The Effect of Mindfulness-Based Psycho-Educational Program on Insight and Socio Occupational Functioning of Schizophrenic Patients

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Abstract

Background: Schizophrenia causes many difficulties in the lives of patients because it is a chronic disease that reduces the mindfulness, causes disability, low insight, loss of social and vocational skills, and continues with relapses. psychoeducation in either an individual or group format, on a fortnightly to monthly basis, should be offered to patients with schizophrenia as it is consistently effective in patients' awareness of and insight into their schizophrenia and other functional outcomes. Mindfulness-based intervention helps patients with schizophrenia relate differently to their psychotic experiences by opening their awareness and non-judgmental acceptance and allow a more adaptive strategy of coping and control over those psychotic symptoms to be used by patients with schizophrenia.

Aim of the Study: The study aimed to assess the effect of mindfulness-based psychoeducation program on insight and socio-occupational functioning of schizophrenic patients.

Method: A quasi-experimental research design with a pretest-posttest is used to achieve the aim of the study. The study was conducted at The Psychiatric and Addiction Treatment Hospital in Meet-Khalaf that affiliated to the Ministry of Health at Menoufia Governorate, Egypt. A convince sample of 58 schizophrenic patients from inpatient of the above-mentioned setting was recruited for this study. The study sample was divided into two groups 30 patients in the case group and 28 patients in control. Three tools were used; Structured interview questionnaire, Beck Cognitive Insight Scale (BCIS) and Socio-Occupational Functioning Scale (SOFS).

Results: The results of this study revealed that there a was a significant decrease of mean Socio occupational functioning scale score in the study group after intervention than before (38.56±3.1 to be 28.23). Also, there was a highly statistically significant difference found in the cognitive insight scale and its subscales score among study groups pre and post-intervention.

Conclusion: Mindfulness-based intervention have increased the cognitive insight and socio occupational functioning of the patients in the study group.

Recommendation: Mindfulness-based psych educational program should be implemented as a routine care for all schizophrenic patients.

Keywords: *Mindfulness-based psych educational program, cognitive insight, Socio occupational functioning, schizophrenia.*

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Introduction

Schizophrenia is a serious mental illness characterized by disturbances in a person's thoughts, perceptions, emotions, behaviors and by significant social or occupational dysfunction. Schizophrenia is an illness that has a profound effect on the life of

individuals[1]. The prevalence of schizophrenia among U.S adults is estimated to be 1.5 million people per year[2]. Schizophrenia is often diagnosed in young people during their late teens to early 30s with symptoms commonly presenting earlier in males than in females[3].

Despite the most distinctive symptoms of schizophrenia being those such as delusions and hallucinations, functional deficits are a core feature of the disorder. The decline in social functioning is one of the hallmarks of schizophrenia and may serve as a predictor of outcome[4]. Impairment or lack of insight is considered as one of the most central symptoms in schizophrenia and this feature to some extent helps in differentiating schizophrenia from other overlapping psychiatric disorders. Poor insight can potentially worsen the social and interpersonal malfunction which is observed in schizophrenia and insight has been linked to the poor outcome of psychosis in multiple ways[5].

Psych education defined as a patient's empowering training targeted at promoting awareness and proactivity, providing tools to manage, cope and live with a chronic condition. Psych education is an important element of psychiatric treatment[6]. it is generally aimed at improving the internal vision by informing about the disease, changing the false beliefs and attitudes, recognizing early symptoms, improving medication adherence, preparing individuals and families against stressful life events, improving coping skills and increasing social functioning. Effective education of people with schizophrenia can improve insight and understanding[7].

One of the psychosocial approaches that have emerged in the treatment of psychotic disordersin recent years is mindfulness-based therapies[8]. The mostpopular method of mindfulness-based therapies is the mindfulness-based stress Reduction program[9]. Mindfulness-based stress reduction (MBSR) is a clinical program that utilizes skills such as sitting and walking meditation, yoga and a somatically focused skill named the body scan. Mindfulness-based stress reduction (MBSR) programs consist of approaches that aim to facilitate patients' acceptance and are focused on reducing distress by changing negative thoughts, emotions and attitudes towards the illness[10]. Mindfulness-based intervention (MBI) is believed to help the patient with schizophrenia relate differently to their psychotic experiences by opening their awareness and non-judgmental acceptance and allow more adaptive strategy of coping and control over those psychotic symptoms to be used by patients with schizophrenia[11].

