Effectiveness of a Psycho-Social Intervention on Negative Symptoms of Patients with Schizophrenia in Conjunction with Anti-Psychotic Drugs

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Abstract: schizophrenia is a major psychiatric disorder associated with profound social withdrawal, social and occupational impairments. Antipsychotic medication is the first line of treatment in reducing positive symptoms but it is not effective with negative symptoms even with adherence to antipsychotic medication.

The aim of the study: This study aimed to evaluate the effectiveness of a psychosocial intervention on negative symptoms of patients with schizophrenia in conjunction with antipsychotic drugs.

Population and Method: A quasi-experimental design was used, ninety three (n=93) patients with schizophrenia conducted at inpatient Psychiatric Department Mansoura University Hospital, Egypt. Data collection tools included a semi-structure interview questionnaire for personal data, Positive and Negative Symptoms Scale (PANSS) and Rosenberg Self-esteem Scale (RSE) were used to collect data.

Results: The study revealed that negative symptoms, self-esteem, sleeping and eating patterns social interactions, personal hygiene were improved after implementation of psychosocial intervention in conjunction with antipsychotics drugs. There was a positive correlation between negative symptoms and social isolation, insomnia, personal hygiene and anxiety, while there was a negative correlation between negative symptoms and self-esteem.

Conclusion: Negative symptoms of patients with schizophrenia were improved after implementation of psychosocial intervention in conjunction with anti-psychotic drugs.

Recommendation: The study recommends that use of psychosocial intervention to improve negative symptoms of schizophrenia, and it is necessary to integrate psychosocial intervention along with antipsychotic drugs. Further researches are needed to investigate the long term outcome of psychosocial intervention on negative symptoms.

Keyword: Psychosocial intervention; negative symptoms; schizophrenia; antipsychotics drugs.

1. INTRODUCTION

The occurrence of schizophrenia is one percent worldwide. The National Institute of Mental Health (NIMH) mentioned that around sixty five million individuals suffer from schizophrenia all over the world [1]. Schizophrenic patients occupied around fifty percent of all of the beds of psychiatric wards to themselves and commonly they're sixteen percent of all the psychiatry patients, while approximately seventy five to eighteen percent of them are extremely disabled and unemployed [2; 3]. Twenty one million people suffer from schizophrenia worldwide [4; 3]. In Egypt, the number of individuals with schizophrenia estimated to be around 0.5-1.5 million [6]. Moreover, Patients with schizophrenia are the most frequently admitted to mental hospitals in Egypt (5; 6).

Schizophrenia is a psychiatric disorder that frequently seems in late adolescence or early adulthood. Manifested by delusions, hallucinations, and additional cognitive impairments, schizophrenia can frequently be a lifetime struggle [7]. According to American Psychiatric Association, (2013) Schizophrenia is a psychiatric disorder including chronic or recurrent psychosis. It's usually related to impairments in social and occupational functioning [8]. It's among the foremost disabling and financially catastrophic medical disorders, hierarchical by the World Health Organization as one of the highest 10 illnesses leading to the global burden of disease [9-11].

People with schizophrenia receiving more health services, more hospitalized and lengthy hospital stays than persons with other mental disorders [12 ; 13].   Schizophrenia is among the highest ten disabling conditions all over the world for young adults. Schizophrenia is associated with loss in productivity, disability and cost-effectiveness [14-16]. Schizophrenia is the main psychotic illness with poor outcomes in Egypt [5].

Andreasen (1984) categorized schizophrenic syndromes into three subtypes: Distortions of thought process represent positive symptoms, an absence of normal function reflect negative symptoms and mixed types [17]. Schizophrenic symptoms can be categorized to positive and negative symptoms [18].

The negative symptoms in schizophrenia mean cognitive, emotional, social and occupational function is deficit [19]. According to Diagnostic and Statistical Manual of Mental Disorders fifth version (DSM 5) defined negative symptoms as characterized by A5. Affective flattening, poverty of speech (Alogia), an inability to initiate and continue in goal-directed activities (avolition), loss of interest or pleasure from relationships or activities (anhedonia), a sociality [20] . According to International Classification of Diseases (ICD-10) defined criteria of negative symptoms as blunting or incongruity of emotional responses, apathy and lack of speech" [21]. According to The National Institute of Mental Health (NIMH) defined 5 negative symptoms criteria: blunted affect, alogia, asociality, avolition and anhedonia [22].

