

Correlation between Positive Symptoms and Suicidal Thoughts among Patients with Schizophrenia

Amira M. Ali¹, Merfat M. Atia²,
Gehan A. Abed³, Maaly E. Elmalky⁴

¹Asistant Lecturer of Psychiatric and Mental Health Nursing,

^{2,3,&4}Professor of Psychiatric and Mental Health Nursing,

^{1,2,3,4} Faculty of Nursing, Menoufia University, Egypt.

Abstract: Schizophrenia's positive symptoms, including delusions and hallucinations, can cause distress, loss of control, depressive feelings, and increased suicide risk.

Purpose: Examin the correlation between positive symptoms and suicidal thoughts among patients with schizophrenia. **Design:** A descriptive correlational design was utilized.

Setting: The study was done in psychiatric department at Menoufia University Hospital and Meet-khalf Hospital, Shebin Elkom City, Menoufia governorate which is affiliated to General Secretariat of Mental Health in Egypt.

Sample: A purposive sample of 90 patients with schizophrenia who met inclusion and exclusion criteria were selected. **Instruments**(1) Scale for Assessment of Positive Symptoms (SAPS) in addition to socio- demographic and clinical questionnaire (2)

Beck Scale for Suicide Ideation (BSS). **Results:** The study revealed that 65.60% showing mild positive symptoms and 34.50% showing moderate positive symptoms

with a significant positive correlation between positive symptoms in schizophrenic patients and their suicidal thoughts., **Conclusion:** There was positive correlation

between positive symptoms and suicidal thoughts among patients with schizophrenia. **Recommendation:** comprehensive intervention should be established programs to

reduce positive symptoms and suicidal thoughts among patients with schizophrenia.

Keywords: Positive symptoms, Suicidal thoughts, Schizophrenia

Introduction

Schizophrenia is a chronic illness that causes psychosis with a decline in functioning. It is a multifactorial disorder affecting millions worldwide. Diagnosis of schizophrenia requires at least two or more symptoms, and at least one of the two symptoms must be a positive symptom. Positive

symptoms are hallucinations, delusions, disorganized speech, and abnormal movements. Negative symptoms are flattened affect, social withdrawal, anhedonia, apathy, and lack of emotions. As described in the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-

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5), the diagnosis of schizophrenia requires presenting symptoms that cause a decline in both social and occupational functioning for at least six months (Luvsannyam et al., 2022). Schizophrenia is a severe chronic disorder that affects the way someone thinks, feels and acts. Schizophrenia affects approximately 1% of the population and is among the most devastating and costly illnesses in the field of psychiatry medicine. With its onset in the late teenage years and early adulthood, schizophrenia's damaging effects begin during a period that should be the most exciting, vigorous and formative years of an adult's life. Schizophrenia is a highly heritable disorder and despite current treatments, most patients have a chronic course resulting in marked lifelong functional disability and poor quality of life (Kalin, 2019).

Schizophrenia can be understood through its symptoms, which fall into three main categories. Positive symptoms, which include things like delusions, hallucinations, and problems with thinking and behavior. Negative symptoms involve a reduced range of emotions, speaking less, a lack of motivation, social withdrawal, and difficulty paying attention. Finally, cognitive symptoms, which affect memory, attention, and the ability to plan and make decisions (Azaiez et al., 2018).

Positive symptoms of schizophrenia can trigger individuals to experience negative outcomes in the specific area of life that affects their quality of life, such as relationship conflicts, job loss, trouble interacting with others or

forming relationships, self-imposed social withdrawal or isolation, legal problems, violent or cruel behavior toward others, poor performance at work or school, and self-harm. Clinically significant delusions are damaging because they lead to social isolation, worry, stress, and poor functioning in those who report them. Additionally, hallucinations have negative effects on patients' quality of life, such as depression, anxiety, social withdrawal, distress, disability, decreased productivity, and suicidal thoughts (Harvey et al., 2019).

Schizophrenia is a debilitating mental disorder characterized by distorted thinking and perception that runs a chronic course. It is associated with a truncated life expectancy of 10–25 years; suicide being a major contributor, having a lifetime risk of 9%–13%. The rate of suicide attempts in schizophrenia ranges from 20% to 40% with around 11% to 50% of patients having ideations at some point of their life (Nath et al., 2021).

