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RESEARCH

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Effect of group psychotherapy on self-care skills in schizophrenia

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Abstract

Background Schizophrenia is a serious neurodevelopmental psychiatric disorder that places a considerable strain on the healthcare system on a national, regional, and global scale. This study's objective was to measure the level of self-care among individuals with schizophrenia. In addition, to develop, implement, and evaluate the impact of 3 month group therapy on self-care skills in this specific group of patients. The sample comprised 120 individuals diagnosed with schizophrenia, with 60 assigned to study group (receiving group therapy) and 60 to control group (without group therapy). The Positive and Negative Syndrome Scale (PANSS) and The Exercise of Self-Care Agency Scale (ESCAS) were administered to all subjects. The study group observed a substantial decrease in the mean score of positive symptoms, negative symptoms, and symptoms of general psychopathology from baseline assessment to follow-up assessment.

Results During the follow-up assessment, the study group exhibited a reduction in the mean of PANNS subscales by more than half and increase more than double in total score of ESCAS compared to the baseline assessment. Consequently, only the study group achieved a 70% increase in self-care in follow-up assessment. Increased self-care was more likely in patients who participated in the program, as indicated by the regression model.

Conclusions Individuals with schizophrenia who underwent group therapy exhibited a significant decrease in positive, negative symptoms, and symptoms of general psychopathology. In addition, the implementation of group therapy led to a noticeable improvement in self-care skills compared to those without group therapy.

Keywords Schizophrenia, Self-care, Group therapy

Background

Schizophrenia is a serious neurodevelopmental psychiatric illness characterised by behavioural symptoms that often appear in late adolescence or early adulthood. It has extensive clinical and biological heterogeneity [1–3], with pleiotropic genetic and pathophysiological pathways at work [4–6]. The average lifespan prevalence of schizophrenia is roughly 1%, and only a small percentage of people with schizophrenia, approximately 10–15% are working [7]. Impairments in basic and advanced functional abilities are common among individuals with schizophrenia, impacting their ability to perform self-care activities [8]. In addition, the recurrence of symptoms poses a challenge, progressively diminishing patients' ability to independently manage various aspects of their lives [9]. These patients often exhibit deficits in

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dominance and autonomy when it comes to activities of daily living (ADL) and instrumental activities of daily life (IADL) [10].

Schizophrenia continues to exert a significant economic impact, and its prevalence is increasing, placing added strain on global, regional, and national healthcare systems. These findings can offer valuable insights for resource allocation and healthcare planning to address the growing number of schizophrenia patients, particularly in aging populations [11]. Worldwide burden of Diseases (2016) ranks schizophrenia as the twelfth disability disorder [12].

Moreover, the failure of individuals with schizophrenia to adhere to basic personal hygiene principles and maintain order can have adverse effects on their social interactions, diminish their societal success prospects, and reduce their independence, employment opportunities, and social engagement [13, 14]. Consequently, promoting the ability of such patients to perform daily tasks independently becomes a crucial standard of care that necessitates attention to improve their self-care practices [15].

Despite the challenges faced by chronic schizophrenia patients, they can benefit from self-care interventions, involving behavioral modifications to enhance their health and well-being [16, 17]. Achieving successful self-care in this population requires more practice compared to other chronic illnesses, owing to the cognitive aspects of rationality and awareness [18]. The self-care behavior in severe mental illness [19] is influenced by various factors, including individual personality traits and societal support [20]. Therefore, effective collaboration between the government and society is essential to help patients regain self-care abilities through tailored interventions [21].

Research indicates that providing support to individuals with chronic mental illnesses can positively impact their ability to learn self-care and adhere to their prescribed medication [22–25]. Unfortunately, many families fail to recognize the importance of offering social and emotional support to their relatives due to a lack of awareness about the symptoms of psychiatric disorders [26].

Psychiatric care has been shown to be effective in improving personal hygiene among schizophrenia patients [27]. However, the impact of training on behavioral changes in patients with chronic conditions tends to be short-term. Therefore, educational interventions must consider patients' psychological needs and adopt supportive communication styles to encourage them to sustain these behavioral improvements [28]. Individuals with schizophrenia have ability to make decisions regarding self-care is often hindered by psychiatric symptoms and a lack of insight into their condition [29]. Consequently, self-care in this population remains a significant healthcare challenge [16].

Group-based psychological therapy has shown to be more effective for improving social functioning and self-care in schizophrenia patients [30, 31]. The beneficial aspects of intra-group therapy, such as constructive peer support to alleviate feelings of isolation and rejection, contribute to the preference for this treatment approach over cost-effective individual methods [32]. Psychiatric care has also demonstrated positive effects on aspects like nutrition, clothing, and hygiene in schizophrenia patients [33].

Despite the prevalence of schizophrenia and the potential benefits of group therapy on self-care abilities, there is currently no Egyptian study that explores this area. Therefore, this study could offer valuable insights to design services and enhance the self-care skills of schizophrenia patients in Egypt. This study's objective was to measure the level of self-care among individuals with schizophrenia. In addition, the study aimed to design, implement, and evaluate the impact of group therapy on self-care skills in this group of patients.

