The Effectiveness of Group Activity Therapy Program to Enhance Negative Symptoms among Patients with Schizophrenia

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Abstract

Negative symptoms of schizophrenia have a severe impact on functional outcomes, and current treatment options are limited and group activity therapy was identified as the most common type of therapy with justified claims to reduce negative symptoms. Aim: The aim of the present study was to determine the effect of group activity therapy program to enhance negative symptoms among patients with schizophrenia. Design: A quasi experimental design was used to achieve the aim of the study. Setting: This study was conducted at the Psychiatric Mental Health Hospital in Benha City, Qalubia Governorate, which is affiliated to General Secretariat of Mental Health in Egypt. Subject: A convenience sample of schizophrenic patients was included from the above setting for conduction of this study. This sample was divided into two matched groups into study group and control group. Tools: Two tools were used. Tool 1 - structured interview questionnaire that was used to collect data about socio demographic and clinical characteristics of the studied sample. Tool 2- Scale for the Assessment of Negative Symptoms (SANS) was used to measure negative symptoms among the studied sample. Results: Study group patients had a significant improvement in their negative symptoms scores (SANS total score, affective flattening or blunting, alogia, avolition – apathy, anhedonia – asociality, and attention) than before activity therapy program implementation. Conclusion: The study demonstrated that group activity therapy is highly effective in enhancement of negative symptoms among patients with schizophrenia. Recommendations: Group activity therapy should be a part of patient’s usual care in all psychiatric and mental health hospitals.

Key words: Schizophrenia, negative symptoms, group activity therapy.

Introduction

Schizophrenia is a brain disorder that affects how people think, feel, and perceive. It’s characterized by profound disruptions in thinking, affecting language, perception, and the sense of self. It often includes psychotic experiences, such as hearing voices or delusions. It can impair functioning through loss of the acquired capability to earn a livelihood, or disruption of studies. Schizophrenia affects more than 21 million people worldwide (WHO, 2002) & (Frankenburg, 2003).

Fifty percent of people in psychiatric hospitals around the world have schizophrenia. In Egypt, schizophrenia is considered the most common chronic psychosis and accounts for the majority of inpatients in mental hospitals. Prevalence of schizophrenia in Egypt is estimated to be about 2% of population, which is equivalent to 0.56 thousand Egyptians.
Schizophrenic patients suffer from a number of symptoms which can be either positive symptoms or negative symptoms. Positive symptoms are those that tend to reflect an excess or distortion of normal functions like hallucinations, delusions, disorganized speech or behavior (Barakat, 1992)

Negative symptoms reflect a lessening or loss of normal functions. However schizophrenia is a treatable disorder and there's a high development in antipsychotic treatment, in fact, traditional therapies which based mainly on psychotropics medication administration have the strength to control psychiatric symptoms, but do not offer the necessary conditions to maintain long term control of negative symptoms. Therefore, untraditional treatments such as group activity therapy can be group activities can be considered an important activity in mental health care (Priebe, et al., 1997).

Negative symptoms lead to absence of feelings (blunted affect), as well as the absence of desire and pleasure from activities and a complete loss of volitional impulse. This result in an indifference to the external world and the patients are even indifferent to themselves, including their physical health, which results in decreased pain sensation and poor hygiene and in extreme cases, they may be unable to feed themselves (Compton & Newcomer, 1994).

In addition to this, people with schizophrenia may have social problems such as difficulty in making and keeping friends. In extreme cases, the person may actively avoid all social interactions. For these reasons it is important to target inactivity early in treatment. Therefore the use of group activity therapy as a part of an ongoing treatment process, can help in reducing negative symptoms of schizophrenia (Tatum, 1994).

Group activity therapy provides benefits that may help schizophrenic patients begin to reactivate a dormant desire to be social. By bonding with others who are attempting to overcome their disease effects especially negative symptoms, the patient is reminded he or she is not alone. As they support one another in learning how to brush their teeth, wash their hair, exercise, solve a puzzle, draw a picture or to create interesting works of art and crafts, the positive reinforcement serves as additional incentive to keep trying on days when things seem especially bleak (Ganguly, et al., 1994).

Nurses have to play an important role in implementing group activity therapies with patients, as many benefits can be experienced in considered an important activity in mental health care (Boyd, 1994).
creativity group led by psychiatric nurse. There are many benefits from engaging in creative group activities which reduce patient's concerns and provides a distraction from negative thoughts which can lead to great improvement in the patient's condition. Therefore, nurses must recognize that these activities should be taking place throughout the daily shift hours (Azorin, et al., 2014).

Additionally, creative group activities generate a positive experience of working with others, one that provides a setting for social interaction and for developing social relationships, reduces pressures, raises morale and promotes recovery. All of this leads to expression of both positive and negative feelings, group acceptance and acceptance of self in a non-competitive creative group, which in turn lead to improvement of negative symptoms of schizophrenic patients (Chambers, 2014).