Negative symptoms of schizophrenia are harder to treat and are likely to persist for long time than positive symptoms [10; 23; 24]. Available antipsychotic drugs primary target positive symptoms of schizophrenia [25; 23; 24]. Moreover, until now, treatment of negative symptoms has been known as significantly unmet need for many individuals with schizophrenia [23; 24] Negative symptoms are considered as a most important clinical emergency. Researchers revealed that negative symptoms not treated only by psychopharmacological but with psychotherapy [2].

Dawan, et al., (2014) concluded that patients with negative symptoms should be referred and their families for psychosocial therapy to improve their outcomes and quality of life [11]. Schizophrenia is effective treated by psycho-pharmacological drugs and psychosocial support [3]. Negative symptoms of schizphrenia treated by using the interpersonal therapy (IPT) in the form of therapeutic relationship can be used as a ways to collect information, and as a means of attending to the patient's attachment needs and establish an effective therapeutic relationship. Also, Encouragement of affect as a technique of IPT is used to assist the patients to express, understand and manage their affect [26].

Recent meta-analysis recommended that Cognitive remediation (CR) may have a positive outcome on negative symptoms. It examines the effect of (CR) on negative symptoms. CR was linked with a decrease of negative symptoms [27]. Moreover, Tarrier et al., (2004) elaborated that Cognitive Behavior therapy (CBT) was used to improve negative symptoms like poor motivation, emotional and social withdrawal and low self-esteem [28].

Significant of the study:

Schizophrenia is a major psychiatric disorder, with poor outcome especially with negative symptoms even with adherence to medication. Schizophrenia is associated with major disability and may affect academic, social and occupational functions. Individuals with schizophrenia are two-three times more expected to die early than the general population [3]. Furthermore, negative symptoms associated with high levels of caregivers' burden [29]. To the best of our knowledge, there haven't been many studies that have been conducted to look into the effectiveness of psychosocial intervention on negative symptoms among patients with schizophrenia, therefore, investigate the effectiveness of psychosocial intervention on the negative symptoms among patients with schizophrenia is timely and important for the patients and their families as well as the community as whole which improve the Bio-Psycho-Social conditions of the patients with mental illness. Therefore the current study was developed to evaluate the effectiveness of psychosocial intervention on negative symptoms of patients with schizophrenia.

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Aim of the study: To evaluate the effectiveness of psychosocial intervention on negative symptoms of patients with schizophrenia in conjunction with antipsychotic drugs.

Research hypothesis:

Psychosocial intervention will decrease negative symptoms, of patients with schizophrenia in conjunction with antipsychotic drugs.

Population and method:

Research Design:

A quasi-experimental design was used.

Setting:

The study was carried out in the Inpatient Psychiatric Department of Mansoura University Hospital. The hospital is positioned in Dakahlia Governorate, Egypt. The hospital serves three Governorates: Dakahlia, Demiatta and Kafer Elsheikh for psychotic and drug dependent patients. It encompasses 80 beds, they are divided into two unites male and female. The full stay at the inpatient hospital is one month.

Sample:

- Convenience samples of ninety-three patients with schizophrenia was selected and assessed to fulfill the inclusion criteria.

Inclusion criteria

1- Patients with diagnosis of schizophrenia according to patients' records.

2- Have negative symptoms of schizophrenia according to PANSS.

   3- Age 18- less than 60 years old.

   3- Gender: both males and females.

   4- Patients willing to participate in the study program.

   5- Giving informed consent before enrolment in the study.

Exclusion Criteria

1- Presence of psychiatric co-morbidity (alcohol or other substance abuse or personality disorder).

2- Patients with mental retardation, developmental disability and neurological disorder.

   3- Patients with acute stage of schizophrenia.