Psychiatric Nurses are responsible for implementing patient education that improves mental health and wellbeing and psych educational activities associated with illness[12]. Psychiatric nurses should take an active role in the elimination of lack of insight and treatment noncompliance which currently poses an obstacle in the treatment of schizophrenia. [9]and [10]found that a mindfulness-based psych education program for 36 patients with schizophrenia resulted in significant improvements in insight into the illness, functioning and symptom severity overa longer-term follow-up so, the study aimed to evaluate the effect of mindfulness-based psych education on social, occupational functioning and insight among schizophrenic patients.

Subjects and Method

The Aim of the Study: The study aims to evaluate the effect of a mindfulness-based psych education program on insight and socio-occupational functioning of schizophrenic patients.

Research Hypothesis

- Schizophrenic patients who will attend mindfulness -the based psych educationalprogramwill have better scores of insight than before the program, while the control group form Schizophrenic patients will not have better scores of insight than before the program

- Schizophrenic patients who attend a mindfulness-based psych educationprogramwill have better socio-occupational functioning than before the program, while the control group from Schizophrenic patients will not have better scores of socio-occupational functioning than before the program

Research Design: A quasi-experimental research design with a pretest-posttest and control group is used to achieve the aim of the study. There is a treatment group that is given a pretest, receives a treatment and then is given a posttest. But at the same time there is a control group that is given a pretest, does not receive the treatment and then is given a posttest.

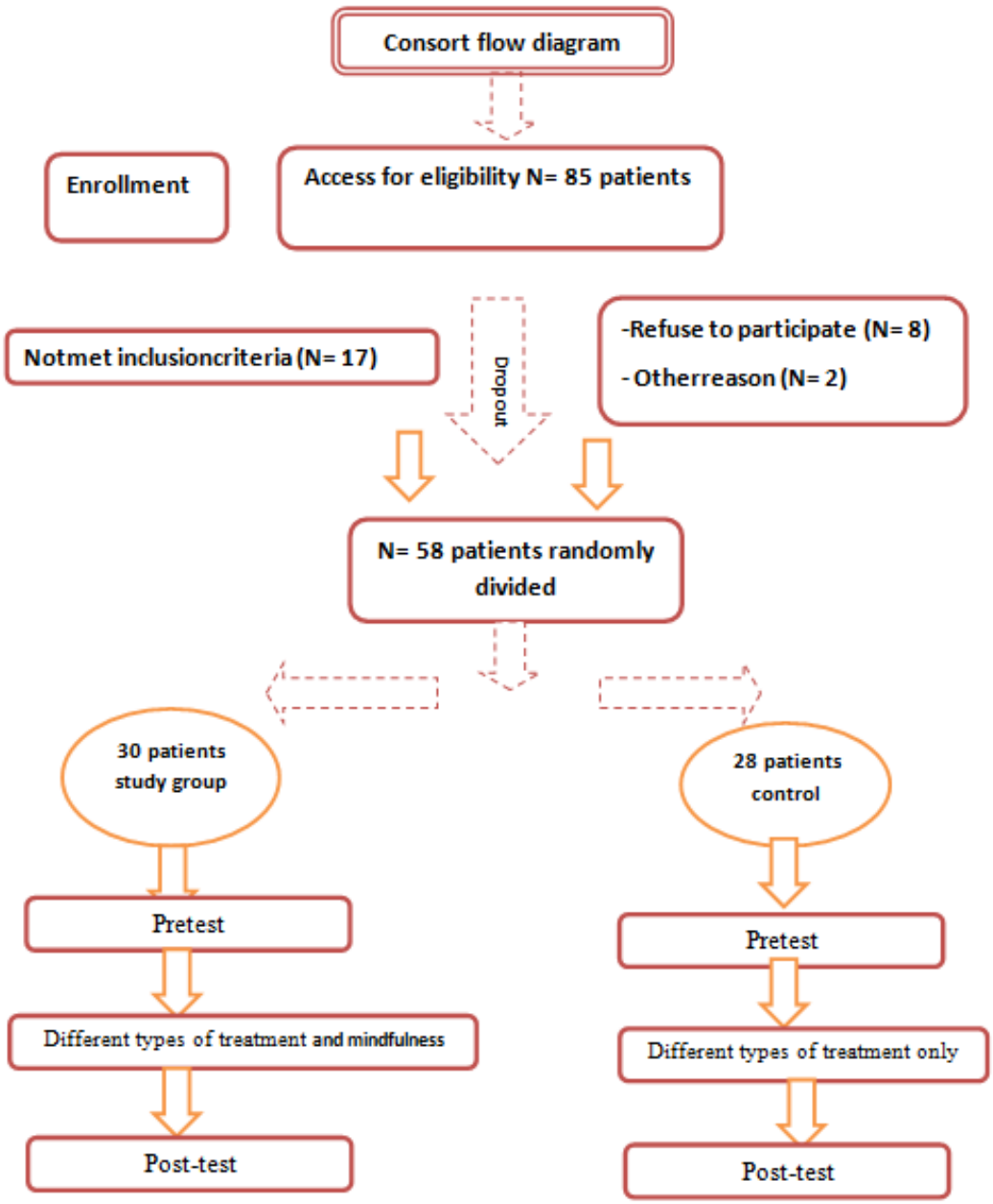
Research setting the study was conducted at The Psychiatric and Addiction Treatment Hospital in Meet-Khalaf that affiliated to the Ministry of Health at Menoufia Governorate, Egypt. **Sample Size** The sample sizing adopts that the appraised effect size is 5 and