Methods

Participants and procedures

The research design employed in this study was quasi-experimental, involving a pretest–post-test controlled approach. Data collection took place at the inpatient psychiatric department of Assiut University Hospital. The study involved a total of 120 schizophrenic participants who were categorized into two groups, each comprising 60 patients. Group 1 received psychiatric medication alongside group therapy targeting self-care skills (study group), while Group 2 received only psychiatric medication without intervention (control group). Participants with other psychiatric disorders, intellectual disabilities, neurological or medical conditions were excluded. Eligible participants were diagnosed with schizophrenia according to DSM-5 criteria and fell within the age range of 18–60 years and accepted participation in this study.

Sample size

The EPI info statistical programme version 7 was used to calculate sample size. The sample size was established using the specifications of a 0.5 proportion, a 95% degree of confidence, and a 5% margin of error. It was calculated that each group needed 60 individuals based on these parameters [34].

Measures

All individuals were evaluated using a semi-structured interview designed by psychiatrists from Assiut University's psychiatry department. The Diagnostic and

Statistical Manual of Mental Disorders-5th Edition (DSM-5) [35] was used to diagnose psychiatric disorders, and the Structured Clinical Interview for DSM-5 Disorders—Clinician Version (SCID-5-CV) during the psychiatric interview [36] was used to confirm the diagnosis and exclude comorbidities.

Socio demographic data included age, residence, educational level, occupation, and family medical history.

Positive and Negative Syndrome Scale (PANSS). The PANSS is a 30-item scale used to measure schizophrenia-specific positive, negative, and general psychopathology. Ratings range from 1 (symptom not present) to 7 (symptom extremely severe). The PANSS total score ranges from 30 to 210, while the positive score (items 1–7) and negative score (items 8–14) range from 7 to 49. The PANSS overall psychopathology score (items 15–30) ranges from 16 to 112. In addition, composite rating is calculated by subtraction the negative value from the positive value, yielding a bipolar index ranging from − 42 to + 42, showing the dominant syndrome [37].

The Exercise of Self-Care Agency Scale (ESCAS) was based on Orem's theory of self-care. This scale consists of 43 items assessing self-care skills related to motivation, knowledge, self-worth, and active versus passive responses to situations. It is Likert scale with five points and higher ratings indicate increased autonomy in self-care. Cronbach's alphas were ranged from 0.86 to 0.92 and 0.80 to 0.91, respectively [38, 39].

Tools validity

The research tools underwent validation by a panel of five experts in the fields of Psychiatric and Mental Health, and necessary modifications were made accordingly.

Tool's reliability

To evaluate the reliability of the instruments, Cronbach's Alpha was used, resulting in a value of 0.968 for the Positive and Negative Syndrome Scale (PANSS) and 0.870 for The Exercise of Self-Care Agency Scale (ESCAS).

Pilot study

A pilot study was conducted with 12 individuals diagnosed with schizophrenia, who were not included in the final study. The pilot study intended to investigate 10% of the sample to assure the accuracy and relevance of the research tools, but no modifications have been adopted based on the results of the pilot results.

Procedure

From October 2022 to July 2023, group therapy was designed, implemented, and evaluated the self-care skills in individuals with schizophrenia. To guarantee randomization, the selection procedure was divided into two phases. The sample was first randomly chosen using computer-generated random numbers. To ensure representation from all pertinent groups, a fixed number of patients from each group ($n = 60$ patients for each group) are chosen at random. The chosen sample was used to create the control group and study group. Patients were allocated to either group at random. For 8 weeks, the study group received psychiatric medication and group psychotherapy, while the control group received medication only.

This study conducted through four sequential phases

The preparatory phase

The program used in this study was developed by researchers following these steps:

1. Examining the theoretical framework of group therapy.
2. Examining the theoretical framework of the Positive and Negative Syndrome Scale (PANSS).
3. Determining the techniques to be included in the program.
4. Reviewing previous programs prepared by former researchers in the field of group therapy.
5. Identifying the topics to be covered in the program.
6. Preparing exercises and activities for each technique and session of the program.
7. Preparing or selecting the illustrations to be used by the researchers for program implementation.

To acquire theoretical comprehension of the various aspects of the issue, 2 months were spent reviewing historical and contemporary literature related to the study topic. Following an extensive review of the literature, the study tools were designed.

The implementation phase

This phase included the following stages.

Stage 1: Pre-intervention stage (assessment) After obtaining official permission to conduct the study, the researcher conducted individual interviews with each participant diagnosed with schizophrenia. Each participant provided written consent after being informed of the study's objective. Personal data was collected, and participants were asked to complete the Positive and Negative Syndrome Scale (PANSS) and the Exercise of Self-Care Agency Scale (ESCAS) to assess the impact of group therapy on self-care skills. This assessment process lasted approximately 15–20 min.