Tools of data collection:

Data were collected using the following tools:

Based on the related review of literature, a structured interview questionnaire sheet was developed and the following tools were used:

1-Socio-demographic characteristics and clinical data:

a- Socio-demographic characteristics of the patient which included: patient's age, gender, educational level, marital status and occupation.

b- Clinical data of the patients with schizophrenia**:** duration of illness, number of admissions, the frequency of hospitalization, support system, mode of admission, and family history.

c- Assess social interaction, social isolation, anhedonia and personal hygiene.

d- Assess sleeping, eating patterns, and medication adherence.

2- Tool (2): Positive and Negative Syndrome Scale (PANSS)

This version of PANSS was originally developed by *Kay, Opler and Fiszbein (1987)* and printed by Multi Health Systems, Inc in **1992**[30] . It aims to assess positive symptoms, negative symptoms and general psychopathology associated with schizophrenia. PANSS is consist of three parts, the second part for the assessment of negative symptoms which include seven symptoms: difficulty in abstract thinking , blunted affect, passive/apathetic social withdrawal, emotional withdrawal, poor rapport, lack of spontaneity and flow of conversation, additionally to stereotyped thinking. First and third part of the scale wasn't used in the present study, as, negative symptoms of schizophrenia is assessed only.

Each item on the PANSS is rated on a 7 point rating scale. Score (1) means the absence of that item, and the score (7) refers to the extreme, i.e. the manifestations dramatically interfere in the most or all major life functioning. The scores of each part of the PANSS were attained by summation of ratings across the component items. Therefore, the potential ranges are 7 to 49 for negative symptoms subscale.

Scoring of negative scales is categorized into: Mild from 7 to less than 21, Moderate from 21 to less than 35, Severe from 35 to 49.

3-Rosenberg Self-esteem Scale (RSE):

The Rosenberg self-esteem scale was originally designed by (Rosenberg, 1965) [31]. Translated by Abd El-Latif (2005) [32]. It involves of 10 items, the measure is a four -point Likert scale ranging from 3 (strongly agree) to 0 (strongly disagree). Items 2, 5, 6, 8, 9 are reverse scored, that is, Strongly Agree = 0, Agree = 1, Disagree = 2, and Strongly Disagree = 3. Sum the scores for the 10 items. The scale ranges from zero to thirty. Scores below fifteen means low self-esteem; from fifteen to twenty fife are within normal range; and more than twenty-fife indicates high self-esteem.

2. METHOD

Ethical consideration:

The study protocol was accepted by the Research Ethics Committee of Faculty of Nursing, Mansoura University and therefore the official permission to hold out the study was attained from the director of Mansoura University Hospital and Head of Psychiatric Department. The study subjects willingly united to participate in the study and gave their verbal consent and each participant was free to withdraw at any time throughout the study. Before the interview, patients were informed concerning the aim of the study. Finally, they were reassured about the confidentiality of any collected information and that this information would only be used for research purposes. Privacy of the patients was assured.

Pilot Study:

A pilot study was undertaken on eight patients who were admitted at Inpatient Psychiatric Department, Mansoura University Hospital, to determine the clarity, and applicability of the study tools. According to the results attained, essential changes were done. Some questions have been read in slang language to simplify their meanings to the participants. These patients omitted from the actual study.

Actual study: It was done through five phases;

Patients' records in the two wards (male and female) were surveyed to determine the patients approving to the study criteria and selecting patients with schizophrenia were 176 for one year. Applying tool 2 (PANSS) to all patients with schizophrenia to detecting who have negative symptoms. Their number were one hundred and seven (n=107), fourteen patients withdraw/ dropped out from the study. So the numbers of the participants were ninety-three (n= 93). Each patient was interviewed for 15-25 minutes to establish rapport and apply PANSS.

The overall objective of the psychosocial intervention was to decrease and eliminate negative symptoms of patients with schizophrenia. This can be achieved through: Establish trusting relationship; express feelings, enhance social interaction and interpersonal relationships; encourage personal hygiene; decrease anxiety through convert the psychic energy into physical act in constructive manners; enhance eating and sleeping patterns; attract patients attention and encourage contact with reality; enhance self-esteem and encourage adherence to medication and follow up.

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I-Orientation phase: Each patient was interviewed individually by the researcher to establish trusting relationship and explain the aim and the content of the intervention. Every patient with schizophrenia was interviewed for 15-25minutes with the researcher to establish rapport and apply the PANSS tool to assess negative symptoms of schizophrenic patients. Also assess social interaction, social and emotional withdrawal, personal hygiene, sleeping and eating patterns, assess participation in activity, anhedonia (loss of interest), and medication adherence. Assess each patient's interests to identify which activity suits them.