the standard deviation of the result variable is 10. To accomplish 80% power to detect this difference with a significance level of 0.05 by the equation: n = [(Zα/2 + Zβ) 2 × 2(ó) 2]/(μ1 - μ2)2 it is estimated that 25 subjects per group would be required. Through a withdrawal/ non-evaluable subject rate of 10% a total of 25 subjects per group, so that the total sample size of 58 subjects would be included in the present study.

Subjects: A convince sample of 58 schizophrenic patients from inpatient of the above-mentioned setting was recruited for this study. The study sample was randomly divided into two groups. The case group (I) consists of 30 patients and the control group (II) consists of 28 patients. The case group (I) received a mindfulness-based psych educational program in addition to the use of medication. Control group (II) received only medication. The researchers deal with the control group first, to prevent result bias. They were chosen based on the subsequent power analysis and inclusion criteria.

Inclusion Criteria:

1. Schizophrenic Patients who were diagnosed by psychiatrists.
2. The aged of the patient from 21- 50 under treatment
3. The patient who can hear, read and write.
4. Patients who are willing to participate in the study.



Instruments of the Study:

Three tools were used for data collection:

1. A structured socio-demographic questionnaire to obtain demographic data of the studied sample including age, religion, sex, place of residence, level of education, duration of illness, marital status, income and type of treatment.
2. Beck Cognitive Insight Scale (BCIS): Cognitive insight was assessed using the BCIS.[13] A 15-item self-report scale that measures the two dimensions of self-reflectiveness and self-certainty. Items are rated by the participant on a four-point scale from 'do not agree' to 'agree'. Each item was scored as 0 (don't agree at all)-1 (agree slightly)-2 (agree with a lot) -3 (agree). The self-reflectiveness dimension is calculated as the sum of the remaining nine items (possible range 0–27) and measures the expression of introspection and willingness to acknowledge fallibility, for example' If someone points out that my beliefs are wrong I am willing to consider it', with a higher score indicating better cognitive insight. The self-certainty dimension is calculated as the sum of six items (possible range 0–18) and measures decision making regarding mental products: certainty about being right and resistance to correction, for example 'I know better than anyone else what my problems are'. Greater self-certainty indicates poorer cognitive insight (i.e., overconfidence in decision making). The composite measureis calculated by subtracting the self-certainty score from the self-reflectiveness score; a score of 10 points or more signifies good cognitive insight.
3. **Socio-Occupational Functioning Scale (SOFS):** Socio-Occupational Functioning Scale (SOFS) was developed by[14] to assess socio-occupational functioning. Rating is based on a patient's behavior during the last one month period. It has 14 items, on the patient's self-care and activities of daily living and patient's communication pattern and his or her interpersonal relationships and their instrumental living skills and their work functioning. Each item is rated on 5 points Likert scale (1= no impairment, 5= extreme impairment). Total scores ranged from 14 to 70 scores. A lower score in SOFS indicated better functioning and higher scores indicated greater impairment in social functioning.

The validity of the Tools: Beck Cognitive Insight Scale (BCIS) and Socio-Occupational Functioning Scale (SOFS) were translated by the researcher to the Arabic language and tested for content validity by the jury of five experts in the field of psychiatric mental Health Nursing and psychiatric medicine to ascertain relevance and completeness.

Reliability of the Tools: Reliability was applied by the researcher for testing the internal consistency of the tool, by the administration of the same tools to the same subjects under similar conditions on one or more occasions. Answers from repeated testing were compared (Test-re-test reliability). The tools revealed reliable at 0.81 for the tool (2) and 0.83 for the tool (3).

Pilot Study: The pilot study was conducted on 5 schizophrenic patients. Patients who participated in the pilot study were excluded from the total sample size. The results of the pilot study were incorporated in the questionnaires and the time needed for data collection was estimated.

