Relationship between Emotional Intelligence and Suicidal Ideation among Schizophrenic patients

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Abstract

Background: Negative suicidal thoughts occur often in schizophrenic patients throughout the course of their illness, especially during the initial psychotic episode, and many of these individuals have poor emotional IQ. **Aim**: The purpose of the current research was to examine the association between emotional intelligence and schizophrenic patients' suicidal ideation. **Research Design:** The current study's aim was accomplished using a descriptive correlational research design**. Study subjects and setting**: 90 schizophrenic inpatients at Minia Hospital for Mental Health and Addiction Treatment in New Minia City were included in the study. **Tools:** Socio-demographic and clinical data questionnaire, Emotional Intelligence Scale and Suicidal Ideation Scale were used. **Results:** 78.9% of the studied patients were males, 68.9% of them had low emotional intelligence. While, 81.1% of them had low suicidal ideation. **Conclusion:** According to the study's findings, the majority of the sample exhibited low emotional intelligence and few suicide thoughts. Additionally, there was a bad link between suicidal ideation and emotional intelligence among them. **Recommendations:** All psychiatric patients should participate in psycho educational programs to increase their emotional intelligence and decrease suicidal ideation.

Key words: schizophrenic disorder, emotional intelligence, suicidal ideation, clinical data

Introduction:

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM V), describes schizophrenia as a mental illness marked by delusions, hallucinations, disordered speech and behavior, as well as other symptoms that cause social and occupational impairment (**Hurley, 2019**). Greek words for "split" and "mind," schizo and phren, were combined to create the name "schizophrenia," which was first used in 1908 by Swiss psychiatrist Eugen Bleuler (**Mary & karyn., 2018**). In order to be diagnosed with schizophrenia disorder, symptoms must have persisted for six months and included at least one month of active symptoms (Hurley, 2019). Antipsychotic medications are the primary line of treatment for schizophrenia patients because they reduce psychotic symptoms throughout the course of 7 to 14 days of therapy (**Eiring., Landmark, Aas, Salkeld, Nylenna, & Nytroen., 2015**).

A type of social intelligence known as emotional intelligence involves the capacity to recognize, categories, and use emotions in order to enhance cognitive functions and regulate one's own and others' emotions. Additionally, there are hybrid models of emotional intelligence that suggest a larger definition of intelligence that encompasses both mental prowess and personality traits (**Castro, 2011**). According to research, persons with schizophrenia exhibit deficiencies in a variety of social cognitive abilities, including emotional intelligence (**Tso, Mui, Taylor & Deldin., 2012**).

Suicidal ideation, often known as suicidal thoughts, is the act of contemplating suicide or taking one's own life. Suicidal ideation might range from passing thoughts to in-depth consideration to meticulous planning (**Klonsky, David, Alexis., 2016**). Suicidal ideation is also associated with increased risk of suicide attempts. Suicide ideation can serve as a precursor to more severe suicidal conduct. Schizophrenic patients frequently experience suicidal thoughts (**Eed & Elsayed., 2018**). Additionally, the World Health Organization (WHO, 2020) reported that 3,022 suicide attempts—or 0.56% of all fatalities—were made in Egypt in 2010.

Additionally, among schizophrenic patients, command auditory hallucinations are the psychotic symptoms most frequently linked to suicidal ideation. Understanding the root causes of suicidal ideation in people with psychosis is crucial to achieving this therapeutic objective (**Stip, Caron & Lecomte., 2017**). Schizophrenic individuals' suicidal thoughts must be taken seriously because they frequently involve brutal, extremely dangerous, and occasionally unusual techniques (**Sadock & Ahmed., 2019**).

A protective factor against the emergence of suicidal ideation in mental patients, particularly those with schizophrenia, is emotional intelligence (**Ganaprakasam., 2018**). In addition, numerous studies have demonstrated that schizophrenic patients who have low self-esteem are more likely to have suicidal thoughts and attempt suicide (**Yoo., 2016**).

The patient is assisted by the psychiatric mental health nurse in understanding their own sentiments as well as those of others (**Tripathy, 2018**). Additionally, the nurse should encourage the patient to communicate honest emotions, including anger, examine verbal and nonverbal cues, and monitor the patient's compliance with safety plan procedures while still hospitalized in order to assess the patient's suicidal ideation. **(Mary & Karyn., 2018).**

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 incapacitating 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 (**Ventriglio, Gentile, Bonfitto, Stella, Mari, Steardo & Bellomo., 2016**).