II-Designing phase: After establish trusting relationship with each patient individually, then a small group and a large group was formed after establish rapport with each individual within the group and the intervention sessions were started four times per week. Times of each session ranged from 30 to 60 minutes. The number of sessions for each group was 12 sessions. The number of participant varied from five to eight individuals for each group. It depends on the admission of schizophrenic patients in inpatients department either male or female.

1-**Supportive and expressive therapy:** To establish trusting relationship, encourage the patients to express their feelings.

2- **Interpersonal therapy:** To enhance and encourage social interaction and enhance support system.

3-An activity based intervention: It was planned and modified to meet the needs of the patients either physically or psychologically.

4-**Psycho-education** for patients and their families about negative symptoms of schizophrenia and how to deal with it.

III-Working Phase: Implementation of psychosocial intervention for every session was based on the collaboration between participants and researcher. These interventions which include: Supportive and expressive therapy, interpersonal therapy, activity based intervention and psycho-education. The individualized care plan contains activities that are suitable for the participants. Individual (one -on-one activity), a small group, and then large group's activities are usually provided.

Supportive and expressive therapy: Which included establishes trusting relationship, encourage the patients to express their feelings especially held feeling, use active listening which encourage the patients to express their feeling. Reassure and support the patients.

Interpersonal psychotherapy which includes 3 techniques (Robertson,. Rushton, and Rwurm (2008) [33].

a- Therapeutic relationship.

   b- Encouragement affects

b- Communication.

Activity based intervention according patients' needs, hobbies and interests such as:

   a- Practice simple exercise: playing football and walking.

    b- Creative activities such as drawing and Paintings pictures, handcraft and needlework, make a vase and decoration.

   c- Spectator activities: Watching television.

   d- Participatory activities such as model building, collecting items, puzzles, play cards and dominos.

e- Recreational activates: joking, Singing and dancing.

 Psycho-education intervention to the patients and their relatives: educate the patients and their families about the schizophrenia, stress and stress managements, precipitating factors, the link between anxiety and the schizophrenia and how to deal with it in constructive manors. Educate them about adherence to medication, follow up and relapse prevention. Stressing about the importance of encouraging the patient to work according to the patient's ability.

IV-Termination phase: Summary and encourage the patients to express feelings toward termination phase, stressing about the importance of medication adherence and follow up.

V-Post assessment: Re-assessment of PANSS Scale to assess negative symptoms of schizophrenia, social interaction, and personal hygiene were implemented to assess the effectiveness of psychosocial intervention on negative symptoms, which seemed in the difference of their response to the questions pre and post the implementation of the intervention.

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Limitation of the study:

All negative symptom are not improved completely, still there is small percent not improved. This may be related to the duration and number of psychosocial intervention sessions (12 sessions for only one month). This intervention just implemented in the morning shift only for four days per week which were not enough to overcome all negative symptoms. Some patients (14 patients) dropped out of the study during the study due to rapid discharge of the patients. Some patients were illiterate, so we used slang language to facilitate patients understanding.

Statistical analysis: Data entry and analyses were done using SPSS 21.0 statistical software package. Data were presented using descriptive statistics in the form frequencies and percentages for Qualitative variables. Qualitative categorical variables were compared using chi-square test. Pearson correlation analysis was used for assessment of the inter-relationships among qualitative variables, and spearman rank correlation for ranked ones. Statistical significance was considered at p-value ≤0.05.

3. RESULTS

Part I: Socio-demographic and clinical characteristics of the studied patients with schizophrenia (Tables 1-2).

Table 1 shows that around two thirds of the patients (62.4%) had age less than 35 years, and the same percent were females. Half of the patients were single, around half of patients (45.2%) were illiterate and more than half of them (57%) were unemployed.

Table 2 describes the clinical data of the patients with schizophrenia. it indicates that around two thirds of the patients (62.4%) were involuntary admitted to the psychiatric department, around one third (30.1%) of the patients have a positive family history for psychiatric illness and more than half (53.8%) of the studied sample the duration of illness ranged between less than one year to less than five years. Concerning subtype of schizophrenia more than half of the studied sample (56.1%) were residual or undifferentiated followed by disorganized and catatonic (16.1% and 15.1% respectively).