Preparatory Phase:

Administrative and ethical considerations: An official letter was issued from the Faculty of Nursing Menofia University and sent to the director of the psychiatric and addiction treatment hospital in Mit-Khalf after explaining the aim of the study to get their permission for data collection. The questionnaires used in the study were administered by the researchers. The patients were briefed about the study, encouraged to participate and motivated to express their experiences and their feelings. The patients were given fully informed verbal consent to participate. It was emphasized that all data collected was strictly confidential and the data would be used for scientific purposes only.

Data Collection Phase: Data collection for this study was carried out in the period from the beginning of June 2019 to mid of January 2020). The researcher collected the data during the morning at two days/week from 10 AM to 12 AM. The number of 58 were randomly assigned study group (30)and control group(28) patients in the study group were then randomly divided into 3 groups to receive the mindfulness psych educational program. Primarily, the patients were asked to fill the pretest structured questionnaires to assess the level of functioning and the insight of the schizophrenic patients. The number of one session per week was conducted for each subgroup (10 schizophrenic patients) with a total

number of 12 sessions within 12 weeks for each group. Implementation of the study passed into three phases (assessment phase, implementation phase, evaluation phase).

Assessment Phase: A comfortable, quiet place was chosen for the implementation of the program. Orientation about the purpose, content, rules and significance of the study was done. Patients were asked to fill the pre-assessment beck cognitive insight scale and socio-occupational functioning scale.

Implementation Phase: The training program aimed at improving the insight and socio-occupational functioning of schizophrenic patients. This training program has a set of specific objectives for each of the 12 sessions. This was achieved through several teaching method such as lectures, group discussion, brainstorming and examples from real-life situations and experiences, modeling, role-playing, getting participants' feedback, providing feedback, providing corrective feedback and assigning homework. Variable teaching method also were used to facilitate the implementation of the program such as; Data show, videos, pictures and evidence-based booklets.

The content of the training program sessions was as follows (table):

Table (1): Mindfulness Psycho-educational program for schizophrenic patient

Main theme	No of session	Main Topics
Orientation	One session (1st session)	- Building a trust relationship between the researcher and the patients and among the patients and each other. - Explaining the aim, objectives and rules of the program. - Completing the pre-test questionnaire.
Introduction about schizophrenia and bodily sensation.	2 sessions (2nd and 3rd sessions)	- Definition of schizophrenia, signs and symptoms. - Exploring the relationship between thoughts and feelings. - Meaning of mindfulness and how they affect the body. - Explaining the different techniques of mindfulness. - Application of body scans technique.
Management of psychotic symptoms and maladaptive thoughts	2 sessions (4th and 5th sessions)	- Explaining how schizophrenia affects patients' attitudes, behavior, thoughts and feelings. - Exploring the relationship between perception of the specific situation and how it affects the patient's response to that situation, feelings and thoughts. - Providing alternatives to seeing situations from different perspectives. - Developing new techniques for dealing with negative thoughts and feelings (thought-stopping technique and contact with reality. - Application of mindfulness breathing.
Self-care of schizophrenic patients.	One session (6th session).	- Identifying the health care needs of the patients. - Instructing the patients about the importance of performing self-care needs, self-care hygiene and ho it affects patient mood. - Exploring the obstacles that face patients in performing the activity of daily living and how to overcome it. - Application of mindfulness bathing, brushing of teeth. - Mindfulness walking.
Problem-solving	2session (7th and 8th sessions)	- Identifying the patient's problem. - Developing adaptive ways of solving the problem. - Putting alternatives, selecting among them, applying the solution and waiting for the results. - Learning to seek help when needed. - Acceptance of the results and ability of modification. - Application of body scan and abdominal breath.

Main theme	No of session	Main Topics
Communication under a stressful situation	2 sessions(9th and 10th sessions)	- Knowing feelings and how to express them adaptively. - Awareness of the nature and importance of communication. - Importance of relationships in our lives. - Building a balanced relationship. - How to communicate in stressful situations. - Application of mindfulness prayer and mindfulness walks.
Relapse prevention	One session (11th session).	- Identify the signs and symptoms of relapse. - Recognize the relevant factors and causes of relapse. - Focusing on the importance of medication adherence even when the patient is stable. - Management of the side effects of medication. - Early recognition, good management. - Application of mindfulness listening to music.
Social support and community resources	One session(12th session)	- Identifying all the available community resources to the patient. - Importance of social network and social support in overcoming many problems. - Learning to seek help at times of need and whom people to trust. - Summarizing the main points of the program. - Application of body scan, abdominal breath and walking.

Evaluation Phase: The evaluation phase was done using the same beck cognitive insight scale and socio-occupational function scale.