Aim of the study

The purpose of the current research was to examine the association between emotional intelligence and schizophrenic patients' suicidal ideation. **Research questions**

1. What are the levels of emotional intelligence, self-esteem and suicidal ideation among schizophrenic patients?
2. Is there relationship between emotional intelligence, self-esteem and suicidal ideation among schizophrenic patients?

Subjects and Methods

Research Design:

A descriptive correlational research design was used to achieve the aim of the present study.

Setting:

This study was conducted at Minia psychiatric health and addiction treatment hospital that is located in New Minia City and affiliated to ministry of health (general secretariat for mental health and addiction treatment). This hospital consists of two floors; the first floor includes female in-patients psychiatric department, out-patient clinic and pharmacy. The second floor includes hospital administration, nursing office, male in-patients psychiatric unit and addiction treatment department. The capacity of psychiatric departments in the hospital is 53 beds. This hospital serves Minia governorate and its districts.

Subjects:

A convenience or purposeful sample of 90 psychiatric inpatients was included in the study.

Inclusion Criteria:

1. The patients ranged in age from 18 to 55.
2. Patients with distinct kinds of schizophrenia.
3. Both gender.
4. Patients who have a controlled psychotic symptoms (hallucination & delusion) after two weeks of hospitalization.

Exclusion Criteria:

1. Mental retardation.
2. Comorbid diagnosis of substance dependence.
3. Organic brain disease.

Data collection tools:

Regarding the purpose of the study, the following tools were used to gather the necessary data:

Tool (1) Personal characteristics & clinical data questionnaire:

The researcher created and assembled a questionnaire that asked about things like gender, age, education level, marital status, occupation, length of illness, and number of hospital admissions.

Tool (2) Emotional intelligence scale:

This scale was created by **Goleman (1995);** it was created to assess emotional intelligence. It consisted of 15 items, and following translation into Arabic, the patient checked the boxes next to each one that applied to him. There are 6 reverse sentences (2,6,7,10,13,14). Responses were scored according to three categories: (1) Not at all, (2) occasionally, and (3) frequently. The total score is between 15 and 45. High scores denote emotional intelligence, whereas low scores denote emotional intelligence.

Tool (3) Suicidal ideation scale:

This scale was created by **Miller et al. (1991)** to evaluate the severity of suicidal thoughts as well as their presence or absence. It has 18 items, with a score range of 0 to 3. From 0 to 54 is the total score range. High scores signify a high risk of suicidal thoughts, whereas low scores indicate a low risk.

Validity:

In order to evaluate the tools' validity, they were translated into Arabic and examined by five panels of jury experts from the nursing faculty at Minia and Assiut University (psychiatric mental health nursing department).

Reliability:

The statistician assessed the tools' dependability, and the supervisors revised it. To ensure consistency, the tool's reliability was tested. To determine the degree to which the tool's items measured what it was meant to measure, the internal consistency was measured. Internal consistency of the tool was assessed with the Cronbach's alpha coefficient. No reliability is indicated by a Cronbach's alpha value of 0.00, while perfect reliability is indicated by a coefficient of 1.00. A reliability coefficient of 0.70 is suitable, though.

The results of the reliability testing using Cronbach's alpha for each tool were (0.79) for the Goleman emotional intelligence scale, (0.85) for the Rosenberg self-esteem scale, and (0.84) for the Miller suicidal ideation scale, respectively. This indicates that reliability is high for the variables currently under study.

Pilot Study:

A pilot research was undertaken before the main study started. It comprises (10)% of the entire sample (9 patients). A pilot study was done to assess the tools' clarity, completeness, viability, objectivity, application, and sufficiency, identify any potential flaws in the approach or tool's methodology, and estimate the time required to complete the tools.

Ethical Considerations:

The Minia University Faculty of Nursing's ethics committee provided formal initial permission for the research study, The research sample under study is not at risk while it is being conducted. Each participant's oral informed agreement was obtained once the study's terms and advantages were explained. The patient is not obligated to participate in the study and is free to accept or reject it.