Table 1: Socio-demographic characteristics of the patients in the study sample (n=93).

Socio-demographic characteristics	Frequency (N=93)	Percent
Age:		
less than 18 years	13	14
18 years - less than 35 years	45	48.4
35 years - less than 55 years	21	22.6
55 years and more.	14	15.1
Gender:		
Male	35	37.6
Female	58	62.4
Marital status:		
Single	47	50.5
Married	34	36.6
Divorced	9	9.7
Widow	3	3.2
Education:		
Illiterate	42	45.2
Read & write	18	19.4
Diploma	20	21.5
Higher education.	13	14
Occupation:		
Unemployed	27	29
Student	6	6.5
House wife	26	28
Professional	17	18.3
Technical, manual, free work	17	18.3
Total	93	100

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Table 2: Clinical data of patients with schizophrenia in the study sample (n=93).

Clinical data	Frequencies (N=93)	Percent
Subtypes of schizophrenia:		
Disorganized	15	16.1
Residual	33	35.5
Undifferentiated	21	22.6
Paranoid	10	10.8
Catatonic	14	15.1
Mode of admission:		
Voluntary	35	37.6
Involuntary	58	62.4
Family history:		
Negative family history	65	69.9
Positive family history	28	30.1
Duration of illness:		
One year to less than 5 years	50	53.8
From 5 to less than 10 years	20	21.5
From 10 years and more	23	24.7
Total	93	100

Part II: clinical data of the patients with schizophrenia pre and post implementation of the psychosocial intervention (tables 3-4).

Table (3) reveals that around three quarters of the patients (74.2%) suffering from social isolation changed to less than one fifth (17.2%) after implementation of the intervention. The difference was statistically significant (X^2= 53.000, P < 0.000). Regarding social interaction among the patients, more than half of the sample (53.8%) could not initiate or maintain a relation while after implementation of the intervention more than half (54.8%) initiated and maintained an interpersonal relationship, The difference was statistically significant pre and post implementation of psychosocial intervention (X^2= 88.043, P < 0.000). In relation to the presence of anxiety among the studied sample, all of the patients experienced anxiety in the form of mild, moderate and severe represented 18.3%, 51.6% and 30.1% respectively, changed to more than half (57%) in the form of mild and moderate represented 46.2% and 10.8% respectively, The difference was statistically significant (X^2= 91.000, P < 0.000).

Regarding self-esteem among the studied sample, more than two thirds of patients with the schizophrenia (68.8%) had low self-esteem while after implementation of the psychosocial intervention only (14%) had low self-esteem and more than one third (37.6%) had high self-esteem. The difference was statistically significant (X^2= 78.000, P < 0.000). The same table 3 also reveals that, all of studied sample had negative symptoms, either moderate or severe degree represented 35.5% and 64.5% respectively changed after implementation of psychosocial intervention to become 39.8% and 5.4% respectively. Hence there is a statistically significant difference (X^2= 78.000, P < 0.000).

The relation between sleeping and eating patterns pre and post implementation of psychosocial intervention is presented in Table 4. It reveals that of the ninety three (93), 70 (75.3%) who slept less than 4 hours and 51.1% who slept from 4 to less than 6 hours, while after implementation of the psychosocial intervention represented 28% and 58.1% respectively. Moreover, majority of the patients (83.9%) experience insomnia late, early or interrupted changed to became 10.8% after implementation of the intervention. There are statistically significant differences (X^2= 93.000, P < 0.000 and X^2= 68.000, P < 0.000) respectively.

In relation to eating patterns, the present study shows that food refusal represents more than one third of the patients (40.9%) while the rest (59.1%) either ate with or without encouragement while after implementation of psycho-social intervention around two thirds (60.2%) ate without encouragement and more than one third (39.8%) ate with encouragement. The difference was statistically significant (X^2= 50.449, P < 0.000). Regarding personal hygiene among the patients with schizophrenia, the present study reveals that more than half of the patients (53.8%) neglect their personal hygiene while the rest (46.2%) undertake their personal hygiene with or without encouragement represented (28% and

18.2%) respectively. After implementation of the psychosocial intervention, more than two thirds of the patients (69.9%) undertake their personal hygiene without encouragement. Hence there is a statistically significant difference (X^2= 76.000, P < 0.000).