Statistical data analysis: Data were collected, tabulated, statistically analyzed using an IBM personal computer with Statistical Package of Social Science (SPSS) version 20 where the following statistics were applied.

a. Descriptive statistics: In which quantitative data were presented in the form of the mean (X), standard deviation (SD), range and qualitative data were presented in the form numbers and percentages.

b. Analytical statistics: Used to find out the possible association between studied factors and the targeted disease. The used tests of significance included:

***Student t-test:**is a test of significance used for comparison between two groups having quantitative variables.

***Chi-square test ($\chi 2$)**: was used to study the relationship between two qualitative variables

***ANOVA (f) test:**is a test of significance used for comparison between three or more groups having quantitative variables

***Pearson correlation (r):**is a test used to measure the association between two quantitative variables.

Results

Figure 1: Revealed that there was a significant decrease of mean Socio occupational functioning scale score in the study group after intervention than before (38.56 to be 28.23)), while the mean Socio occupational functioning scale score among control group from (40.46 to 38.89) respectively.

The result in (figure 2) illustrated that there was a highly statistically significant difference found in the cognitive insight scale score in the study group after intervention than before (4.96 to be 12.53), while the mean cognitive insight scale score among control group from (5.07 to 6.82) respectively. Concerning its subscales score there was a highly statistically significant difference found in the study group after intervention than before in self- certainty and self-reflectiveness (11.3 to be 5.46 and 7.33 to be 18) respectively, while the mean score in self- certainty and self-reflectiveness among control groups (11.10 to be 9.82 and 7.10 to be 8.85) respectively

The result in (table 1) illustrated that; there was a statistically significant positive correlation between cognitive insight and socio-occupational functioning pre-intervention only .i.e. when cognitive insight decreases socio-occupational functioning decrease. There was no statistically significant correlation between cognitive insight, socio-occupational functioning and age pre and post-intervention.

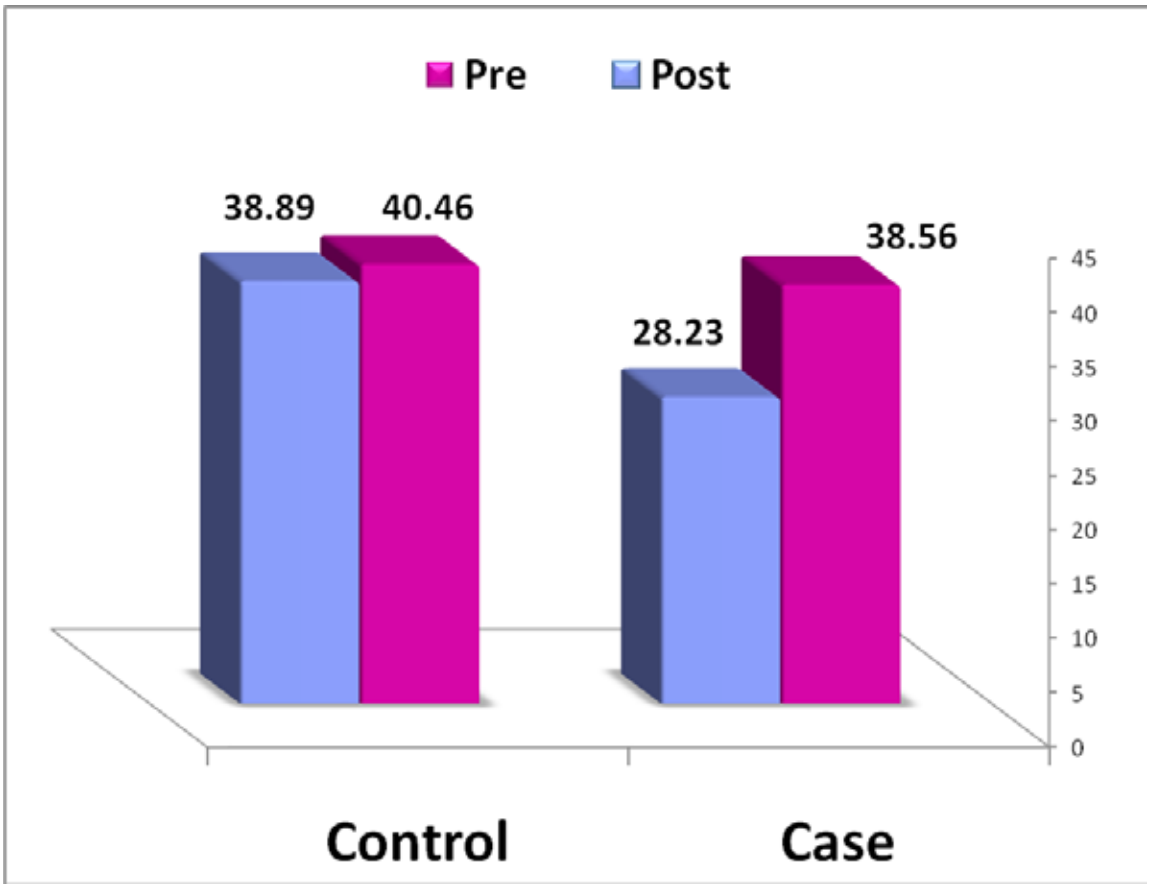


Figure (1): Total mean socio-occupational functioning scale score among cases and control groups pre and post-intervention (N=58).