Stage 2: Intervention stage only for group 1 Group therapy was implemented in ten groups, with each

group consisting of six patients. A total of eight sessions were conducted for each study group over a period of 4 weeks. Each session lasted approximately 1 h, with two sessions conducted per week. The group therapy included the following sessions:

First session: Providing information about the definition, types, causes, signs, and symptoms of schizophrenia.
Second session: Educating patients about different types of antipsychotic medications, their effectiveness, and potential side effects.
Third session: Focusing on the impact of mental illness on hygiene and nutrition.
Fourth session: Instructing patients on proper skin care, oral hygiene, appropriate clothing selection, and the importance of hygiene for overall well-being.
Fifth session: Addressing the definition and causes of insomnia. Sleep is a crucial component for physical and mental health, as it plays a vital role in self-care. Chronic sleep disturbances can significantly reduce an individual's quality of life, limit their ability to practice adequate self-care, and potentially increase mortality rates[40, 41].
Sixth session: Discussing the effects of insomnia and available treatments.
Seventh session: Emphasizing the importance of nutrition for individuals with schizophrenia.
Eighth session: Providing recommendations for food selection based on specific nutritional needs.

Stage 3: Evaluation of the program The program's effectiveness was evaluated immediately after the implementation of the group therapy for both the control and study groups.

Statistical analysis

SPSS version 26 (Statistical Package for Social Science) was employed for data entry and analysis. The data was presented in the formats of number, percentage, mean, and standard deviation. Our data had normally distributed tested by Shapiro–Wilk test. To compare qualitative variables, the Chi-square test was utilized. Using independent samples *t* test, quantifiable variables between groups were compared. The paired *t* test was employed to compare similar groups. While risk factors were identified using multivariate linear regression, associated factors for self-care were evaluated using Pearson correlation. The *P* value is regarded as statistically significant when P 0.05.

Results

Sociodemographic and clinical characteristics

In this study, individuals with schizophrenia were recruited and categorized into two groups (60 patients per group), group 1: study group and group 2: control group. No significant statistical difference between studied groups regarding demographic and clinical variables (see Tables 1 and 2).

PANSS and ESCAS results

Significant reductions in PANNS subscales were observed in the study group between baseline and follow-up assessments. As, the study group exhibited a reduction of more than half in the mean of PANNS subscales from baseline to follow-up.

Furthermore, there was a noticeable difference in post-assessment PANSS scores between the study and control groups, with the study group having a significantly lower mean on the PANSS subscales compared to the control group. As one of the negative symptoms reported by individuals with schizophrenia is a lack of self-care, the lower mean on the PANSS subscales for the study group suggests an improvement in self-care, which can potentially alleviate negative symptoms.

The total mean of ESCAS significantly improved in the study group when comparing baseline and follow-up assessments. As the study group demonstrated more than double the improvement in the mean of ESCAS, with baseline scores at 45.98 ± 10.23 improving to 117.40 ± 12.96 at follow-up. In addition, there was a significant difference in follow-up assessment ESCAS scores between both groups, with the study group exhibiting a significant increase in the mean of follow-up assessment ESCAS scores (117.40 ± 12.96) compared to the control group (44.25 ± 12.34) (see Table 3).

Figure 1 shows that neither group had a high self-care baseline assessment. Only the study group had 70% high self-care in follow-up assessment.

Correlation and regression studies

Table 4 shows correlation between difference of total Self-Care (pre–post assessment) and other variables. Total ESCAS had strong positive association with having program ($r = 0.867$, $p \leq 0.001$). In contrast, difference of total ESCAS had strong negative association with positive symptoms ($r = -0.738$, $p \leq 0.001$), negative symptoms ($r = -0.766$, $p \leq 0.001$), and general psychopathology symptoms ($r = -0.766$, $p \leq 0.001$).

In multivariate regression model to identified possible risk factors of difference of total ESCAS

Table 1 Sociodemographic characteristics among studied groups

Variables	Study group *n* = 60		Control group *n* = 60		X^2 or *t* value	*P* value
	No	%	No	%		
Age: (years)					1.747	0.417
< 30	13	21.7	16	26.7		
30– < 40	26	43.3	19	31.7		
≥ 40	21	35.0	25	41.7		
Mean ± SD	36.37 ± 7.92		37.62 ± 8.43		− 0.837	0.404
Sex:					3.348	0.067
Male	37	61.7	27	45.0		
Female	23	38.3	33	55.0		
Marital status					0.347	0.841
Single	32	53.3	30	50.0		
Married	22	36.7	25	41.7		
Divorced	6	10.0	5	8.3		
Residence:					3.077	0.079
Rural	45	75.0	36	60.0		
Urban	15	25.0	24	40.0		
Education years					0.927	0.629
Less than 5 years	26	43.3	29	48.3		
5–10 years	10	16.7	12	20.0		
More than 10 years	24	40.0	19	31.7		
Occupation					1.875	0.171
Not work	45	75.0	51	85.0		
Work	15	25.0	9	15.0		
Family history of psychiatric illness	21	35.0	23	38.3	0.144	0.705

Independent t test for mean, Chi-square test for numbers

Table 2 Clinical variables of the studied groups

Variables	Study group *n* = 60		Control group *n* = 60		X^2 or *t* value	*P* value
	No	%	No	%		
Age of onset: (years)					1.325	0.516
< 25	24	40.0	18	30.0		
25–35	26	43.3	30	50.0		
> 35	10	16.7	12	20.0		
Mean ± SD	27.30 ± 6.99		28.80 ± 7.13		− 1.164	0.247
Duration of illness in years					0.421	0.810
< 5	15	25.0	15	25.0		
5–10	29	48.3	26	43.3		
> 10	16	26.7	19	31.7		
Number of previous ECT	49	81.7	51	85.0	0.240	0.624
Number of previous suicide	23	38.3	15	25.0	2.465	0.116
Number of previous hospitals admissions	46	76.7	45	75.0	0.045	0.831