Table 3: Relationship between clinical data pre and post implementation of psychosocial intervention in the study sample (n=93).

Variables	Pre (N=93)		Post (N=93)		Test of significant Friedman test
Social withdrawal:					X^2= 53.000
No	24	25.8	77	82.8	P≤ 0.000**
Yes	69	74.2	16	17.2	
Social interaction:					X^2= 88.043
Initiate and maintains	0	0	51	54.8	P≤ 0.000**
Initiate not maintain	28	30.1	29	31.2	
Not initiate but maintain	15	16.1	13	14	
Not initiate not maintain	50	53.8	0	0	
Feeling anxiety:					X^2= 91.000
No	0	0	40	43	P≤ 0.000**
Mild	17	18.3	43	46.2	
Moderate	48	51.6	10	10.8	
Severe	28	30.1	0	0	
Self-esteem:					X^2= 78.000
Low	64	68.8	13	14	P≤ 0.000**
Within normal range	29	31.2	45	48.4	
High	0	0	35	37.6	
Negative symptoms (PANSS)					X^2= 87.000
Mild	0	0	51	54.8	P≤ 0.000**
Moderate	33	35.5	37	39.8	
Severe	60	64.5	5	5.4	
Total	93	100	93	100	

Table 4: Relationship between personal hygiene, sleeping and eating patterns pre and post implementation of psychosocial intervention.

Variable	Pre		Post		Test of significant Friedman test
Sleeping patterns:					X^2= 93.000
less than 4 hours	70	75.3	26	28	P≤ 0.000**
From 4 hours – less than 6 hour	14	15.1	54	58	
From 6- 8 hours and more	9	9.7	13	14	
Insomnia:					X^2= 68.000
No	15	16.1	83	89.2	P≤ 0.000**
yes	78	83.9	10	10.8	
Eating patterns:					X^2= 50.449
Eat without encouragement	27	29	56	60.2	P≤ 0.000**
Eat with encouragement	28	30.1	37	39.8	
Food refusal	38	40.9	0	0	
Personal hygiene:					X^2= 76.000
Undertake personal hygiene without encouragement.	17	18.2	65	69.9	P≤ 0.000**
Undertake personal hygiene with encouragement.	26	28	28	30.1	
Neglect personal hygiene	50	53.8	0	0	
Total	93	100	93	100	

Part III: correlation between PANSS and clinical parameters of patients with schizophrenia.

Table 5 presents the correlation matrix of negative symptoms (PANSS) with clinical parameters of patients with schizophrenia pre and post intervention. It shows statistically significant positive correlations between negative symptoms (PANSS) and, anxiety, social withdrawal and interaction, insomnia, eating patterns and personal hygiene. The strongest of this correlations was between negative symptoms (PANSS) and personal hygiene pre and post intervention (r=0.691 and r=0.700) respectively. Conversely, there is a statistically significant negative correlation between negative symptoms (PANSS) and, self-esteem (r=-.811- and r=-.745-) respectively. Also, there is a statistically significant negative correlation between self-esteem and all clinical parameters, the strongest of this correlation between PANSS and self-esteem. Moreover, there is a statistically significant positive correlation between Anxiety and all parameters, the strongest of this correlation between anxiety and PANSS post intervention (r=.605). On the other hand there is a negative correlation between anxiety and self-esteem and sleeping hours post intervention (r=-.648- and -.108-) respectively.

Table 5: Correlation between negative symptoms (PANSS), Self-esteem, social interaction, personal hygiene, sleeping and eating habits.