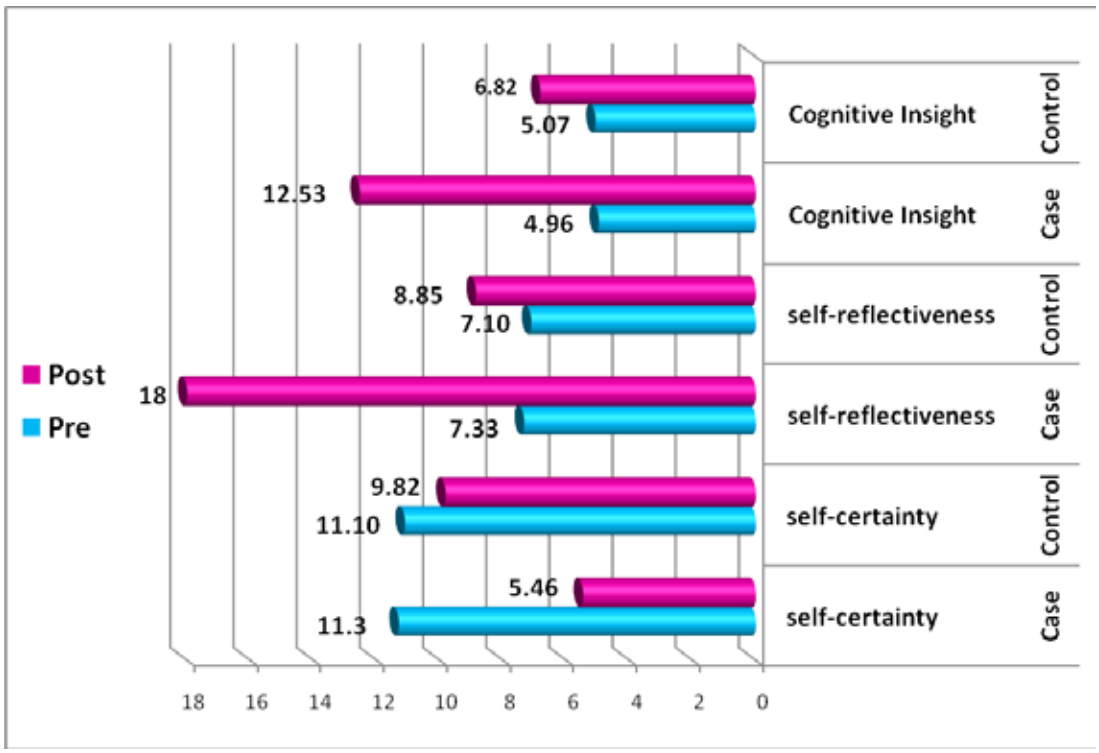


Figure (2): Mean cognitive insight scale and its subscales score among case and control groups pre and post-intervention (N=58).

As shown in (table. 2), it was found that there was no statistically significant relationship between cognitive insight scores among the studied sample and their demographic characteristics post-intervention, while pre-intervention there was a statistically significant relationship between cognitive insight scores and their demographic characteristics except the type of treatment and gender.

Table 3, illustrated that there was a highly statistically significant difference between socio-occupational functioning and (educational level and income) pre and post-intervention, while no significant difference between socio-occupational functioning and (gender, marital state and type of treatment) pre and post-intervention**.**

Table (1): Pearson Correlation between cognitive insights, socio-occupational functioning, And Age

Items	Pre		post	
	r	Sig.	r	Sig
Cognitive insight–socio occupational functioning	0.584**	0. 000	0.005	0.970
Cognitive insight -age	0.242	0.068	0.135	0.312
Socio occupational functioning - age	0.124	0.356	0.120	0.372

**High significant

Table (2): Relation between cognitive insight scale and Socio-Demographic Characteristics of the Studied Group (N=58)