Suicide is an intension or act of deliberately ending one's own life, and suicide behavior is a feeling or intention that increases a person's risk of attempting or committing suicide, which may include suicidal thoughts or wishes, suicidal plans, and suicidal attempts. Suicide is a highly prevalent and significant public health problem resulting in nearly a million deaths per year. Suicide is responsible for enormous distress to individuals, families, friends, and community (National Institute of Mental Health, 2021). Various symptoms of schizophrenia, including agitation,

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negative symptoms, persecutory delusions, suspiciousness, depression and hopelessness, and command hallucinations, have been linked to suicide (de Cates et al., 2021).

Schizophrenic patients frequently struggle in relationships, at work, in school, and society in general. They could appear to have lost contact with reality, feel frightened, and withdraw. Although there is no cure for this chronic illness, it can be controlled with proper treatment. This indicates that the individual struggles with thinking logically, identifying reality, managing feelings, arriving to decisions, and interacting with others (National Institute of Mental Health, 2020).

As the patient is rarely able to provide accurate information during the acute stage of the illness, the nursing assessment of a person with schizophrenia is typically a complex process requiring the gathering of data from multiple sources. It is necessary to appeal to the family and significant people, as well as to clinical records when they exist. Initially a mental examination should be performed, identifying the present symptomatology, such as delusions, hallucinations, disorganization and negative symptomatology. For an accurate assessment to be carried out, the nurse needs to be aware of the typical behaviors associated with this disorder (Elsayed et al., 2022).

Significance of the study

According to the World Health Organization, schizophrenia is one of the top 10 diseases that contribute to

the overall burden of disease because it is one of the most severe, persistent, and devastating mental disorders (Fischer & Buchanan., 2020). Additionally, about 1 million patients in Egypt have schizophrenia, which affects about 1% of the population (Okasha, 2019). Additionally, 40–79% of people with schizophrenia experience suicide thoughts at least once while they are unwell.

In addition, 579 suicides per 100,000 people are thought to occur each year among people with schizophrenia (Ageeb et al .,2022. Individuals with schizophrenia have a markedly increased risk of suicide compared to the general population. Positive signs can be extremely upsetting and confusing, and they may even trigger depressive and hopeless thoughts, which are important risk factors for suicide.

By understanding the link between these symptoms and suicidal ideation, healthcare professionals can develop more comprehensive assessments to identify patients at higher risk. Early identification is crucial for timely intervention and suicide prevention.

Methods:

Purpose of the study:

To examine the correlation between positive symptoms and suicidal thoughts among patients with schizophrenia.

Research questions: -

- 1) What are the levels of positive symptoms among patients with schizophrenia?

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- 2) What are the levels of suicidal thoughts among patients with schizophrenia?
- 3) What is the correlation between positive symptoms and suicidal thoughts among patient with schizophrenia?

Research design:

Descriptive co-relational design was utilized to achieve the purpose of the study.

Research setting:

This study was conducted at psychiatric department at Menoufia University Hospital and Meet-khalf Hospital, Shebin Elkom City, Menoufia governorate which is affiliated to General Secretariat of Mental Health in Egypt. (1): The psychiatric unit at Menoufia University Hospital was founded in 2012 and is located on the General Hospital's eighth floor. It has fifteen beds and provides 24-hour rehabilitation treatments and psychiatric counseling to adult inpatients, both male and female. (2): The Meet Khalaf Psychiatric Hospital opened officially in 2005 after being established in 1999. The Meet Khalaf Hospital had 113 beds available for admission. The hospital contains five departments: one for addiction treatment, one for women, and three for men. It has an ECT department as well. The hospital offers critical and urgent care emergency services continuously, outpatient services for psychiatric disorders and addiction throughout patient clinics, community medicine services for psychological

rehabilitation, and inpatient rehabilitation services.

Sampling: -

A purposive sample of 90 studied schizophrenic patients aged 25-65, diagnosed with DSM-5, free from other psychiatric disorders, able to communicate, agreed to participate, and less than 10 years of illness duration, excluding those with substance-use disorders, neurological illnesses, acute medical conditions, or disturbed states.

Instruments:-

Three instruments were used for data collection:

Instrument one: A structured interviewing questionnaire:

It was developed by the researcher to assess social characteristics of the patients which divided into two parts:

- **Part one:** - socio-demographic data: age, sex, marital status, level of education, place of residence and occupation etc....
- **Part two:** - clinical data: age at onset of schizophrenia, duration of illness, smoking condition and way of entering hospital etc....