Independent t test for mean, Chi-square test for numbers

Table 3 Positive and Negative Syndrome Scale (PANSS) and Exercise of Self-Care Agency Scale (ESCAS) score among studied groups

Groups	Baseline measure (T1)	Follow-up assessment (T2)	*t* value(&*p* value of 2 measures in the same group)	*t* value (#*p* value of pre-treatment of 2 groups)	*t* value (#*p* value of post-treatment of 2 groups)
Positive and Negative Syndrome Scale (PANSS) score					
Positive symptoms					
Study group	41.43 ± 3.15	15.05 ± 3.77	48.030 (< 0.001*)	1.419 (0.159)	– 30.720 (< 0.001*)
Control group	40.38 ± 4.79	39.93 ± 5.01	1.592 (0.117)		
Negative symptoms					
Study group	38.77 ± 4.25	12.47 ± 3.77	46.828 (< 0.001*)	1.231 (0.221)	-29.974 (< 0.001*)
Control group	37.72 ± 5.06	37.48 ± 5.25	0.939 (0.352)		
Symptoms of general psychopathology					
Study group	85.60 ± 8.93	30.75 ± 7.58	42.867 (< 0.001*)	0.385 (0.701)	– 29.704 (< 0.001*)
Control group	84.82 ± 12.98	84.22 ± 11.70	1.108 (0.272)		
Exercise of Self-Care Agency Scale (ESCAS) score					
Study group	45.98 ± 10.23	117.40 ± 12.96	– 36.228 (< 0.001*)	1.356 (0.178)	31.672 (< 0.001*)
Control group	43.13 ± 12.67	44.25 ± 12.34	– 1.538 (0.129)		

* Statistically significant difference (p < 0.05), T1: Baseline measure, T2: Follow-up assessment

& Paired Samples *t* test

Independent *t* test

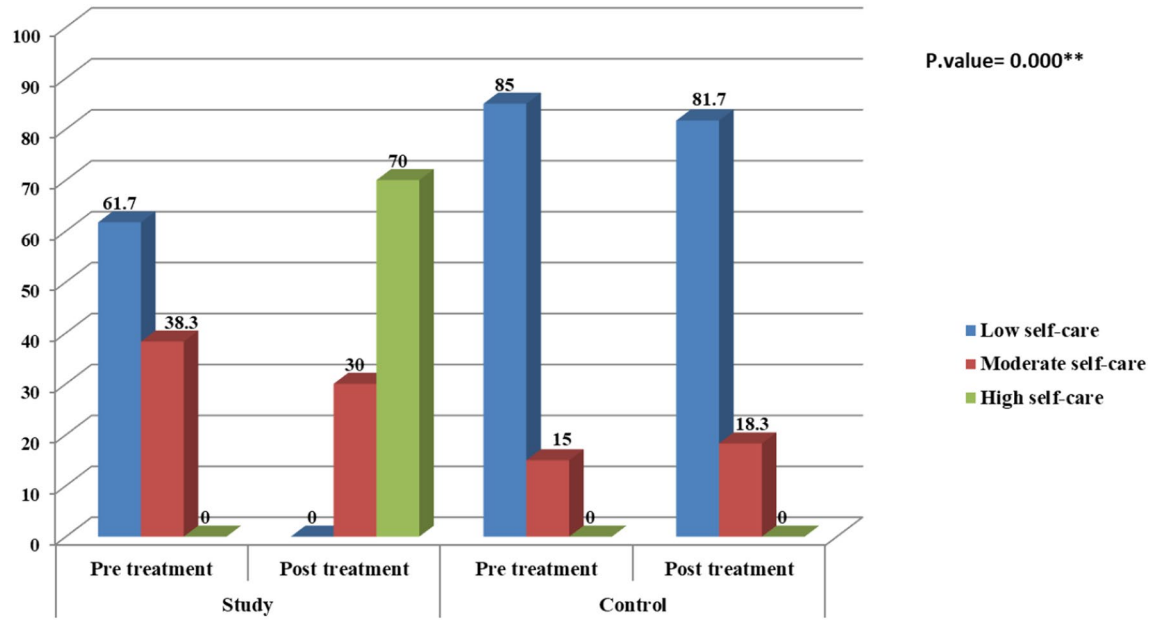

Fig. 1 Distribution Levels Exercise of Self-Care Agency Scale (ESCAS) among studied groups before & after intervention

(pre–post-assessment). Increase self-care was more likely in patients had program ($p \leq 0.001$) (see Table 5).

Discussion

Schizophrenia had wide range of symptoms with various risk factors [3, 42, 43]. In individuals with schizophrenia, self-care performance often shows a significant decline in functional abilities related to basic and advanced care needs [8, 44].This may lead to a lack of dominance and independence in daily living tasks, adversely affecting their overall quality of life [10, 45]. The aim of this study was to assess self-care in individuals with schizophrenia and evaluate the effectiveness of group therapy in enhancing their self-care abilities.