Procedure:

- Using the available journals and books to gain information about the research topic and evaluation of the examined sample, a review of the associated literature that addressed key parts of the issue was conducted.
- The tools were translated into Arabic language and were reviewed for validity by five panels of jury experts in the faculty of nursing, Minia and Assiut university (psychiatric mental health nursing

department) to test the validity of tools. The reliability of the tools was done by the statistician and revised by the supervisors.

- The director of Minia Hospital for psychiatric health and addiction treatment as well as the dean of the Nursing Faculty at Minia University were both officially asked for their approval to gather data.
- The patients' verbal informed consent was gained after the study's nature and goal were explained to them directly and personally to achieve their acceptance, cooperation, and confidentiality.
- Two days a week, the researcher visited in-patient psychiatric hospital departments (Saturday and Sunday from 10 am to 1pm). Schizophrenic patients were individually questioned by the researcher, who also collected data from them. Each patient's session lasted about 45 minutes. To complete the study tools, schizophrenic patients were individually questioned (almost 6 individuals daily). There were enough in-patients present to gather the necessary data and finish the trial. Data collection took place from January 2021 through April 2021 over a four-month period.

Statistical design:

The statistical package for social science (SPSS) version 24 was used to examine the data. The mean and SD were used to express numerical data. While frequency and percentage were used to express qualitative data. The formula for quantitative data was ($X^2 \pm SD$). Using Pearson correlation, relationships between various numerical variables were examined. Less than 0.05 in the probability (p-value) range was regarded as significant, and less than 0.001 as highly significant.

Results:

Table (1) Frequency distribution of the socio-demographic, personal and clinical data regarding to studied sample (N=90).

Items	No	%
- Personal data:		
1- Age		
• 18-30yrs	43	47.8
• 31-43yrs	29	32.2
• 44-55yrs	18	20.0
2- Gender		
• Male	71	78.9
• Female	19	21.1
3- Educational level		
• Illiterate	41	45.6
• Secondary education	38	42.2
• High education	11	12.2
4- Marital status		
• Single	46	51.1
• Married	26	28.9
• Divorced	16	17.8
• Widow	2	2.2
5- Occupation		
• Employed	24	26.7
• Unemployed	66	73.3
- Clinical data:		
1- Duration of illness		
• Less than 1 year	4	4.4
• From 1-2 years	10	11.1
• From 2-3 years	6	6.7
• More than 3 years	70	77.8
2- Number of hospital admission		
• One time	23	25.6
• Two times	20	22.2
• Three times	15	16.7
• More than three times	32	35.6

Table (1) shows that, slightly less than half (47.8%) of the studied sample were in age group of 18-30 yrs; and (45.6%) were illiterate. While, (78.9%) of them were males; and (73.3%) were unemployed. As regard marital status, about half of the studied sample (51.1%) were single. In addition, (73.3%) of the studied sample were unemployed. Concerning the duration of illness, (77.8%) have schizophrenic disorder for more than 3 years. Finally, 35.6% of the study group had experienced more than three hospitalizations.

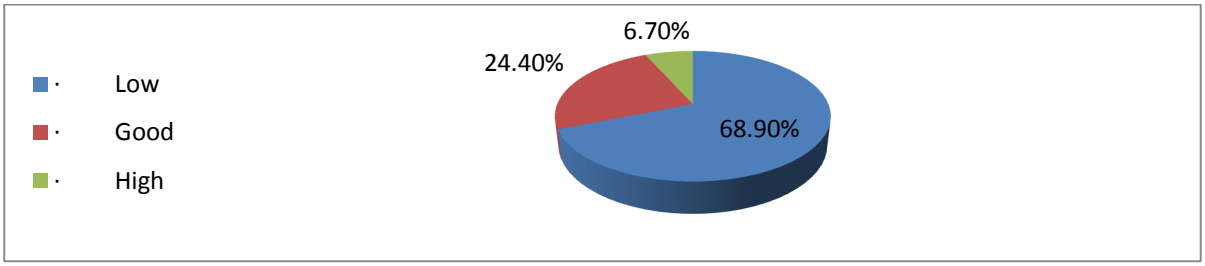

Figure (1) Total score of emotional intelligence among studied subject (N=90)

Figure (1) shows that, 68.9% had low emotional intelligence, 24.4 % of them had moderate level of emotional intelligence, and 6.7% of the studied sample had high level of emotional intelligence.