**Significance of the study**

Schizophrenia affects more than 21 million people worldwide. Fifty percent of people in psychiatric hospitals around the world have schizophrenia. In Egypt, schizophrenia is considered the most common chronic psychosis and accounts for the majority of inpatients in our mental hospitals. Prevalence of schizophrenia in Egypt is estimated to be about 0.7% of population, which is equivalent to 0.7 thousand Egyptians (WHO, 2018) & (Barakat, 2017).

Patients with schizophrenia suffer from a number of symptoms which can be either positive symptoms or negative symptoms. Negative symptoms of schizophrenia have a severe impact on functional outcomes and current treatment options are limited. Group activity creative therapies such as occupational therapy, art therapy, physical exercise, self-care training and recreational therapy were identified as the most common type of therapy with justified claims to reduce negative symptoms. Thus, group activities which include recreation can be considered an important activity in mental health care (Priebe, et al., 2017).

The researcher's interest to conduct this study is based on the reality that group activity therapy is limited in Benha mental health hospital. Moreover, the previous studies which studied the effect of group activity therapy on negative symptoms are limited. Therefore, the aim of this study is to determine the effect of group activity therapy program to enhance negative symptoms among patients with schizophrenia.

**Methodology**

**Aim of the Study**

This study aimed to determine the effect of group activity therapy program to enhance negative symptoms (affective flattening or blunting, alogia, avolition – apathy, anhedonia – asociality, and attention) among patients with schizophrenia.

**Working definition:**

- Group activity therapy program included morning care and personal hygiene activities, occupational therapy, art therapy, physical exercise, and recreational therapy.

- Subject and methods of this study were portrayed under four main topics as follow:

  **I- Technical design:**

  Research Design:

A quasi experimental design was used to achieve the aim of the study.
Research Setting:

This study was conducted at the Psychiatric Mental Health Hospital in Benha City, Qalubia Governorate, which is affiliated to General Secretariat of Mental Health in Egypt. It has 5 departments (4 males and 1 female); with a capacity of 111 beds. It works 24 hours per day, 7 days per week. The hospital provides care for patients diagnosed with acute and chronic mental illnesses who need institutional care, and has outpatients’ clinics for follow up. The hospital provides care for addicted patients in addiction department. The total number of patients with acute and chronic mental illnesses was 102 patients. The total number of patients diagnosed with schizophrenia was 126 patients.

Research Subject:

Sample size:

The estimated sample size was 66 patients, at confidence level 95% and precision rate 6.65.

Sample technique:

A convenience sample of 66 schizophrenic patients diagnosed by psychiatrists was included from the above setting for the conduction of this study. This sample was divided into two matched groups into study group and control group. Patients in both groups received their regular psychotropic medications. The study group only received the group activity therapy program. Both groups fulfilled the following inclusion criteria:

1- Diagnosed as schizophrenic patients since 1 year or less.

2- Date of patient’s last admission to hospital should be within 1 month or less.

3- Both sexes.

4- Able to communicate.

5- Willingness to participate in the study.

Tools of Data Collection:

The data was collected using the following tools:

1- Tool (1):- A structured Interview Questionnaire which developed by the researcher & consists of two parts:

Part I: Socio-demographic data: To elicit data about the patients characteristics such as patient’s name, code number, age, sex, marital status, level of education, work status, living place and income.

Part II: Clinical data: which includes: age at onset of illness, date of last admission to hospital, duration of illness and frequency of admission in psychiatric hospitals.

2- Tool (2): Scale for the Assessment of Negative Symptoms (SANS):

- This scale was developed by Andreasen (1984). It's a rating scale consists of 25 items. It's the most widely used scale for assessment of negative symptoms in schizophrenia. It was translated into Arabic version and modified by the researcher after revision by jury of 5 experts in psychiatric field. It was adopted by the researcher to be as follow: 26 items rating scale, each item of this scale was rated on four point scale with range from none (6) to severe (3).
Scoring system was categorized as follows:
- $6 - <26$: mild negative symptoms.
- $26 - <46$: moderate negative symptoms.
- $46 - 66$: severe negative symptoms.

The total score of this scale ranged from ($6$) lower score, to ($66$) the higher score. Higher score reflects more severe negative symptoms.

This scale consisted of five subscales as follows: Affective flattening or blunting (This subscale consisted of $7$ items). Alogia (This subscale consisted of $4$ items). Avolition - Apathy (This subscale consisted of $3$ items). Anhedonia - Asociality (This subscale consisted of $4$ items). Attention (This subscale consisted of $2$ items).

II- Operational design:
- Preparatory Phase:
  
  This included reviewing of relevant literature of different studies related to the topic of research using textbooks, articles, and magazines to get clear pictures of all the aspects global rating. Therefore theses points were excluded: (Global rating of affective flattening, Global rating of alogia, Global rating of avolition – apathy, Global rating of anhedonia – asociality, Global rating of attention).