Socio-demographic characteristics	Cognitive insight			
	Pre (n=58)	Test P-value	Post (n=58)	Test P-value
	$\bar{X}$±sd		$\bar{X}$±sd	
Gender: - Male - Female	5.12±.2.59 4.76±2.99	T-test 0.841 0. 363(NS)	9.90±.3.78 9.47±4.19	T-test 0.896 0.348(NS)
Marital State: - Single - Married - Widowed - Divorced	6.11±2.96 4.15±.1.98 4.57±2.43 2.75±1.50	ANOVA test 3.609** .019(HS)	10.44±3.68 9.60±.4.19 9.00±3.69 7.50±4.04	ANOVA test .827 .485(NS)
Education Level: - Primary - Preparatory - Secondary - University and above	3.50±1.50 5.00±.1.93 3.55±1.78 8.23±2.65	ANOVA test 16.069** 0.000(HS)	9.30±3.71 9.58±.3.85 9.05±4.39 11.38±3.15	ANOVA test 1.019 0.392 (NS)
Type of Treatment: - Medication - ECT - Psychotherapy - More than type	4.85±2.93 3.66±.577 5.08±2.93 6.12±1.24	ANOVA test .733 .537(NS)	9.74±4.25 12.00±.000 9.25±3.51 9.87±3.48	ANOVA test .393 .759(NS)
Income: - Enough - Not enough	5.70±.3.38 4.41±1.76	T-test 21.53** 0. 000(HS)	10.37±.3.46 9.25±4.18	T-test 2.21 0.143(NS)

*Significant **High significant *NS: Non-significant* HS: highly significant

Table (3): Relation between socio-occupational functioning and Socio-Demographic Characteristics of the Studied Group (N=58)

Socio-demographic characteristics	Socio-occupational functioning			
	Pre (n=58)	Test P-value	Post (n=58)	Test P-value
	$\overline{X}$±sd		$\overline{X}$±sd	
Gender:		T-test		T-test
- Male	39.65±.11.44	.092	33.75±11.97	.000
- Female	39.05±12.82	.763(NS)	32.47±13.42	.987 (NS)
Marital State:				
- Single	41.18±13.51		34.85±1.43	
- Married	41.10±.9.79	ANOVA test	35.15±.1.06	ANOVA test
- Widowed	32.00±2.23	1.729	25.71±5.12	1.460
- Divorced	33.00±14.00	.172(NS)	28.00±9.62	.236(NS)
Education Level:				
- Primary	30.70±4.62		23.30±5.47	
- Preparatory	37.00±10.98	ANOVA test	31.29±1.14	ANOVA test
- Secondary	39.05±8.68	7.595**	32.94±8.52	8.135**
- University and above	50.07±13.34	0.000(HS)	44.46±1.395	0.000(HS)
Type of Treatment:				
- Medication	39.91±11.33		34.05±1.17	
- ECT	30.33±4.61	ANOVA test	18.66±2.30	ANOVA test
- Psychotherapy	39.91±13.29	.629	34.16±1.28	1.557
- More than type	40.37±13.39	.599(NS)	34.75±1.45	.210 (NS)
Income:		T-test		T-test
- Enough	44.40±13.71	23.204**	38.07±14.80	22.62**
- Not enough	35.19±7.66	0. 000(HS)	29.29±7.80	0. 000(HS)

*Significant **High significant *NS: Non-significant* HS: highly significant

Discussion

As a growing body of research suggests that mindfulness-based psychosocial interventions are effective for a wide range of mental and physical health disorders in adult populations[15] and [16], but only a few studies have focused on the effect of mindfulness psych education on specific psychiatric disorder such as schizophrenia, especially the effect of mindfulness psycho-education on insight and socio-occupational functioning of schizophrenic patients. According to our knowledge, there is no published study that examines the correlation between the insight and the socio-occupational functioning of schizophrenic patients and the effect of mindfulness on these variables, so the current study aimed to assess the effect of mindfulness-based psych education program on insight and socio-occupational functioning of schizophrenic patients.

Recently, mindfulness training has gained great importance as an integrated approach for schizophrenia, bipolar disorder and depressive disorder. Mindfulness training is effective in improving many aspects of illness in schizophrenic patients. Regarding the effect of mindfulness-based psych education program on insight, After the application of the mindfulness-based psych education program on insight, results of the current study found that there was a highly statistically significant difference found in cognitive insight scale and its subscales score among study groups pre and post-intervention, while there was no statistically significant difference found in cognitive insight scale and its subscales score among control groups pre and post-intervention. This explained the effect of the mindfulness psycho-educational program which brings the patient to focus on here and now, providing the patient with the required knowledge about his illness. Also, it helps the patient to respond more adaptively to external and internal psychological experiences, leading to improvement of the patient's attention and emotional regulation and in turn improving patients' insight[17]and[18].