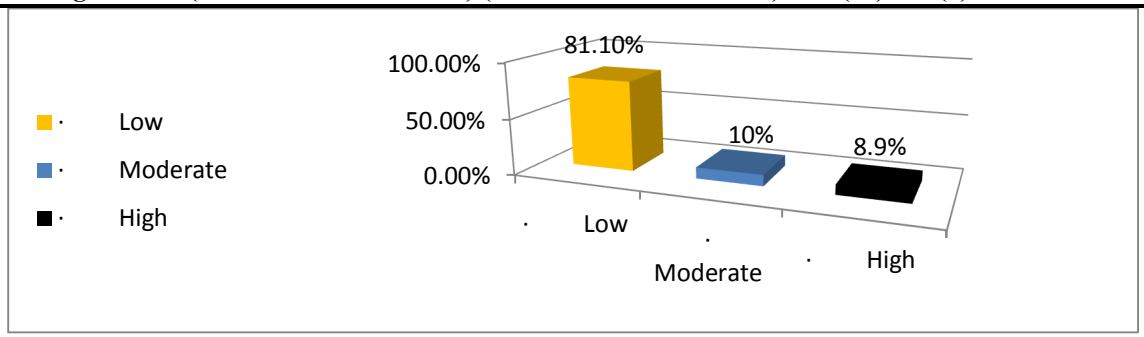

Figure (2) Total score of suicidal ideation among studied subject (N=90)

Figure (2) shows that, (81.1%) of the studied sample had low suicidal ideation. While, (10% &8.9 %) of them had moderate and high suicidal ideation respectively.

Table (2) Relation between emotional intelligence and personal data among the studied patients (N=90)

Variable	Emotional intelligence (N=90) Mean±SD
1- Gender	
Male	21.83±7.14
Female	24.89±7.29
T test	1.65-
(P value)	(0.102) Ns
2- Occupation	
Employed	24.29±8.75
Unemployed	21.82±6.57
T test	1.44
(P value)	(0.153) Ns
3- Age	
18-30yrs	21.74±6.84
31-43yrs	24.24±7.44
44-55yrs	21.39±7.73
Anova test (F)	1.29
)P value(	(0.280) Ns
4- Educational level	
Illiterate	20.93±6.53
Secondary education	23.71±7.79
High education	24.0±7.30
Anova test (F)	1.76
(P value)	(٠,١٧٨)Ns
5- Marital status	
Single	22.15±6.71
Married	20.73±7.17
Divorced	26.94±7.71
Widow	17.0±2.82
Anova test (F)	3.14
(P value)	(*٠,٠٢٩)

T test was used for quantitative data, Significant difference in between groups (p value ≤ 0.05), Highly Significant difference in between groups (p value ≤ 0.001), Not significance in between groups (p value > 0.05)

Table (2) shows that, there is no significant relation between emotional intelligence, gender, occupation, age and educational level among the studied patients. The highly mean score of emotional intelligence was among female than male patients (24.89±7.29). Concerning occupation, the highest mean score of emotional intelligence was among employed than unemployed patients (24.29+8.75). Moreover, the highest mean score of emotional intelligence was among patients in group of high education (24.0+7.30). However, there is a strong correlation between married status and emotional intelligence.

Table (3) Relation between emotional intelligence and clinical data among the studied sample (N=90)

Variable	Emotional intelligence (N=90) Mean±SD
1- Duration of illness	
Less than 1 year	29.0±2.16
From 1-2 years	26.5±7.39
From 2-3 years	20.0±4.09
More than 3 years	21.74±7.30
Anova test (F)	2.73
(P value)	(*٠,٠٤٩)
2- Number of hospital admission	
One time	23.48±6.35
Two times	22.5±8.20
Three times	21.93±8.21
More than 3 times	22.0±7.02
Anova test (F)	0.215
(P value)	(0.886) Ns

According to Table 3, there is a significant positive relationship between emotional intelligence and illness duration in the study population with a p value of (0.049*), and individuals with schizophrenia for less than a year had the highest mean emotional intelligence scores (29.0±2.16). Concerning number of hospital admission, there is no significant relation between emotional intelligence and number of hospital admission among them with p value (0.886).