- Each item of this scale was rated on four point rating scale rather than six point rating scale to prevent overlapping between certain points due to the convergence of their meanings, and makes data collection more accurate and less time consuming. Therefore the modification was: None = $\cdot$, mild= $\cdot$, moderate = $\cdot$ and severe = $\cdot$. Rather than: None = $\cdot$, questionable = $\cdot$, mild = $\cdot$, moderate = $\cdot$, marked= $\cdot$, severe= $\cdot$.

- Modification of the score of point $\downarrow$ in attention subscale (Inattentiveness during mental status testing) to be: Score $\cdot$ = no errors, score $\uparrow$ = $\cdot$ error, score $\downarrow$ = $\cdot$ errors, score $\uparrow$ = $\cdot$ or more errors, rather than: Score $\downarrow$ = $\cdot$ error, score $\downarrow$ = $\cdot$ errors, score $\cdot$ = $\cdot$ errors. This modification made to suit the new rating of the scale.

- Reliability of the tools:
  
  Testing the reliability of the tools through Alpha Cronbach reliability analysis.

<table>
<thead>
<tr>
<th>Items</th>
<th>No. of items</th>
<th>Alpha Cronbach</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scale for the Assessment of Negative Symptoms (SANS)</td>
<td>$\downarrow$</td>
<td>$\cdot$.87</td>
<td>$\downarrow$.9</td>
<td><em>...</em></td>
</tr>
</tbody>
</table>
- **Pilot Study:**

Before starting data collection a pilot study was conducted to assess the clarity and applicability of the study tools, and identify the time needed to fill each tool. It was carried out on 1.7% of the subjects, who were excluded from the main study sample. According to the result of the pilot study necessary modification was done for tool 2 as follow: Each item of the scale was divided into four points to help the researcher to give an accurate score for each item.

**Field work:**

- **Designing phase:**

This phase aimed at designing for the group activity therapy program through setting educational objectives, preparing the group activity therapy program and designing the methodology and media.

- **Development of the group activity therapy program:**

The group activity therapy program was developed by the researcher after a thorough review of the related literatures and after making of the pilot study to identify the patient’s problems and needs related to negative symptoms. The group activity therapy program aimed to enhance negative symptoms (affective flattening or blunting, alogia, avolition – apathy, anhedonia – asociality, and attention) among patients with schizophrenia. This program has a set of general objectives, and specific objectives for each session. The number of program's sessions was 13 sessions. Based on the results obtained from the assessment tools and review of literature, the program content was developed by the researcher in the form of a booklet, which was revised and approved by the supervisors, after that the final booklet is distributed for patients and the staff nurses in the first session.

**General Objectives of the group activity therapy program:**

At the end of the group activity therapy program implementation, the following must be achieved for study group patients:

1. Gain information about schizophrenia and negative symptoms of schizophrenia.

2. Apply group activity therapy program skills.

3. Minimize their negative symptoms of schizophrenia.

**Specific Objectives of the group activity therapy program:**

At the end of the group activity therapy program implementation, the patients will be able to:

1. Identify the meaning of schizophrenia and negative symptoms of schizophrenia.

2. Identify the meaning and types of group activity therapy and its role in enhancing negative symptoms of schizophrenia.

3. Apply some of important morning care and personal hygiene activities as teeth brushing and hair care.

4. Become more socialized and interact better with other people in their environment, especially the group involved in the program.

5. Identify benefits of physical exercise for mind and body.
1. Learn the right way to practice some physical exercises and practice them.

2. Apply some group occupational therapy activities.

3. Apply some group art therapy activities.

4. Apply some group recreational therapy activities.

5. Respond to life situations with appropriate emotions such as smiling, crying, eye contact and other verbal and nonverbal communication skills.

6. Express their feelings and needs verbally and be able to answer any question posed to them clearly and be able to open a constructive dialogue and continue it.

7. Pay attention when talking to others, and improve their performance when testing attention.

Implementation Phase:

This phase was beginning by data collection then implementation of the group activity therapy program for schizophrenic patients (study group) who meet previously mentioned criteria.

Data collection (Pre-test):

Data collection of this study was carried out at Psychiatric Mental Health Hospital at Benha City, Kaluobia Governorate. The data collection was done on both control and study groups from 1/ December-2018 to 31/ January-2019.

- The data was collected from the subjects every two days/week, usually Saturdays and Tuesdays of every week; researcher collected from about 4 patients per week. The time needed for the researcher to fill the tools was approximately 26 minutes for each patient. The researcher was collected from about 4 patients per day approximately 6 minutes per day.

Implementation of the Program:

- This step focused on the implementation of the group activity therapy program for the study group (7 patients with schizophrenia). This group was divided into 5 subgroups; each subgroup composed of 6 patients.

- The program consisted of 17 sessions, 4 sessions theoretical and 9 sessions practical. Each subgroup received 13 sessions of group activity therapy program.