Instrument two: Positive Symptoms Assessment Scale

It was developed by Anderson in 1991 to assess positive symptoms of schizophrenia, translated into Arabic by researcher. SAPS is split into 4 domains: (1) hallucinations consisted of 6 items; (2) delusions consisted of 12 items; (3) bizarre behaviors consisted of 4 items; and (4) positive formal thought disorders consisted of 8

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items. Within each item in the domain, separate symptoms were rated from 0 (None) to 4 (severe). The scoring system consists of No = 0, sometimes = 1, usually = 2, always = 3. The minimal score is 0, and the maximum score is 90. The positive symptoms scale is categorized into three levels: none (0), mild (1-30), moderate (31-67), and severe (68-90).

Instrument three: Beck Scale for Suicide Ideation (BSS).

The Beck Scale for Suicide Ideation (BSS) is an instrument developed in 1979 to assess a patient's risk of suicide. It includes 19 statement groups assessing suicidal ideation intensity, with scores ranging from 0 to 38. The scoring system for suicidal thoughts ranges from less than 8 to 38, indicating no suicidal thoughts less than 8, mild suicidal thoughts from 8-16, moderate suicidal thoughts from 17-26, and severe suicidal thoughts from 27-38.

Validity:

Five professors from Menoufia University's psychiatric nursing department assessed the content validity of instruments, including the scale for positive symptoms (SAPS), and made necessary modifications to ensure their applicability and relevance. The scoring system was modified to consist of four items: No = (0), sometimes = (1), usually = (2), and always = (3), instead of 5 responses, which were 0 = None/Not at All 1 = questionable; 2 = mild; 3 = moderate; 4 = marked. 5 = severe.

Reliability:

The internal consistency of the questionnaire was calculated using Cronbach's alpha coefficients. The reliability of the instruments was done using test - retest reliability and proved to be strongly reliable at 0.87 for instrument two, at for instrument three 0.77

Pilot study:

The instruments were designed and tested in a pilot study on a 10% sample of schizophrenia patients to ensure clarity, feasibility, and time efficiency. It was conducted on a 10% sample of nine schizophrenia patients, who were later excluded from the main study to ensure the stability of the results.

Ethical consideration:

Ethical approval was attained from an ethical research committee of the Faculty of Nursing, Menoufia University. Informed consent for participation was taken from the participants after explaining the purpose of the study and assures maintaining anonymity and confidentiality of the subjects data, the patients were informed that participation in this study was voluntary; they have the right to participate in the study and they have the right to withdraw from the study at any time.

Procedure

An official letter was submitted from the Dean of the Faculty of Nursing, Menoufia University to the director of Menoufia University Hospital and Meet-khalf Hospital, Shebin Elkom City, Menoufia governorate and from

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General Secretariat of Mental Health in Egypt including the purpose of the study and methods of data collection. Once the official permissions were obtained from the principal person, the researcher started the data collection. The researcher collected the data from the patients in the Morning shift 9 AM. To 1 PM. in the departments, three days a week, each interview lasted nearly 30 to 45 minutes for each patient, throughout a two-month period started from the beginning of august to the end of September (2023).

Statistical Analysis:

The study used IBM's SPSS version 22 for data collection, analysis, and statistical analysis. Descriptive statistics were used to present quantitative data in mean, standard deviation, range, and qualitative data in numbers and percentages. Analytical statistics were used to determine possible associations between factors and the targeted disease. Tests of significance included Chi-square, Mann-Whitney, and pearson correlation, with a significance level of $p < 0.05$. Significance level was set at p value < 0.05 .

Results

Table 1 shows that less than half of the schizophrenic patients (46.7%) aged between 35 - 45 years, more than two thirds (68.9%) of them were males and 43.3% were single. About half (47.8) of the patients had secondary education, (43.3%) were unemployed, more than three quarter (78.9%) had insufficient income and the highest percentage lived in rural area

Table 2 displays that over half (55.6%) of the schizophrenic patients were aged 25-34) at the onset of the disease. 72.2% of relatives of schizophrenia patients are free from mental illness, and 70% of these patients have duration of 1-10 years. The majority of the studied patients (100%) are admitted to the hospital through a mandatory method. 60% of the patients were smoking, with the majority not using alcohol (94.4%), misusing drugs (80.9%), or narcotic substances (86.7%).

Figure 1 shows that 65.60% of schizophrenic patients had mild positive symptoms, while 34.50% showed moderate positive symptoms.

Figure 2 reveals that 37.80% and 36.70% of schizophrenic patients, respectively, had moderate and mild suicidal thoughts.

Table 3 indicates that there is statistical significant positive correlation between positive symptoms and suicidal thoughts of study group; where p value ($p = 0.036$).