Parameters	PANSS		Self-esteem		Anxiety	
	Pre	Post	Pre	Post	Pre	Post
PANSS		.589**	-.811-**	-.745-**	.062	.605**
Self-esteem	-.811-**	-.745-**		.689**	-.150-	-.648-**
Anxiety	.062	.605**				.513**
Social withdrawal	.384**	.568**	-.346-**	-.327-**	.030	.353**
Social interaction	.274**	.453**	-.311-**	-.330-**	.043	.333**
Sleeping hours	.047	-.154-	.001	-.023-	-.019-	-.108-
Insomnia	.041	.345**	-.020-	-.326-**	-.138-	.275**
Eating patterns	.182	.342**	-.132-	-.251-*	.198	.432**
Personal hygiene	0.691**	.700**	-.611-**	-.609-**	.083	.500**
Anxiety	.062	.605**				
Self-esteem	-.811-**	-.745-**				

**Correlation is significant at the 0.01level (2-tailed)

*Correlation is significant at the 0.05level (2-tailed)

PANSS = negative symptoms of schizophrenia

4. DISCUSSIONS

Individuals with schizophrenia are less expected to seek out care than the general population. Schizophrenia is treatable; it is effective management with both drugs and psychosocial support. However, the majority of individuals with chronic schizophrenia lack access to treatment [3].

Psychotherapy is wide suggested and used in the treatment of schizophrenia, along with antipsychotic. The aim of the present study aimed to find out the effect of psych-social intervention on negative symptoms of patients with schizophrenia in conjunction with antipsychotic drugs. According to the present study socio-demographic characteristics and clinical data of the present study, the results found that around two thirds of the patients their age less than 35 years and females. This means that the schizophrenic patients were in the adulthood stage. This age mostly associated with the beginning of choosing personal carrier, establish of marriage so half of the studied sample were single and not working. This finding is agreement with the previous Egyptian studies [34; 35]. Around two thirds of the patients were involuntary admitted to Psychiatric Department and one third of the studied sample had positive family history for psychiatric illness. These results stress the role of genetic factors in incidences of schizophrenia. This is supported by several studies [3; 6; 35]. WHO, 2006 reported that one hundred percent of all admissions to mental hospitals are involuntary in Egypt [6].

Concerning subtypes of schizophrenia, the current study revealed that more than half of the studied samples were residual or undifferentiated and this is expected because these subtypes associated with negative symptoms of schizophrenia. A similar finding carried out on Egyptian sample revealed that around half of the schizophrenic patients were residual or undifferentiated subtype of schizophrenia [35].

Negative symptoms of schizophrenia are likely to persist lengthier than positive symptoms and are harder to treat [36]. Negative symptoms are considered as a most important clinical emergency [2]. According to the present study, around two thirds of the schizophrenic patients had severe negative symptoms according to PANSS scale changed to less than one tenth after implementation of psychosocial intervention. This improvement of negative symptoms may be related to the effect of interpersonal, supportive, and activity based therapy. This might be due to what Mueser et al., (2006) indicated that negative symptoms consequences from maladaptive strategy aimed to protect persons from predictable pain and rejection related to engagement in constructive activity [37]. Several studies support the improvement of severity of Negative symptoms, which in consistent with the findings of other studies in Egypt by Ibrahim, et al (2012), on the effect of psychotherapy in the form of Cognitive Behavior Therapy (CBT) on the negative symptoms of schizophrenic patients they indicated that significant improvement of negative symptoms in experimental group than control group after implementation of CBT [34]. Also, in Tehran by Mohammadi, et al (2012) on the effect of music therapy on negative symptoms in schizophrenic patients revealed that improvement of negative symptoms after implementation of music therapy [38]. Moreover, Yazdani et al., (2007) who revealed that negative symptoms not treated only by psycho-pharmacological but also with psychotherapy [2].

However, after implementation of psychosocial intervention still there is more than one third of the schizophrenic patients have moderate and severe degree of negative symptoms represented 39.8% and 5.4% respectively this may be related to the fact that, the session of psychosocial intervention which were not enough to overcome all negative symptoms. And it may be related to the adverse effect of anti-psychotic drugs which inhibit dopaminergic receptors which are responsible about reward and pleasure mechanism which lead to increased incidence of negative symptoms. This is agreement with Moritz et al., (2010) [39].