- Sessions was implemented every other day (three times per week) for 90 minutes to 1 hour / day, for 3 days / week. Usually at Saturdays, Tuesdays and Thursdays of every week.

- The sessions of group activity therapy program were carried out in 2 months during the period of (1/Febreuary-2019 to 31/May-2019).

- The program sessions were conducted in the recreational room in inpatient wards of the setting stated above.

- To ensure that the patients understand the program contents, each session was started with a summary about what was given through the previous session, and the objectives of the new session were mentioned taking into consideration using simple language to suit all patients.

- During the session the researcher used demonstration, and modeling by the researcher and one patient for practice skills of group
activities. After that the researcher used re-demonstration of the skill by each patient to master the skill. After finishing, the researcher thanked the patients for participation and encouraged the patients for asking about any unclear points.

- Moreover, the researcher made a summary at the end of the session and told the patients about the time of the next session.

"Strategies of program implementation:"

- **Methods of teaching:** - Open discussion, group discussion, brainstorming, demonstration, real situation, positive reinforcement, group cooperation, role play.

- **Media:** - brochure, materials used in personal hygiene as soap, hair brush, plastic nail clipper, tooth brush, and tooth paste. Illustrative pictures, wrist watch or mobile for watching time during physical exercise. Materials used in handicrafts as colored beads, a spool of thread, stan's roses, glue, plastic sewing needle, plastic scissor, cloth and cotton. Materials used in drawing, coloring, and artworks e.g. drawing and coloring booklets, coloring pencils, glue, colored buttons. Materials used in recreational activities as puzzles, role play scripts, simple stories for discussion and mobile phone for music listening.

- **Methods of evaluation:** - Feedback through oral questions, re-demonstration, positive participation, direct observation, role play.

**Evaluation Phase (post-test).**

- This phase aimed to estimate the effect of group activity therapy program on enhancement of negative symptoms of schizophrenia in study group patients. After the conduction of the group activity therapy program sessions for the study group, a post-test was done for both study group and control group using tool two.

  Study group and control group were exposed to the same circumstances e.g. the period of time stayed into the hospital and taking of psychotropic medication, except of that only the study group was received the group activity therapy program, to ensure that the group activity therapy program had an effect in enhancing the negative symptoms of schizophrenia.

III- **Administrative design:**

- **Approval:**

  A written letter was issued from the Dean of Faculty of Nursing, Benha University to obtain the approval for data collection from the director of Psychiatric Mental hospital at Benha City Kaluobia Governorate. An official approval was obtained from the director of the Psychiatric Mental Health Hospital at Benha City, Kaluobia Governorate. Moreover an official approval was obtained from the Human Rights Protection Committee and Research Committee of General Secretariat of Mental Health in Egypt after revision of the study protocol, tools, and the booklet. The purpose and the nature of the study were explained to the hospital's staff, and then it was possible to carry out the study with minimum resistance.

- **Ethical Consideration:**

  Before conducting the study the patients were assured about confidentiality and anonymity of their obtained information throughout the study. They were informed about their right to refuse to participate in the study and the right to withdraw from
the study at any time. Acceptance of patients who agreed to participate in the study was taken from the patients through a written consent filled by assistance of the patients’ rights committee in the hospital.

IV-Statistical Design:

The collected data were organized, computerized, tabulated and analyzed by using the Statistical Package for Social Science (SPSS) version 26. Data analysis was accomplished by the use of number, percentage distribution, mean, and standard deviation. Paired t-test was used to compare means within one group, and t-test was used to compare two independent means. A significant level value was considered when p-value =< 0.05.

Difficulties of the Study:

- Shortness of the time allowed by the patients’ rights committee for the researcher during the day to meet the patients and to group them in one place to implement program sessions.

- Lack of privacy during program implementation. There was no special place for conducting the program; hence, the researcher conducted the program in the recreational room and some times in the in-patient wards. Because of this, the researcher was exposed to interruptions by other patients, that lead to increased distractibility of the studied patients and sometimes the researcher was obliged to repeat or even start again.

- Refusal of the hospital policy to conduct any study on involuntarily admitted patients according to subject 16 of patients’ right, which led to prolongation of time needed to complete the sample size.

Results:

Table (1): Socio-demographic characteristics of the studied sample (study and control group). Shows that the mean age of the study group is 36.3 ± 7.5 years, while, the mean age of the control group was 20.5 ± 6.61 years. Regarding to sex, about two thirds (56.72%) of the study and control group are males, respectively. Moreover, more than half (56.72%) of the study and control group are married, respectively. Regarding to level of education, half (50%) of the study group & about two thirds (66.72%) of the control group have diploma, respectively.

Table (2): Clinical characteristics of the studied sample (study and control group). Shows that, Related to age at onset of disease, nearly half (46.72%) of the study group and less than half (43.2%) of the control group their age at onset of disease ranges between 25-<36 years, respectively. Moreover, more than half (53.32% and 56.72%) of the study and control group admitted to psychiatric hospitals between 4-<6 times, respectively.