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Table (1): Socio-demographic data of the studied group (N=90):

Studied variable	No.	%
Age / years		
25 - <35 years	28	31.1
35 —< 45 years	42	46.7
45 - <55 years	16	17.8
55 - < 65 years	4	4.40
Gender		
Male	62	68.9
Female	28	31.1
Residence		
Rural	75	83.3
Urban	15	16.7
Marital state		
Single	39	43.3
Married	37	41.1
widower	14	15.6
Educational level		
Read& write	23	25.5
Basic	11	12.2
Secondary	43	47.8
University	12	13.3
Postgraduate	1	1.10
Occupation		
Don't work	39	43.3
Housewife	10	11.1
Work	38	42.2
Student	3	3.30
Type of work	N=38	
Manual work	11	29.0
Employee	4	10.5
Special work	23	60.5
Income		
Insufficient	71	78.9
Sufficient	19	21.1

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Table (2): Clinical data of the studied group (N=90):

Studied variable	No.	%
Age at onset of the disease		
16 - <25 years	11	12.2
25 – <34 years	50	55.6
34 - <45 years	28	31.1
> 45 years	1	1.10
Duration of illness		
Less than 1 year	27	30.0
1 – 10 years	63	70.0
Entry method		
Mandatory	90	100.0
If entry method mandatory By whom		
Family	90	100.0
Neighbour	0	00.0
Police	0	00.0
Hospital	0	00.0
Other	0	00.0
Have relatives with mental illness		
Yes	25	27.8
No	65	72.2
If the answer is yes, what is the relationship		
Parents	N=25	32.0
Sibling	8	68.0
other	17	
Alcohol misuse		
Yes	5	5.60
No	85	94.4
Drug misuse		
Yes (Tramadol)	10	11.1
No	80	88.9
Narcotic Substance misuse		
Yes	12	13.3
No	78	86.7
Type of narcotic substance		
Hashesh	N=12	50.0
Tramadol	6	50.0
	6	
Smoking		
Yes (cigarette)	54	60.0
No	36	40.0

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Figure 1: Levels of Positive Symptoms of the studied group

