functioning and self- stigma levels among the schizophrenic patients.

Recommendations

1. A structured psycho-educational program should be developed in all psychiatric departments and social contexts to improve the social functioning and decrease self-stigmatization of persons with schizophrenia.
2. Ongoing follow up and monitoring for patients with schizophrenia participating in psycho-educational program to support their skills learning and persistence of the change.
3. In service training for the nurses and health providers is very important in order to offer patients with schizophrenia with high-quality care.
4. Further additional researches with a large sample size are required in order to generalize findings.

Funding: None.

Conflict of interest: No.

References

1. Nafiaa H, Benchikhi L, Ouanass A. Morphological Abnormalities in Schizophrenia: Systematic Review. SAS J Med. 2022;5:376-383.
2. Banazadeh M, Mehrabani M, Banazadeh N, Dabaghzadeh F, Shahabi F. Evaluating the effect of black myrobalan on cognitive, positive, and negative symptoms in patients with chronic schizophrenia: A randomized, double blind, placebo controlled trial. Phytotherapy Research. 2022;36(1):543-550.

3. Khedr M, El-Gueneidy M, Shehata A, Elkot M. Effect of Physical Exercise Program on Psychotic Symptoms and Social Functioning of Patients with Schizophrenia. Alexandria Scientific Nursing Journal. 2020;22(1):67-80.
4. Nemoto T, Uchino T, Aikawa S, Saito J, Matsumoto H, Funatogawa T, *et al*. Social anxiety and negative symptoms as the characteristics of patients with schizophrenia who show competence–performance discrepancy in social functioning. Psychiatry and Clinical Neurosciences. 2019;73(7):394-399.
5. Thibaudeau É, Cellard C, Turcotte M, Achim A. Functional impairments and theory of mind deficits in schizophrenia: a meta-analysis of the associations. Schizophrenia Bulletin. 2021;47(3):695-711.
6. Jian C, Wang P, Lin H, Huang M, Yeh Y, Liu T, *et al*. Association between self-stigma and suicide risk in individuals with schizophrenia: Moderating effects of self-esteem and perceived support from friends. International journal of environmental research and public health. 2022;19(22):15071.
7. Chang K, Chang Y, Yen C, Chen J, Chen P, Lin C, *et al*. A longitudinal study of the effects of problematic smartphone use on social functioning among people with schizophrenia: Mediating roles for sleep quality and self-stigma. Journal of Behavioral Addictions; c2022.
8. Alhadidi M, Lim Abdullah K, Yoong T, Al Hadid L, Danaee M. systematic review of randomized controlled trials of psychoeducation interventions for patients diagnosed with schizophrenia. International Journal of Social Psychiatry. 2020;66(6):542-552.
9. Alam F, Sallam L, Hashem S, Sabra A. Effect of Receptive Music Therapy on Stress and Coping Strategies among Patients with Schizophrenia. Tanta Scientific Nursing Journal. 2022;25(2):72-93.
10. Abdelgelil S, Elyazal A, Mubarak A, Elsherif Z. Effect of Social Skills Enhancement Training Program on Negative Symptoms among Patients with Schizophrenia. Tanta Scientific Nursing Journal. 2022;24(1):35-73.
11. De Pinho L, Sequeira C, Sampaio F, Rocha N, Ozaslan Z, Ferre-Grau C. Assessing the efficacy and feasibility of providing metacognitive training for patients with schizophrenia by mental health nurses: A randomized controlled trial. Journal of Advanced Nursing. 2021;77(2):999-1012.
12. Mohammed T, Mohammed I, Hassan S. Relation between Internalized Stigma and its correlates among Psychiatric Inpatients in Minia Governorate. Minia Scientific Nursing Journal. 2021;9(1):127-134.