Table (3): Comparison between the studied sample (study and control group) at pre group activity therapy program implementation regarding to their total negative symptoms (n=66). This table shows that, there is statistically insignificant difference at (P= > 0.05) between the studied sample (study and control group) at pre implementation of group activity therapy program in total negative symptoms.

Figure (1): Comparison between the study group patients at pre & post group activity therapy program implementation regarding to their total negative symptoms (n=53). This figure shows that, there is a
highly statistically significant difference at \( (P < 0.01) \) between pre and post implementation of group activity therapy program in total negative symptoms of the study group patients.

**Figure (1):** Comparison between the studied sample (study and control group) at post group activity therapy program implementation regarding to their total negative symptoms \( (n=\overline{66}) \). This figure shows that, there is a highly statistically significant difference at \( (P < 0.01) \) between the studied sample (study and control group) in total negative symptoms at post group activity therapy program.

**Table (1):** Socio-demographic characteristics of the studied sample (study and control group).

<table>
<thead>
<tr>
<th>Items</th>
<th>Study group ((n=33))</th>
<th>Control group ((n=33))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;20 year</td>
<td>1</td>
<td>3.3%</td>
</tr>
<tr>
<td>20–&lt;30 year</td>
<td>19</td>
<td>73.3%</td>
</tr>
<tr>
<td>30–&lt;40 year</td>
<td>0</td>
<td>16.7%</td>
</tr>
<tr>
<td>≥40 year</td>
<td>0</td>
<td>16.7%</td>
</tr>
<tr>
<td>( x \pm S.D )</td>
<td>30.3 ± 7.0</td>
<td>28.6 ± 7.1</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>18</td>
<td>60%</td>
</tr>
<tr>
<td>Female</td>
<td>12</td>
<td>40%</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>12</td>
<td>40%</td>
</tr>
<tr>
<td>Married</td>
<td>17</td>
<td>56.7%</td>
</tr>
<tr>
<td>Divorced</td>
<td>1</td>
<td>3.3%</td>
</tr>
<tr>
<td>Level of education</td>
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<td></td>
</tr>
<tr>
<td>Read and write</td>
<td>5</td>
<td>16.7%</td>
</tr>
<tr>
<td>Diploma</td>
<td>10</td>
<td>30%</td>
</tr>
<tr>
<td>High education</td>
<td>8</td>
<td>26.6%</td>
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<tr>
<td>Postgraduate education</td>
<td>2</td>
<td>6.7%</td>
</tr>
<tr>
<td>Work status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Works</td>
<td>16</td>
<td>33.3%</td>
</tr>
<tr>
<td>Doesn’t work</td>
<td>20</td>
<td>66.7%</td>
</tr>
<tr>
<td>Residence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>20</td>
<td>66.7</td>
</tr>
<tr>
<td>-------</td>
<td>----</td>
<td>-------</td>
</tr>
<tr>
<td>Urban</td>
<td>10</td>
<td>33.3</td>
</tr>
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### Income

<table>
<thead>
<tr>
<th>Not enough</th>
<th>15</th>
<th>5.0</th>
<th>21</th>
<th>7.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enough</td>
<td>13</td>
<td>4.3</td>
<td>7</td>
<td>2.3</td>
</tr>
<tr>
<td>More than enough</td>
<td>2</td>
<td>0.6</td>
<td>2</td>
<td>0.6</td>
</tr>
</tbody>
</table>

**Table (1):** Clinical characteristics of the studied sample (study and control group).

<table>
<thead>
<tr>
<th>Items</th>
<th>Study group (n=33)</th>
<th>Control group (n=33)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
</tr>
<tr>
<td><strong>Age at onset of disease</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15–&lt;20 years</td>
<td>1</td>
<td>3.3</td>
</tr>
<tr>
<td>20–&lt;25 years</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>25–&lt;30 years</td>
<td>14</td>
<td>42.4</td>
</tr>
<tr>
<td>≥30 years</td>
<td>10</td>
<td>30.3</td>
</tr>
<tr>
<td><strong>Frequency of admission in psychiatric hospitals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 times</td>
<td>14</td>
<td>42.4</td>
</tr>
<tr>
<td>4–5 times</td>
<td>16</td>
<td>48.5</td>
</tr>
<tr>
<td><strong>Duration of illness</strong></td>
<td></td>
<td></td>
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<tr>
<td>4–&lt;5 months</td>
<td>4</td>
<td>12.1</td>
</tr>
<tr>
<td>5–&lt;10 months</td>
<td>4</td>
<td>12.1</td>
</tr>
<tr>
<td>10–12 months</td>
<td>22</td>
<td>66.7</td>
</tr>
<tr>
<td>x ± S.D</td>
<td>10.63 ± 2.14</td>
<td>10.66 ± 2.44</td>
</tr>
</tbody>
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**Table (2):** Comparison between the studied sample (study and control group) at pre group activity therapy program implementation regarding to their total negative symptoms (n=66).