In this study, participants with schizophrenia who underwent the group therapy exhibited a reduction of

Table 4 Correlation between difference of total ESCAS (pre–post-treatment) and other variables

Variables	Total Self-Care	
	r	*P* value
Have program	0.867	< 0.001*
Age	0.089	0.333
Sex	0.160	0.081
Education years	− 0.083	0.366
Age of onset	0.113	0.219
Duration of illness	0.102	0.269
Positive and Negative Syndrome Scale		
Positive symptoms	− 0.738	< 0.001*
Negative symptoms	− 0.766	< 0.001*
Symptoms of general psychopathology	− 0.766	< 0.001*

* Statistically significant difference ($p < 0.05$)

more than half in positive, negative, and general psychopathology symptoms. In contrast, the control group showed only a slight decrease in symptoms. These findings align with a study by Abd El-Fatah and colleagues (2015), where significant improvement in PANSS scores was observed in schizophrenia patients who received both group therapy and standard treatment compared to the control group receiving only standard treatment [46]. This finding could be explained by the positive impact of self-care training in group therapy, which may have enhanced cognition and reduced negative symptoms of schizophrenia in the participants [47]. Enhanced cognition, resulting from the self-care training in group therapy, may have indirectly influenced positive symptoms by improving overall functioning and coping abilities in the participants with schizophrenia. Consequently, the improved cognition and coping skills could have contributed to the reduction in general psychopathology, which encompasses a broader range of symptoms beyond just positive and negative features.

However, another study by Kashani Lotfabadi and colleagues (2022) reported minor improvements in schizophrenia patients with and without the program, without a significant difference between the groups [33]. This finding could be attributed to the patients' negative attitudes and lack of collaboration, which hindered their participation in the group activities designed to teach self-care practices. While patients with schizophrenia may experience minor improvements with or without the program, there may not be a significant difference between the two groups due to the challenges in engaging them fully in the self-care training activities. In the current study, individuals with schizophrenia showed more than double the increase in self-care compared to the control group, and this finding is consistent with previous research report, indicating that group therapy can indeed promote self-care behaviors in schizophrenia patients [33]. Furthermore, this finding aligns with Taş's (2017) study, which demonstrated that self-care training can effectively promote self-care habits in individuals with schizophrenia. This could be explained by the fact that group therapy introduces schizophrenia patients to self-care practices, potentially for the first time. Previous research suggests that educational interventions may improve the self-care knowledge and abilities of people with schizophrenia, enabling them to attend to their physical needs and properly care for their dental hygiene through brushing and toothpaste use [47]. Other studies have revealed that group therapy, rather than teaching alone, may help hemodialysis patients improve their self-care behaviors over time [48]. In addition, these studies have

Table 5 Multivariate regression between difference of total ESCAS (pre–post-assessment treatment) and other variables

Variables	B	Std. Error	Beta	*t*	*P* value	95.0% Confidence Interval	
						Lower Bound	Upper Bound
Have program	63.677	12.313	0.862	5.172	< 0.001*	39.276	88.079
Age	0.083	0.464	0.018	0.180	0.858	− 0.837	1.003
Sex	− 1.450	2.277	− 0.020	− 0.637	0.526	− 5.964	3.063
Education years	− 1.255	1.266	− 0.030	− 0.991	0.324	− 3.764	1.254
Age of onset	− 0.005	0.516	− 0.001	− 0.010	0.992	− 1.027	1.017
Duration of illness	0.040	0.504	0.005	0.079	0.937	− 0.958	1.038
Positive and Negative Syndrome Scale							
Positive symptoms	− 0.121	0.396	− 0.044	− 0.306	0.760	− 0.907	0.664
Negative symptoms	0.352	0.403	0.128	0.871	0.385	− 0.448	1.151
Symptoms of general psychopathology	− 0.232	0.154	− 0.176	− 1.508	0.134	− 0.536	0.073

*Statistically significant difference ($p < 0.05$)

shown that group therapy helped enhance nulliparous outcomes [49] and self-care behaviors in women with diabetes by emphasizing self-care [50].

On the other hand, Kim Y-s and colleagues (2020) observed that psychiatric care may not effectively assist these patients in developing executive skills in the real world and sustaining their daily life responsibilities [51]. This might be explained by the possibility that participants with varying backgrounds, ages, and levels of education view issues and formulate ideas in ways that could help to explain the disparity.

The study further explored the factors associated with improved self-care in schizophrenia patients. Correlation analysis revealed that improved self-care was negatively correlated with positive, negative, and overall psychopathological symptoms in individuals with schizophrenia. This finding could be explained by the diverse range of cognitive, negative, and positive symptoms associated with schizophrenia. Negative symptoms and cognitive deficits are the primary factors influencing a patient's functional capacity while living with schizophrenia. While cognitive impairments typically indicate challenges in daily life and employment, negative symptoms often predict the severity of social deficiencies (interpersonal relationships). The basic activities of daily living involve managing one's physical needs and self-care. These activities are more resilient to cognitive decline compared to instrumental activities of daily living. However, cognitive ability does impact one's capacity to perform both instrumental and basic activities of daily living, as it involves reasoning and planning [47].The multivariate regression model confirmed that participation in the program was the only factor significantly associated with enhanced self-care.