The above results are consistent with the study conducted by[19], which found that the mindfulness-based psych education given to the study group increased the cognitive insight of the schizophrenic patients. Also In an intervention study by [20], it was found that there was a slight increase in the mean score of insight, but the increase was not statistically significant. In the same line, [21]found that there was a significant increase in the level of insight during the first measurement after using films as a psych educational tool for patients with schizophrenia, but there was no statistically significant increase in insight level in the second measurement after the follow-up. This result may be explained in that the researcher used psych education only and didn't merge it with mindfulness training to increase the effectiveness of the program as our study did.

Also, the results of the study conducted by [22] concluded that there was an increase in the insight of the patients about schizophrenia after using mindfulness-based psych education on schizophrenic patients. On the same line, [10]found that mindfulness-based psych education on schizophrenic patients was effective in increasing the insight of the individuals about the disease.

As regards to the effect of mindfulness-based psych education program on socio-occupational functioning, the results of the current study revealed that there was a significant decrease of mean socio-occupational functioning scale score in the study group after intervention than before which mean that there was an improvement in the socio-occupational functioning of the schizophrenic patient after the application of mindfulness-based psych education program. This result is congruent with the findings of [16]who found that mindfulness meditation has a beneficial effect on occupational functioning. They explained that mindfulness psych education reduced anxiety symptoms and improved individuals' ability to be at work when expected and avoid leaving work early or coming in late.

Also in a narrative review done by [23], about the " role of yoga and mindfulness in severe mental illnesses " they found that yoga and mindfulness have shown promising results in improving the functional outcome of schizophrenia patients, including improved social and occupational functioning, quality of life, achieving functional remission, subjective well-being, personal hygiene, life skills, interpersonal activities and communication. Mindfulness can affect socio-occupational functioning by improving the patient's ability to deal with social situations.

Generally, mindfulness training modifies the patients' relationship with psychiatric experiences in many ways, either by improving patient's acceptance and awareness of the nature of symptoms or by minimizing patient's distress. It also facilitates developing self-compassion, regulating negative emotions and removing guilt feelings. Which in turn improve the patient's socio-occupational functioning. These results can be explained in that mindfulness psych education may distract the patient from thinking in negative ways, increase the patient cognitive awareness through focusing here and now.

As regards to the correlation between socio-occupational functioning and insight, the current study found that there was a statistically significant positive correlation between cognitive insight and socio-occupational functioning pre-intervention only, which means that when cognitive insight decreases socio-occupational functioning decrease. These results are consistent with the findings of [24]who found that "better clinical insight was correlated with better personal and social skills". Also, [25] concluded that clinical insight improves the abilities for social contact and may mediate the relationship of negative symptoms to a social function. On the same line [26]concluded that improved insight resulted in improving many higher community functions, including the frequency of social contact and perceived social support. [27]Also found that "improvement in psychosocial function was associated with significant improvements in clinical insight". Also In a study conducted by [28], they found that patients with poorer insight had a poor level of social functioning compared to a patient with fair insight.

This study mentioned that there was no statistically significant correlation between cognitive insight, sex, marital status, educational level and age post-intervention. This result in agreeing with[29]who found that " BCIS scores had no significant correlations with age (r=−0.17 to 0.09, P>0.05), sex (ρ=−0.21 to 0.06, P>0.05), years of education (r=−0.22 to 0.11, P>0.05), or marital status (ρ=−0.11 to 0.05, P>0.05). The current study revealed that there was no significant difference between socio-occupational functioning and gender pre and post-intervention. The results of the present study contradicted [30]who indicated that gender was a significant predictor, especially for occupational

functioning. Also, the current study revealed that there was no significant difference between socio-occupational functioning and marital state pre and post-intervention. The result of the present study contradicted to[31]This study confirmed that bad marital status is associated with higher odds of social dysfunction among patients with schizophrenia living in the community.

Conclusions

According to the results of the research, it was determined that the mindfulness-based interventions have increased the cognitive insight and Socio occupational functioning of the patients in the study group.

Recommendations: This research can be a guide for further studies based on mindfulness. Also, in the light of these results, the placement and implementation of mindfulness-based psych education program in the routine treatments of the psychiatric hospital and Community Mental Health Centers may contribute to the improvement of the cognitive insight and Socio occupational functioning of schizophrenic patients

Acknowledgments: The researchers wish to acknowledge the participants who took part in the study and the service for allowing this research to be undertaken

Conflict of Interest: There are no conflicts of interest between the authors

Source of Funding: Self

Ethical Clearance: An official letter was issued from the Faculty of Nursing Menofia University and sent to the director of the psychiatric and addiction treatment hospital in Mit-Khalf after explaining the aim of the study to get their permission for data collection. The patients were given fully informed verbal consent to participate.

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