<table>
<thead>
<tr>
<th>Items</th>
<th>Study group</th>
<th>Control group</th>
<th>T.test</th>
<th>p-value</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Mild</td>
<td>Moderate</td>
<td>Severe</td>
<td>Mild</td>
</tr>
<tr>
<td>Affective flattening or blunting</td>
<td>17</td>
<td>3.4</td>
<td>10</td>
<td>4.3</td>
</tr>
<tr>
<td>Alogia</td>
<td>17</td>
<td>3.4</td>
<td>10</td>
<td>4.3</td>
</tr>
<tr>
<td>Avolition – Apathy</td>
<td>10</td>
<td>3.0</td>
<td>16</td>
<td>5.0</td>
</tr>
<tr>
<td>Anhedonia – Asociality</td>
<td>10</td>
<td>3.0</td>
<td>16</td>
<td>5.0</td>
</tr>
</tbody>
</table>

**Table (3):** Comparison between the studied sample (study and control group) at pre group activity therapy program implementation regarding to their total negative symptoms (n=66).
**Figure (1):** Comparison between the study group patients at pre & post group activity therapy program implementation regarding to their total negative symptoms (n=36).

**Figure (2):** Comparison between the studied patients (study and control group) at post group activity therapy program implementation regarding to their total negative symptoms (n=66).
Discussion

Concerning effect of group activity therapy program on negative symptoms in this study researcher can concluded that group activity therapy program was effective in enhancement of total negative symptoms and especially in enhancement of anhedonia and avolition symptoms in study group patients. This could be due to the pleasurable and motivational effect of group activities, which helped the patients to experience a shared joy and thereby reactivate their sense of pleasure and motivation toward activities by placing them on a playful and nonjudgmental mode when confronted with art materials, dance music, games or physical activities.

This result was consistent with (Ruckli, 1991) who found that patients who received group activities in addition to usual treatment had enjoyment, their motivational ability increased and their anhedonia symptoms significantly decreased.

Moreover, this result revealed that the effect of the program was the total effect of a group of interventions that appeal on activation, such as occupational activities as hand crafts, physical exercise, self-care training, social skill training through role play and story-telling, recreational activities as dancing, singing, listening to music and solving puzzles, art therapy such as drawing and painting. Therefore, the effect of the program can’t be specified to a specific type of activity therapy but attributed to the group activity therapy program totally.

Moreover, the application of activity therapy in groups increased the effect of this type of therapy in improvement of negative symptoms. Group interaction helped patients to be
more socialize, and helped them to learn from each other and from the researcher. In addition to this, it’s enabled them to ask for help and help who asked them for help. All of this improved patients’ mood, social ability, verbal communication, self-esteem, in addition to other negative symptoms improvement.

These results were in agreement with (Priebe, et al., 2016) who found that group activity therapies, such as music therapy, art therapy, physical exercise, dance movement psychotherapy and all creative therapies which centered in helping the patients to be more active were the only type of intervention found to demonstrate consistent efficacy in the reduction of negative symptoms especially when conducted in groups.

In other hand this result was in disagreement with (Montag, et al., 2010) who found that group art therapy had no effect on improvement in levels of anhedonia, asociality and affective flattening negative symptoms.

Concerning level of negative symptoms among study group patients at pre and post group activity therapy program, the present study showed that there was a significant improvement in their total negative symptoms scores after implementation of the group activity therapy program (SANS total score, affective flattening or blunting, alogia, avolition – apathy, anhedonia – asociality, and attention) than before activity therapy program implementation.

This result went in parallel with (West, 2017) who found that non-pharmacologic interventions and adjunct therapies such as group activity therapy which include the group recreational activities, dance therapy, art therapy, and music therapy improved negative symptoms in her study group patients who received group activities in addition to pharmacological treatment than in those who received pharmacological treatment only.

Concerning difference between level of negative symptoms among control group and level of negative symptoms among study group post group activity therapy program, this study revealed that negative symptoms of schizophrenia respond better in patients received group activity therapy program and usual treatment than in control group who receive usual treatment only. This result was consistent with (Dean, et al., 2014) who conducted a randomized controlled trial of activity groups versus standard care for people with schizophrenia and he found that negative symptoms improved significantly among patients who offered activity groups when compared to patients who received standard care alone.

Moreover, this result was consistent with (Tseng, et al., 2016) who found that there was a significant role of music therapy in adjunct to treatment in improvement of negative symptoms in patients with schizophrenia who received either group or individual music therapy than in those who did not. This improvement was regardless of the duration, frequency, or amounts of sessions of music therapy and regardless if music therapy conducted in form of passive listening or in form of active participation.