The positive and negative symptoms of schizophrenia are fundamental components of the disorder. Positive symptoms are easier to identify and can be described as "psychotic behaviors not observed in healthy individuals" (Delusions, hallucinations, abnormal motor behavior, etc.) [52]. On the other hand, negative symptoms are characterised by a reduction in normal functioning, either linked to interest and motivation (avolition, anhedonia, and a sociality) or expression capabilities (blunted affect and alogia), and are referred to as deficit syndrome [53]. The severity of symptoms in schizophrenia and delay of diagnosis and treatment in psychiatric illness [19] has consistently been associated with poorer functional outcomes in various areas, including impaired occupational and academic performance, difficulties in social functioning, decreased participation in activities, and reduced quality of life [54, 55]. To improve treatment outcomes for schizophrenia patients, a comprehensive management strategy should incorporate self-care. Therefore, medical and nursing teams responsible for treating schizophrenia patients should acquire knowledge about self-care, self-care activities, self-care agencies, and how to provide assistance when self-care is insufficient. This information empowers individuals to engage in self-care practices during educational sessions, post-education periods, and in-service training. Moreover, it is crucial as these intervention plans are non-invasive, non-pharmacological, affordable, and cost-effective that help in improving patients.

Furthermore, institutionalized schizophrenia patients would benefit greatly from specialized group therapy. Data regarding these treatments can serve as valuable insights for shaping policy, guiding health planning efforts, evaluating outcomes, and informing health education initiatives.

This study had some limitations. First, cognitive function was not assessed [24]. Self-care and cognitive function should be linked. Second, long-term follow-up is needed to assess intervention program's impact on self-care. The last limitation is the lack of a single-blind method. Implementing such a method, where the rater is blinded to which patients received group therapy, would have enhanced the validity of our findings.

Conclusion

When applied to individuals with schizophrenia, this group therapy had a positive outcome. It is linked to a significant reduction in positive, negative, and general psychopathological symptoms. It was also associated with a significant improvement in self-care skills after the implementation of group therapy in the study group compared to the control group.

Abbreviations

PANSS	The Positive and Negative Syndrome Scale
ESCAS	The Exercise of Self-Care Agency Scale
ADL	Activities of daily living
IADL	Instrumental activities of daily life

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None.

Author contributions

SMS contributed to the study conception, design of the work, statistical analysis, and critical revision of the manuscript. GKA. contributed to data interpretation, statistical analysis, and critical revision of the manuscript. SA contributed to the study conception, design of the work, data recruitment, and drafted the manuscript. SMk recruited participants, analysis, and interpreted data, and were the contributors in writing the manuscript. All authors gave final approval of the version to be published.

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Availability of data and materials

All data generated or analyzed during this study are available from corresponded on request.

Declarations

Ethics approval and consent to participate
This study was approved by the Institutional Review Board (IRB) of the nursing faculty with Nb (4310032). The Assiut University neuropsychiatric hospital manager gave permission. All participants signed a written informed consent form before participating in the study. Participants were informed of the study's purpose, which did not inflict injury or pain, and they gave their consent. They were informed that their data would be anonymized and protected. They were advised that the study is optional, and they might withdraw at any moment. This research was conducted in accordance with the most recent version of the Helsinki Declaration.

Consent for publication
The participant has consented to publishing their data result.

Competing interests
The authors have no conflicts of interest to declare that are relevant to the content of this article.