Table (4) Relation between suicidal ideation and personal data among the studied patients (N=90)

Variable	Suicidal ideation (N=90) Mean±SD
1- Gender	
Male	5.63±9.59
Female	3.05±6.03
T test (P value)	1.113 (0.269) Ns
2- Occupation	
Employed	2.50±4.64
Unemployed	6.03±9.98
T test (P value)	1.44 (0.153) Ns
3- Age	
18-30yrs	6.83±9.93
31-43yrs	2.86±7.94
44-55yrs	4.50±7.67
Anova test (F)	1.771
(P value)	(0.176) Ns
4- Educational level	
Illiterate	6.46±11.1
Secondary education	4.18±6.39
High education	3.09±7.55
Anova test (F)	0.942
(P value)	(0.394) Ns
5- Marital status	
Single	5.73±9.56
Married	4.11±9.48
Divorced	2.81±3.63
Widow	21.0±1.41
Anova test	2.76
(P value)	(0.047*)

Table (4) reveals that; there is no significant relation between suicidal ideation, gender, occupation, age and educational level among the studied sample Also, the highest mean score of suicidal ideation was among male than female patients (5.63±9.59).

Additionally, patients who were unemployed had a higher mean score for suicidal thoughts than those who were employed (6.03+9.98). Additionally, it was shown that individuals between the ages of 18 and 30 had the highest mean scores for suicidal thoughts (6.83+9.93).

In terms of education level, patients who were illiterate had the highest mean scores for suicidal thoughts (6.46±11.1). Marital status p value = (0.047*). Concerning marital status, there is a positive significant relation between suicidal ideation and marital status with p value (0.047*).

Table (5) Relation between suicidal ideation and clinical data among the studied patients (N=90)

Variable	Suicidal ideation (N=90) Mean±SD
1- Duration of illness	
Less than 1 year	**1.50±1.73**
From 1-2 years	**5.40±8.15**
From 2-3 years	**7.83±10.83**
More than 3 years	**5.01±9.24**
Anova test (F)	**0.396**
(P value)	**(0.756) Ns**
2- Number of hospital admission	
One time	**7.13±12.76**
Two times	**6.10+8.58**
Three times	**2.86+4.30**
More than 3 times	**4.03±7.45**
Anova test (F)	**0.930**
(P value)	**(0.430) Ns**

According to Table 5, there is no correlation between the studied sample's suicidal ideation, illness duration, and number of hospital admissions. Patients who had previously been admitted to the hospital had the highest mean score for suicidal ideation (7.13+12.76).

Table (6) Correlation between emotional intelligence and suicidal ideation among the studied sample (N=90)

Variable		Emotional intelligence	Suicidal ideation
Emotional intelligence	**R**	1	0.326-
	P		0.002
Suicidal ideation	**R**	0.326-	1
	P	0.002	

According to Table (6), there was a p value-based negative correlation (0.326-) between emotional intelligence and suicidal thoughts.

Discussion

Part (I): Frequency distribution of socio-demographic (personal and clinical data) regarding to the studied sample: (Table 1)

The current study's findings regarding the gender distribution of the analyzed sample revealed that males made up the majority of the sample within four months (Table 1). This finding may be explained by the fact that schizophrenia affects more men than women. The findings of (**Abd-Elmonem, et al., 2019**) who discovered that 68.2% of schizophrenia patients were men as a result of cultural and attitudinal differences that view female admittance as stigmatizing so as to prevent female hospitalization, were consistent with this conclusion.

The results are also in line with (**Castro, et al., 2018**), who reported that 69.1% of schizophrenia patients were men, and that men are more likely than women to have displayed premorbid behaviors. This finding is in line with that of **Ashturkar and Dixit (2013**), who discovered that 66.6% of the investigated sample was male and 33.3% was female, and that the prevalence rates were substantially higher in males than in females in the hospital.

As regard age, the present study revealed that, less than half of the studied sample were 18-30 years old. This may be explained by the fact that schizophrenia disorders usually manifest in childhood. This finding is also supported by (**Desalegn, et al., 2020**), who showed that 51% of schizophrenic patients were under the age of 33.