Furthermore, this result was in agreement with (Vogel, et al., 2019)
who found that physical exercise interventions showed a significant effect on negative symptoms of schizophrenia compared to any control group and he recommended conduction of physical activities in groups because groups reinforces the effect of these activities in reducing negative symptoms.

The improvement and progress of negative symptoms among study group patients in this study occurred gradually during implementation of program sessions. From researcher’s point of view, the improvement began after beginning of the first three sessions of the program when application of the self-care activities began. In sessions 1, 2 and 3 the negative symptoms specially affective flattening, alogia and apathy were very obvious in patients and this was clearly appeared in the patients as they seemed not interested to share in the program, spooked little or only when asked to speak.

Negative symptoms especially anhedonia and apathy to grooming were begun to improve early during program implementation when self-care activities sessions began. Some of the patients began to interact with the researcher and other patients, they asked questions, they seemed more attentive during activity demonstration and all of the patients re-demonstrated the skills by themselves. Moreover, they asked the researcher to keep their self-care equipments to use them daily. This can illustrate that there is a potential role of group self-care training in the treatment of negative symptoms of schizophrenia, especially anhedonia and apathy to grooming.

The role of group physical activity sessions was obvious as the patients appeared happier, motivated and interactive than before. This was clear in the patients comments to the researcher about their feelings for example by fictitious names (Mohammed) said that I am very happy, and I will never stop exercising in the future, (Mona) said that I was not interested to continue but now I am motivated to continue in this program after this session and (Ola) said that I feel happier and lighter than before.

This revealed that there was a potential role of exercise in the treatment of negative symptoms of schizophrenia, especially physical anergia, avolition, anhedonia and affective flattening. This result was supported by (Areshtanab, et al., 9102) who found that exercise compared to standard care significantly improve negative symptoms of schizophrenia, especially affective flattening, anhedonia and social withdrawal.

Group occupational therapy and group art therapy sessions improved patients’ negative symptoms especially affective flattening, anhedonia, avolition, asociality, and inattention. The patients became more socially interactive, more motivated as they began to ask the researcher about the time of the next session. Two female patients told her that they weren’t interested to share in the program at the beginning of it and they wanted to withdraw from the program, but they become happier and more interested after occupational and art sessions as they had the chance to express their feelings and learn crafts can help them after discharge.

Recreational activities were one of the most important group activities in this study, which positively improve negative symptoms especially communication and social relations. At
the group recreational sessions, the patients' negative symptoms affective flattening, alogia and asociality clearly reduced. This was obvious in improvement of patients’ ability to verbally express themselves and communicate verbally with other patients during role play and storytelling, as each patient takes the time and chance to express their feelings verbally, give feedback and actively listen to other patients when they tell their stories.

The patients were very enjoyed and interactive during singing, dancing, listening to music and playing games with each other. They expressed that they felt relaxed during listening to music and dancing, and one of the patients told the researcher that (I was feared from sharing in the program with a group of peers, but now I have no more fear from social interactions).

The patients told the researcher at the end of program sessions that they were very happy because they shared in the program and they wanted to repeat it especially occupational, recreational and physical exercise sessions. This can conclude that group activities made individuals happier, satisfied, get adapted with the community and helped the patient to agree with the living at the hospital to be more receptive to the treatment and this helped the patient to be more confident and increase the social abilities. All of this leaded to alleviation of negative symptoms of schizophrenia.

Concerning the age of the studied sample (study and control group), the present study showed that the age of majority of patients ranged between 26-36 years old. This could be due to the fact that the studied sample in this study was diagnosed within one year or less and the average age of onset of schizophrenia tends to be in the late teens to the early 20’s for men, and the late 20’s to early 30’s for women (NAMI, 1994).

The result of the present study revealed that two-thirds of the studied sample (study and control group) were males. This could be due to that the female patients show better treatment response than male and approximately 2/3 less hospitalizations (Li, etal., 2002). Therefore, the number of female patients hospitalized to the hospital where this study conducted was limited. Moreover this could be due to that schizophrenia incidence is usually more among males than females from the low income groups and the most of our studied sample had low income. This was consistent with (Lee, etal., 2004) who found in his study that, schizophrenia incidence was more common in men than in women from the low income group.

Concerning level of education, work status and income of the studied sample, the present study showed that the majority of the studied sample had a diploma, they didn’t work and they had not enough income. This could illustrate that there was a relation between these three variables as their low level of education didn’t enabled them to have a stable job and this affected their income. This could be due to that the study conducted in a governmental hospital where most people admitted to it are from middle class and low income people.

Moreover, this could illustrate that the lowest social groups had the highest admission rates. This was consistent with (Goldberg & Morrison, 2004) who found that the mental hospital admission rate for schizophrenia was higher in poor
districts where people from low social classes and with low educational level lived.

Moreover, this could be due to that those negative symptoms of schizophrenia have worsening effects on functional ability of the patients, which affected their work status, level of education and income. This could illustrate that low income is a risk factor of schizophrenia, and in other hand schizophrenia is a leading cause of unemployment and poverty related to effect of negative symptoms on patients’ level of functioning.