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References

1. Ahmed GK, Ramadan HK-A, Elbeh K, Haridy NA. Bridging the gap: associations between gut microbiota and psychiatric disorders. Middle East Current Psychiatry. 2024;31(1):2.
2. Ahmed GK, Ramadan HK-A, Elbeh K, Haridy NA. The role of infections and inflammation in schizophrenia: review of the evidence. Middle East Current Psychiatry. 2024;31(1):9.
3. Hussein EAM, Khalifa H, Ramadan GK, Hassaan SH, Shaaban I, Farrag HMM. Seroprevalence of Toxoplasma gondii among patients with schizophrenia and bipolar disorder in Upper Egypt: a comparative study with a control group. Ann Parasitol. 2020;66(2):183–92.
4. Vita A, Barlati S, De Peri L, Deste G, Sacchetti E. Schizophrenia Lancet. 2016;388(10051):1280.
5. Hemager N, Plessen KJ, Thorup A, Christiani C, Ellersgaard D, Spang KS, et al. Assessment of Neurocognitive Functions in 7-Year-Old Children at Familial High Risk for Schizophrenia or Bipolar Disorder: The Danish High Risk and Resilience Study VIA 7. JAMA Psychiat. 2018;75(8):844–52.
6. Hadar R, Winter R, Edemann-Callesen H, Wieske F, Habelt B, Khadka N, et al. Prevention of schizophrenia deficits via non-invasive adolescent frontal cortex stimulation in rats. Mol Psychiatry. 2020;25(4):896–905.
7. Dixon L. What It Will Take to Make Coordinated Specialty Care Available to Anyone Experiencing Early Schizophrenia: Getting Over the Hump. JAMA Psychiat. 2017;74(1):7–8.
8. Ayres H, Ngo H, John AP. Limited changes in activities of daily life performance ability among people with schizophrenia at clinical settings and the factors moderating the changes. Schizophr Res Cogn. 2019;16:29–35.
9. Su CC, Bai YM, Chou MH, Wang JD, Yang YK. Estimate dynamic changes of dysfunction and lifelong spent for psychiatric care needs in patients with schizophrenia. Eur Psychiatry. 2018;54:65–70.
10. Putri N, Kurnianingsih T, Andayani S. Daily Living Performance in Schizophrenic Patients in Correlation with Positive and Negative Symptoms. Althea Medical Journal. 2020;7:72–8.
11. He H, Liu Q, Li N, Guo L, Gao F, Bai L, et al. Trends in the incidence and DALYs of schizophrenia at the global, regional and national levels: results from the Global Burden of Disease Study 2017. Epidemiol Psychiatr Sci. 2020;29: e91.
12. Charlson FJ, Ferrari AJ, Santomauro DF, Diminic S, Stockings E, Scott JG, et al. Global Epidemiology and Burden of Schizophrenia: Findings From the Global Burden of Disease Study 2016. Schizophr Bull. 2018;44(6):1195–203.
13. Hsu Y-C, Lin W, Kuo H-W. Schizophrenic Patients' Poor Perception in Personal Hygiene. Mental health in family medicine. 2017;13
14. Green MF, Horan WP, Lee J, McCleery A, Reddy LF, Wynn JK. Social Disconnection in Schizophrenia and the General Community. Schizophr Bull. 2018;44(2):242–9.
15. Taş S. Early period self-care ability and care requirements of schizophrenia patients after discharge. Journal of Psychiatric Nursing. 2017
16. Riegel B, Dunbar SB, Fitzsimons D, Freedland KE, Lee CS, Middleton S, et al. Self-care research: Where are we now? Where are we going? Int J Nurs Stud. 2021;116: 103402.
17. Ausili D, Barbaranelli C, Rossi E, Rebora P, Fabrizi D, Coghi C, et al. Development and psychometric testing of a theory-based tool to measure self-care in diabetes patients: the Self-Care of Diabetes Inventory. BMC Endocr Disord. 2017;17(1):66.
18. Donato K. Self-Care as a Burdened Virtue. Episteme. 2017.
19. Ahmed GK, Elbeh K, Khalifa H, Samaan MR. Impact of duration of untreated illness in bipolar I disorder (manic episodes) on clinical outcome, socioecnomic burden in Egyptian population. Psychiatry Res. 2021;296: 113659.
20. Abd El-Aziz AM, Ahmed GK, Farg HK, Ali Saraya OAAE-F. Effect of an educational program on self-concept and symptoms of patients with schizophrenia. Assiut Scientific Nursing Journal. 2023;11(34):336–46.
21. Chen C, Chen Y, Huang Q, Yan S, Zhu J. Self-Care Ability of Patients With Severe Mental Disorders: Based on Community Patients Investigation in Beijing. China Front Public Health. 2022;10: 847098.
22. Birken M, Wong HT, McPherson P, Killaspy H. A systematic review of the published literature on interventions to improve personal self-care for people with severe mental health problems. Br J Occup Ther. 2021;84(4):200–11.
23. Bible LJ, Casper KA, Seifert JL, Porter KA. Assessment of self-care and medication adherence in individuals with mental health conditions. J Am Pharm Assoc (2003). 2017;57(3s):S203-S10.e3.
24. Khedr EM, Ghanima NE, Elbeh KA, Ahmed Gk, El-Fawal B. Cognitive impairment among an Egyptian sample of patients with schizophrenia and bipolar disorders: a comparative study. Middle East Current Psychiatry. 2023;30(1):70.
25. Khedr EM, Omeran N, Karam-Allah Ramadan H, Ahmed GK, Abdelwarith AM. Alteration of Gut Microbiota in Alzheimer's Disease and Their Relation to the Cognitive Impairment. J Alzheimers Dis. 2022;88:1103–14.
26. Karanci NA, Gök AC, Yıldırım B, Borhan N. Social support perceptions of Turkish people with schizophrenia: What helps and what doesn't help. Int J Soc Psychiatry. 2017;63(7):657–65.
27. Yoshii H, Kitamura N, Akazawa K, Saito H. Effects of an educational intervention on oral hygiene and self-care among people with mental illness in Japan: a longitudinal study. BMC Oral Health. 2017;17(1):81.
28. Matthews J, Hall AM, Keogh A. Evaluating the effects of behavior change training on the knowledge, confidence and skills of sport and exercise science students. BMC Sports Sci Med Rehabil. 2020;12:62.
29. Blixen CE, Kanuch S, Perzynski AT, Thomas C, Dawson NV, Sajatovic M. Barriers to Self-management of Serious Mental Illness and Diabetes. Am J Health Behav. 2016;40(2):194–204.
30. Morin L, Franck N. Rehabilitation Interventions to Promote Recovery from Schizophrenia: A Systematic Review. Front Psychiatry. 2017;8:100.
31. Dabit S, Quraishi S, Jordan J, Biagianti B. Improving social functioning in people with schizophrenia-spectrum disorders via mobile experimental interventions: Results from the CLIMB pilot trial. Schizophr Res Cogn. 2021;26: 100211.
32. Sadock BJ, Sadock VA, Ruiz P. Kaplan and Sadock's synopsis of psychiatry: Behavioral sciences/clinical psychiatry, 11th ed. Kaplan and Sadock's synopsis of psychiatry: Behavioral sciences/clinical psychiatry, 11th ed. US: Wolters Kluwer Health; 2015.
33. Masoud Kashani L, Mohammad Hossein B, Ali Reza R. The effect of cognitive-behavioral group training of self-care skills on self-care in patients with schizophrenia. Nursing Practice Today. 2021;9(1)
34. Arsova S, Bajraktarov S, Barbov I, Hadzihamza K. Patients with Schizophrenia and Self-Care. Open Access Macedonian Journal of Medical Sciences. 2014;2:289.
35. American Psychiatric Association D, Association AP. Diagnostic and statistical manual of mental disorders: DSM-5. vol 5. American psychiatric association Washington, DC; 2013.
36. First MB. Structured Clinical Interview for the DSM (SCID). The Encyclopedia of Clinical Psychology. 2015. p. 1–6.