13. Manea A, Zaki R, Morsi A. The Relationship between Insight and Quality of Life among Schizophrenic Patients. Egyptian Journal of Health Care. 2020;11(4):212-223.
14. Shanko A, Abute L, Tamirat T. Attitudes towards schizophrenia and associated factors among community members in Hossana town: a mixed method study. BMC psychiatry. 2023;23(1):1-10.
15. Shimada T, Kobayashi G, Saeki Y, Mizukoshi C, Chikazawa K, Nokura K, *et al*. A Retrospective Study on the Relationship between Cognitive Function and Social Function in Patients with Schizophrenia. Journal of Clinical Medicine Research. 2022;14(9):348-356.
16. Porcelli S, Kasper S, Zohar J, Souery D, Montgomery S, Ferentinos P, *et al*. Social dysfunction in mood disorders and schizophrenia: clinical modulators in four independent samples. Progress in Neuro-Psychopharmacology and Biological Psychiatry. 2020;99:109835.
17. Al-Maghraby S, El-Bilsha M, El-Hadidy M. Relationship between Internalized Stigma and Social Function among Schizophrenic Patients. Nat Sci. 2020;18(10):13-21.
18. Tawfik A, Abd El S, Harfush G, Ramadan E, Gemeay E. Effect of an Emotion Regulation Training Intervention on Social Functioning of Patients with Psychiatric Disorders. Tanta Scientific Nursing Journal. 2021;21(2):122-141.
19. Shaimaa E, Shalaby M. Relationship between Self-Stigma and Quality of Life among Patients with Schizophrenia. Journal of Psychiatry and Mental Illness Introduction; c2019, 2(1).
20. Savardekar S, Geddugol B. Self-stigmatization among patients diagnosed with selected psychiatric disorders. Journal of Critical Reviews. 2020;7(15):4331-4337.
21. Dubreucq J, Plasse J, Franck N. Self-stigma in serious mental illness: A systematic review of frequency, correlates, and consequences. Schizophrenia Bulletin. 2021;47(5):1261-1287.
22. Birchwood M, Smith J, Cochrane R, Wetton S, Copestake S. The social functioning scale the development and validation of a new scale of social adjustment for use in family intervention programmes with schizophrenic patients. The British Journal of Psychiatry. 1990;157(6):853-859.
23. Ritsher J, Otilingam P, Grajales M. Internalized stigma of mental illness: psychometric properties of a new measure. Psychiatry research. 2003;121(1):31-49.
24. Nagy N, El Ghoniemy S, Kito S, El Missiry M, ElKholy H, *et al*. Preliminary study on the effect of repetitive trans-cranial magnetic stimulation on negative symptoms in patients with schizophrenia. Ain Shams Medical Journal, 2019;70(4, 5 & 6):307-314.
25. Dewedar A, Harfush S, Gemeay E. Relationship between insight, self-stigma and level of hope among patients with schizophrenia. IOSR J. Nurs. Health Sci. 2018;7:15-24.
26. Ebrahim A, El-Bilsha M, Elhadidy M. Social support among patients with schizophrenia. Mansoura Nursing Journal. 2021;8(2):13-25.
27. Elghamry R, Mohammed A, Ali D, El Hawary Y. Effect of Atypical Antipsychotics on Serum BDNF in an Egyptian First Samples of First Episode Schizophrenia Patients. Archives of Psychiatry Research: An International Journal of Psychiatry and Related Sciences. 2022;58(1):13-22.
28. El-Monshed A, Amr M. Association between perceived social support and recovery among patients with schizophrenia. International Journal of Africa Nursing Sciences. 2020;13:100236.
29. El-Azzab S, Ali S, Othman B. Effectiveness of Psycho-Motivational Training on Improving Social Skills and Emotional Regulation in Patients with Schizophrenia. Egyptian Journal of Nursing and Health Sciences. 2022;3(2):76-102.
30. Amin R, Abdel-Rahman A, Abd-Elhameed N, Abo-Elghiet M. Assessment of psychosocial and