Importantly, all the schizophrenic patients experienced anxiety, significantly changed after implementation of psychosocial intervention. This may be related to the effect of psychotherapy in the form of feeling expression, supportive trusting relationship, enhancement of interpersonal relationship and anxiety outlet in the form of exercises, drawing, and painting, all of this lead to decrease feeling of anxiety. Furthermore, there is a statistically significant positive correlation between negative symptoms and anxiety post implementation of psychosocial intervention. This means that increase severity of negative symptoms are associated with increase severity of anxiety. The forgoing result is in congruence with (Lysaker and Salyers (2007) [40] who reported that Higher levels of anxiety were associated with social withdrawal, hallucination and depression. Moreover, Goodwin et al., (2003) postulated that anxiety disorders rises in schizophrenic patients and comorbid anxiety represented more than 60% in patients with schizophrenia [41]. Also, Vrbova et al., (2018) reported that both positive and negative symptoms of schizophrenia positively correlated with social anxiety symptoms [42].

The significant improvement of self-esteem among individuals with schizophrenia after implementation of psychosocial intervention revealed in the present study could be attributed to a number of factors. Firstly, significant improvement of anxiety through feeling expression and anxiety outlets. Secondly, related to improvement of interpersonal relationship and social interactions through establish trusting relationship and encourage support system. Thirdly, significant improvement of personal hygiene. Rewarding system in the form of positive feedback after achievement of simple tasks. Finally, related to the effect of activity based therapy through engagement in constructive simple activities. In line with foregoing, Tarrier et al., (2004) claimed that used of psychotherapy in the form of CBT to improve self-esteem [28]. A quasi-experimental research design for 50 schizophrenic patients have low self-esteem, control and experimental groups, the experimental groups received CBT. The funding of this study indicated that self-esteem improved after implementation of intervention [34].

Personal hygiene, sleeping and eating patterns of the patients significantly improved after implementation of psychosocial intervention. This could be related to the effect of encouragement and supportive trusting relationship, and also related to the effect of activity based therapy which enhances energy and appetite. Effect of interpersonal relationship improvements, in addition to the effect of feeling expression, and participation in the activity which help to decrease feeling of anxiety and enhance sleeping patterns. In line with these present study findings, a study done on the Egyptian sample revealed that physical condition in the form of activity of daily living, eating and sleeping pattern of the patients with schizophrenia improved after implementation of activity therapy [31]. Also, Velligan and Larry, (2008) postulated that enhancements in negative symptoms are linked with a variety of enhanced functional outcomes containing self-regulating living skills, social and role functioning [36].

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Concerning social isolation and interaction among the schizophrenic patients, the present study revealed that, two thirds of the patients suffering from social isolation changed to around one fifth after implementation of Psycho-Social Intervention (SCI). Similarly, social interaction significant changed after implementation of SCI. This may be related to many factors, firstly, effect of interpersonal therapy through implementation of different techniques which help to express feeling, and establish trusting relationship, which lead to decrease patients feeling of anxiety and isolation. Secondly, effect of activity based therapy which encourage the patient to engagement in constructive activates, and help the patient to participate and interact with others.

On the same line, Stuart and Robertson (2003) emphasized that interpersonal therapy (IPT) help to reduce the patient's isolation through enhancement the patient's relationship functioning; assisting them to establish new supportive relationships and eliminating the interpersonal stressors [43]. This is reinforced by Weissman et al., (2007) who pointed that encouragement of affect technique of IPT is used to assistance the patients to their express, understand and manage affect [26].

Moreover, negative symptoms are significant positive correlated with social withdrawn and interaction. This means that, increase severity of negative symptoms associated with increase severity of social isolation and interaction. So improvement of negative symptoms leads to improvement of social condition. This is supported by Velligan and Larry, (2008) who mentioned that enhancements in negative symptoms are linked with enhancement in social and role functioning [36]. Controversy, negative symptoms are significant negative correlated with self-esteem. This means that increase severity of negative symptoms are associated with decrease self-esteem among patients with schizophrenia. This is supported with the study carried out by Tarrier *et al.,* (2004) who revealed that improvement of negative symptoms are associated with increase self-esteem after implementation of psychotherapy [28].

5. RECOMMENDATION

In the light of results of the present study, it could recommend that psycho-social intervention along with antipsychotic drugs used to improve negative symptoms of patients with schizophrenia. Further research is recommended to implement and follow up the effect of psychosocial intervention after three months, six months and one year.

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