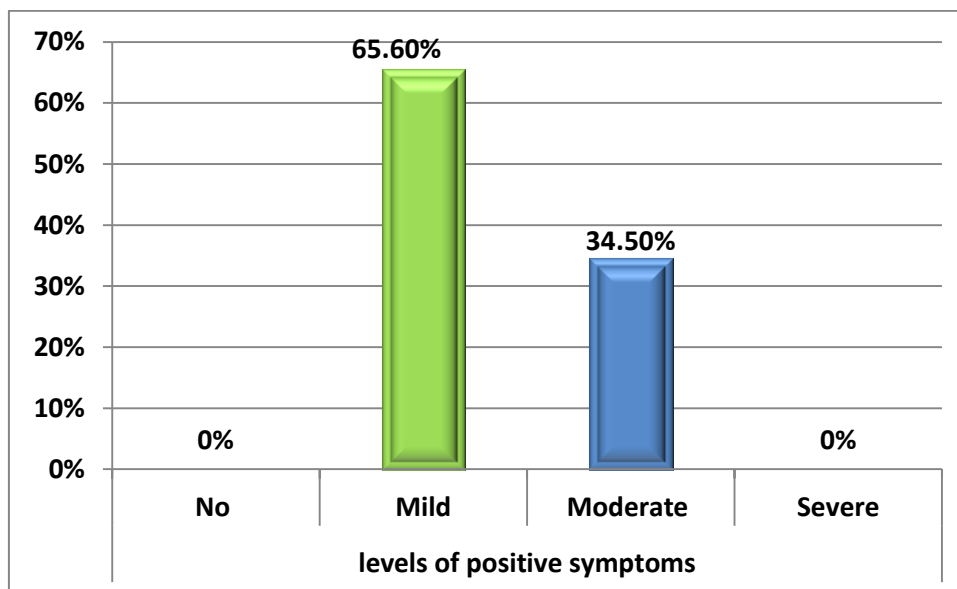


Figure 2: Suicidal thoughts among of the studied group

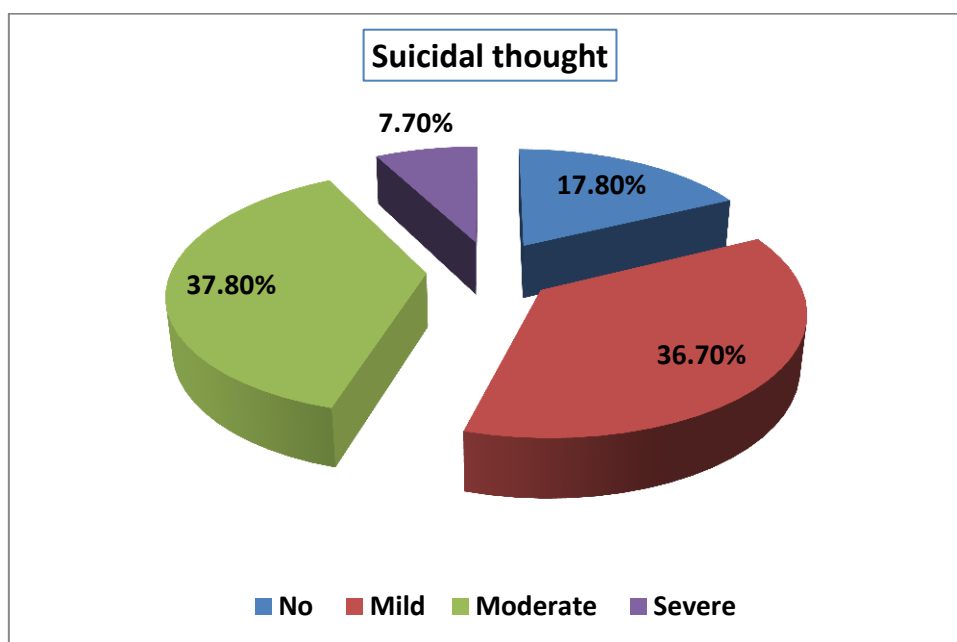


Table (3): Correlation between suicidal thoughts and positive Symptoms among the studied group (N=90):

Studied variable	Positive Symptoms	
	r	P value
Suicide thoughts	0.221	0.036*

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Discussion

Schizophrenia is a severe mental illness characterized by delusions, hallucinations, and disorganized behavior, affecting thoughts, actions, emotions, reality perception, and social relationships (Elsayed et al., 2022). Schizophrenia is a condition with a high suicide risk, and understanding the correlation between positive symptoms like hallucinations and suicidal ideation can aid in identifying vulnerable individuals.

For positive symptoms of schizophrenia, the current findings revealed that the highest percentage (65.6%) of studied schizophrenic patients displayed mild level of positive symptoms; this may be due to improved treatment efficacy with antipsychotic medications, better utilization and compliance, and patients in the relapse phase may contribute to milder symptoms. This finding was contradicted with Ali Mohamed et al 2022 found that more than half of their study subject had severe level of schizophrenic positive symptoms of schizophrenia. Also, Kalin(2019) illustrates that schizophrenia's psychopathology, genetics, brain chemical imbalance, stress, anxiety, and drug overuse contribute to positive symptoms.

Concerning suicidal thoughts, the current study revealed that the majority of the studied schizophrenic patients had moderate and mild suicidal thoughts. Suicidal thoughts decrease in schizophrenic patients may be influenced by social support, family and friends relationships, employment,

desire to live, and medication compliance.

This finding was consistent with the study conducted by Ageeb et al., 2022 found that more than three quarter of the studied subject exhibited low suicidal thoughts. Also, (Carruthers et al., 2021) revealed that 83.1% of studied schizophrenia did not have any preoccupation with suicidal ideation at the time of the study. On the other hand, the current finding was contradicted with Elsayed et al., 2022 who found that the majority of the studied schizophrenic patients have severe suicide thought. This indicated that Schizophrenic positive symptoms, sociocultural factors, economic factors, weak religious motivations, and incorrect use of antidepressants and psychiatric drugs may contribute to isolation, suicidal tendencies, and poor mental health.

For relation between variables, the current study revealed that there was significant positive correlation between the total score of positive symptoms and the total score of suicidal thoughts; indicating that positive symptoms in schizophrenia are linked to worse clinical outcomes, work impairment, lower quality of life, higher rates of relapse and suicide. This finding was consistent with previous research by Elsayed et al. (2022) and Grover et al. (2022). These studies found a significant association between schizophrenia patients' suicidal thoughts and higher levels of positive symptoms. They also found an association between a higher risk of suicide and specific positive

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symptoms, like command hallucinations and guilt delusions

Conclusion:

The present study concluded that there was a statistically significant positive association between positive symptoms and suicidal thoughts.

Recommendations:

- An educational program should be developed for psychiatric nurses on reducing symptoms and suicidal thoughts in schizophrenia patients.
- Community awareness should be about the needs and problems of psychiatric patients especially patients with schizophrenia and improve the environment and support systems for these patients.

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