demographic characteristics related to relapse in schizophrenic patients in psychiatric hospital of Assiut university. Assiut Scientific Nursing Journal. 2020;8(21):25-33.
31. Mahanta P, Deuri S, Banerjee I. Disability and socio-occupational functioning in persons with schizophrenia. Open Journal of Psychiatry & Allied Sciences. 2020;11(2):117-120.
32. Salokangas R, Ilonen T, Luutonen S, Heinimaa M, Armio R, Laurikainen H, *et al*. Short-term functional outcome in psychotic patients: results of the Turku early psychosis study (TEPS). BMC psychiatry. 2021;21(1):1-14.
33. Saris I, Aghajani M, Jongs N, Reus L, van der Wee N, Bilderbeck A, *et al*. Cross-disorder and disorder-specific deficits in social functioning among schizophrenia and alzheimer's disease patients. Plos one. 2022;17(4):e0263769.
34. Karaman İ, Kasal M, Ingec C, Yastibaş C, Gülyüksel F, Güleç M. Effect of adjunct psychosocial skills training on social functioning of schizophrenia patients who get occupational therapy in a community mental health center: a comparative study. Archives of Neuropsychiatry. 2020;57(3):248.
35. Yüksel A, Bahadır-Yılmaz E. The effect of mindfulness-based psychosocial skills training on functioning and insight level in patients with schizophrenia. Community mental health journal. 2021;57(2):365-371
36. Abaoğlu H, Mutlu E, Sertaç A, Esra A, Yagcioglu A. The effect of life skills training on functioning in schizophrenia: a randomized controlled trial. Turk Psikiyatri Dergisi. 2020;31(1):48.
37. Kim E, Jang M. The mediating effects of self-esteem and resilience on the relationship between internalized stigma and quality of life in people with schizophrenia. Asian Nursing Research. 2019;13(4):257-263.
38. Awad S, Abd-Elmageed S, Saleh E, Elhadidy M. Effects of Psycho-educational Program on Mentally ill Patient's Stigma and Self-esteem. Mansoura Nursing Journal. 2018;5(3):1-16.
39. Mostfa M, Khalil M, Mohamed S, Mohamed AN. Empowerment Intervention Program on Perceived Discrimination and Internalized Stigma among Patients with schizophrenia. Egyptian Journal of Health Care. 2022;13(1):2030-2036.
40. Elsherif Z, Badawy A, Gado E. Relation between self-empowerment and social functioning among patients with schizophrenia. Tanta Scientific Nursing Journal. 2022;26(3):102-130
41. Çapar M, Kavak F. Effect of internalized stigma on functional recovery in patients with schizophrenia. Perspectives in psychiatric care. 2019;55(1):103-111.
42. Wang Y, Li Z, Fu C. Urban-rural differences in the association between social activities and depressive symptoms among older adults in China: a cross-sectional study. BMC geriatrics. 2021;21(1):1-11.
43. Sevinik H, Arslan F. Determination of internalized stigma and social functioning level in schizophrenia patients. Journal of Psychiatric Nursing. 2020;11(3):173-180.
44. Ibrahim Z, Ibrahim F. Effect of Perceived Devaluation, Discrimination, and Internalized Stigma on Adherence to Medication among Patients with Mental Illness. Egyptian Journal of Nursing and Health Sciences. 2021;2(2):110-136.
45. Szcześniak D, Kobyłko A, Wojciechowska I, Kłapciński M, Rymaszewska J. Internalized stigma and its correlates among patients with severe mental illness. Neuropsychiatric disease and treatment; c2018. p. 2599-2608.
46. Hofer A, Post F, Pardeller S, Frajo-Apor B, Hoertnagl C, Kemmler G, *et al*. Self-stigma versus stigma resistance in schizophrenia: Associations with resilience, premorbid adjustment, and clinical symptoms. Psychiatry research. 2019;271:396-401.

How to Cite This Article
Abdel-Aziz RA, Abdel-Aziz HI, Zaki SM, Kotb FN. Effect of psycho-educational program on social functioning and self-stigma among schizophrenic patients. International Journal of Advanced Psychiatric Nursing. 2023;5(2):10-20.