37. Kay SR, Fiszbein A, Opler LA. The Positive and Negative Syndrome Scale (PANSS) for Schizophrenia. Schizophr Bull. 1987;13(2):261–76.
38. Yamashita M. The exercise of self-care agency scale. West J Nurs Res. 1998;20(3):370–81.
39. Wang HH, Laffrey SC. Preliminary development and testing of instruments to measure self-care agency and social support of women in Taiwan. Kaohsiung J Med Sci. 2000;16(9):459–67.
40. Spedale V, Luciani M, Attanasio A, Di Mauro S, Alvaro R, Vellone E, et al. Association between sleep quality and self-care in adults with heart failure: A systematic review. Eur J Cardiovasc Nurs. 2021;20(3):192–201.
41. Schmutte T, Davidson L, O'Connell M. Improved Sleep, Diet, and Exercise in Adults with Serious Mental Illness: Results from a Pilot Self-Management Intervention. Psychiatr Q. 2018;89(1):61–71.
42. Ahmed GK, Khedr EM, Hamad DA, Meshref TS, Hashem MM, Aly MM. Long term impact of Covid-19 infection on sleep and mental health: A cross-sectional study. Psychiatry Res. 2021;305: 114243.
43. Hassaan SH, Darwish AM, Khalifa H, Ramadan HKA, Hassany SM, Ahmed GK, et al. Assessment of cognitive functions and psychiatric symptoms in hepatitis C patients receiving pegylated interferon alpha and ribavirin: A prospective cohort study. The International Journal of Psychiatry in Medicine. 2019;54(6):424–40.
44. Baruah A, Bhaduri A, Deuri SK. Effect of psycho-educative intervention on knowledge about illness and self-care in patients with schizophrenia. Nurs J India. 2012;103(4):188–90.
45. Lipskaya L, Jarus T, Kotler M. Influence of cognition and symptoms of schizophrenia on IADL performance. Scand J Occup Ther. 2011;18(3):180–7.
46. Abd El-Fatah O IH, Darweesh A, Sayied N, Thabt R. The Effect of Physical Exercise as A nursing Intervention on Management of Positive and Negative Symptoms of Schizophrenic Patients. 2015.
47. Mlinac ME, Feng MC. Assessment of Activities of Daily Living, Self-Care, and Independence. Arch Clin Neuropsychol. 2016;31(6):506–16.
48. Ramezani T, Sharifirad G, Rajati F, Rajati M, Mohebi S. Effect of educational intervention on promoting self-care in hemodialysis patients: Applying the self-efficacy theory. J Educ Health Promot. 2019;8:65.
49. Safat SG, Iravani M, Bargard MS, Latify M. Efficacy of Cognitive Behavioral Therapy-Based Self-Management Intervention on Labor Outcome in Nulliparous Women. J Mazandaran Univ Med Sci. 2018;28(160):132–223.
50. Enomoto T, Tatara A, Goda M, Nishizato Y, Nishigori K, Kitamura A, et al. A novel phosphodiesterase 1 inhibitor DSR-141562 exhibits efficacies in animal models for positive, negative, and cognitive symptoms associated with schizophrenia. J Pharmacol Exp Ther. 2019;371(3):692–702.
51. Kim YS, Park JH, Lee SA. Is a program to improve grocery-shopping skills clinically effective in improving executive function and instrumental activities of daily living of patients with schizophrenia? Asian J Psychiatr. 2020;48: 101896.
52. Health. NIoM: Schizophrenia. http://www.nimh.nih.gov/health /publications /schizophrenia -easyto-read/nimh-schizophrenia-quadfold.pdf. (2009). Accessed June 20, 2014.
53. Correll CU, Schooler NR. Negative Symptoms in Schizophrenia: A Review and Clinical Guide for Recognition, Assessment, and Treatment. Neuropsychiatr Dis Treat. 2020;16:519–34.
54. Patel KR, Cherian J, Gohil K, Atkinson D. Schizophrenia: overview and treatment options. P t. 2014;39(9):638–45.
55. Harvey PD, Strassnig MT, Silberstein J. Prediction of disability in schizophrenia: Symptoms, cognition, and self-assessment. J Exp Psychopathol. 2019;10(3):2043808719865693.

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