This was supported by (Gallagher & Bernard, 1991) who concluded that being born into poverty not only elevates risk for schizophrenia in general but also for patients to have negative symptomatology. Furthermore, this result was supported by (Lee, et al., 1991) who found that schizophrenia was more common in low-income individuals.

Furthermore, this was supported by (Bouwmans, et al., 1991) who concluded that the overall employment rate of the patients with schizophrenia in his study was low and he found that negative symptoms and low educational level were from the most frequently reported factors associated with unemployment.

Concerning the sample’s residence, the present study showed that the majority of the studied sample was living in rural areas. This could be due to that this study conducted in a governmental hospital which serves many rural districts where poverty rates are higher. This illustrated that the lowest social groups had the highest admission rates in psychiatric hospitals.

Moreover, this could illustrate that incidence rate of schizophrenia is higher in rural areas than in urban areas as poverty rates are higher in rural districts especially in Egypt (El Tawil, 1991). This was in disagreement with (Gruebner, et al., 1991) who found that the risk for serious mental illness such as schizophrenia is generally higher in cities compared to rural areas as living in cities is associated with increased population density, traffic noise and pollution. Moreover, this was in disagreement with (Vassos, et al., 1991) who found that birth in an urban environment is associated with an increased risk for mental illness specially schizophrenia.

Concerning marital status of the studied sample, the present study showed that the majority of the studied sample was married. This could be due to that the majority of patients was from rural residence where early marriage is more common and divorce rates are less common. This could illustrate that schizophrenia didn’t have a profound effect in marital status in rural areas when compared with urban areas.

This result went in parallel with (Yang, et al., 1991) who found that marriage rate was less among overall urban subjects than rural subjects and he concluded that patients with schizophrenia who lived in urban areas have poorer marriage outcomes compared to those lived in rural contexts. Moreover, in urban areas even if marriage was achieved, contextual factors such as economic pressure for both spouses to earn salaries and decreased availability of extended family may increase rates of divorce among urban residents with schizophrenia compared with their rural counterparts.
Concerning frequency of admission in psychiatric hospitals of the studied sample the present study showed that the majority of the studied sample was previously admitted to psychiatric hospitals 4-6 times. This could be due to that schizophrenia forming a burden on care givers of the patients as they can’t make control over patients’ resistance to continue taking antipsychotic medication which may lead to increase rate of relapse and readmission to hospital. Because of that, the families and patients themselves prefer admission to hospital to get better care and control of noncompliance to treatment.

Moreover, this could be due to that most of the studied sample was from young age group, and younger age patients have more risk for relapse and re-hospitalization. This result was consistent with (Immonen, etal., 9102) who concluded that younger age of onset of schizophrenia associated with more hospitalizations and relapse.

Concerning the relation between level of education and total negative symptoms of study group patients at post group activity therapy program, the present study showed that there was a highly statistically significant relation between total negative symptoms and level of education. The highest negative symptoms scores were among patients with a diploma. This could illustrate that low levels of education is associated with less improvement results. This could be due to that those patients with low levels of education usually did not have a stable work which affects their income and their quality of life which in turn increase their negative symptoms resistance to all types of treatment and lead to lower rates of improvement.

Concerning the relation between age at onset of disease and total negative symptoms of the studied sample (control group & study group patients at post group activity therapy program), the present study showed that there was a statistically significant relation between total negative symptoms and age at onset of disease of the studied sample. This result was in parallel with (Immonen, etal., 9102) who found that there was a statistically significant correlation between younger age at onset of schizophrenia and more negative symptoms.

Concerning relation of marital status, work status and sex of the study group patients at post group activity therapy program, this study revealed that more negative symptoms scores were among males, single and patients who didn’t have work. This result was consistent with (Patel, etal., 9102) who found that employed patients were less likely to have negative symptoms compared with those unemployed and negative symptoms were associated with younger age, male gender and single marital status.

Conclusions:

The study demonstrated that group activity therapy program had a positive effect on enhancement of negative symptoms (affective flattening or blunting, alogia, avolition – apathy, anhedonia – asociality and attention) among patients with schizophrenia.

Recommendations:
Recommendations for service:

- Group activity therapy should be a part of patient’s usual care in all psychiatric and mental health hospitals and not just be a part of a study.
- Make referrals to patients with schizophrenia and their families to institutions of civil society that can help them by providing occupational and financial support.
- Applying therapeutic activity programs at the treatment and rehabilitation centers for patients with schizophrenia in the Arab Republic of Egypt.

Recommendations for education:

- Conducting training programs to encourage nursing managers to support nurses to implement group activities among psychiatric patients, and provide them with the necessary resources.
- Further studies in negative symptoms of schizophrenia and how to alleviate them as studies on negative symptoms still limited.

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