Less than half of the analyzed sample were illiterate, according to the current study's findings on educational achievement. This could be as a result of the fact that parental ignorance and poverty are significant contributors to illiteracy. The education of patients may also be impacted by the stigma associated with psychiatric disorders. This result is consistent with the findings of (**Desai & Nayak, 2019**), who found that 87.6% of the sample under study had less schooling.

As regard marital status, the current study reported that, more than half of the studied sample were single. This effect may be connected to the stigma associated with schizophrenia, which influences and deters men and women from getting married. The condition' crippling nature makes it difficult for sufferers to form, maintain, and have intimate connections, especially with men. This disorder causes deficiencies in social functioning since it makes it difficult for couples to continue their marriages. This finding concurs with that of (**Zaki, et al., 2018**), who found that 70% of the subjects under study were single. This finding is also consistent with the findings of **Mosanya et al. (2014),** who reported that 46.1% of the sample under study was single. They also noted that avoidant coping and active social avoidance are increased by internalized stigma and high self-esteem. Additionally, within the studied sample, there was a tendency to retreat from social situations out of shame and fear of rejection.

Concerning the occupation, the current study revealed that; more than two third of the studied subject were unemployed. This could be a result of the studied sample's capacity to work being impaired by mental illness and low educational attainment. Additionally, societal stigma may deter people from getting care, which could put more of a strain on the family and harm the patient's recovery.

Additionally, a lack of understanding of schizophrenia in combination with low levels of empowerment and self-efficacy has a detrimental psychological impact and may encourage the development of unhealthy coping mechanisms like avoidance. This outcome is consistent with the findings of **Hasan & Musleh (2018),** who discovered that 61.3% of mental patients lacked a job. There were 54.4% of patients that were schizophrenic.

As regard the duration of illness in the current study, more than three quarters of the studied sample were suffering from the disorder for more than 3 years. This may be because schizophrenia requires lifelong therapy because it is a chronic, progressive, degenerative, and long-lasting disease. The findings of (San, et al., 2013) who found that 60% of the research sample had been ill for more than 10 years and were relapsing schizophrenic patients due to low to moderate anti-psychotic drug adherence, are fundamentally supported by this finding.

Additionally, the current study showed that more than one-third of the sample had previously been hospitalized more than three times. This might be attributed to medication non adherence after schizophrenic patients exit from the hospital. Additionally, patients' failure to take their prescriptions, relapse, and repeated hospitalization are caused by a lack of family and financial support.

This result is in line with the findings of (**Machado, et al., 2021**) who revealed that 56.4% of the investigated sample had been hospitalized 1–5 times over the course of 1–3 months in psychiatric mental hospitals. Patients with schizophrenia experienced the condition in every stage of life, and they have a high risk of returning to the hospital.

Part (II): Total score of emotional intelligence and suicidal ideation among the studied sample: (Figure 1-2):

The findings of this study revealed that more than two thirds of the sample had low levels of emotional intelligence (Figure 1).This may be connected to the social cognitive process, which includes emotional perception, expression, and intellect, being impaired. Additionally, mental illness and impairment have an impact on emotional intelligence. The level of emotional recognition, comprehension, and management of oneself and others was poorer in the patients. Additionally, schizophrenia affects the parts of the brain responsible for processing emotions.

This result is corroborated by the findings of (**Martins, Leite, Trevizol, Noto, & Brietzke, 2019**), who discovered that the majority of the study's patients displayed a severe emotional intelligence impairment. This finding is further corroborated by (**Frajo-Apor, et al., 2016**), who reported that the study subjects showed significantly lower emotional intelligence.

Additionally, this finding in a similar spirit with (**Vishwakarma, Dwivedi & Kumar, 2016**), who stated that individuals with schizophrenia who have poor levels of emotional intelligence frequently experience feelings of dependance, emptiness, loneliness, despair, instability, and frustration.

Furthermore, the recent study showed that more than 75% of the group studied exhibited low suicidal thoughts (Figure 2). This event can be regarded as indicating strong, positive religious and cultural beliefs, values, customs, and traditions, as well as the existence of social support and relationships with family and friends.

Additionally, it is thought that employment, a desire to live, and medication compliance are significant variables in reducing suicidal ideation in schizophrenia patients. Suicidal ideation decreases in the same situation with early disorder development. This result is consistent with that of (**Carruthers, et al., 2021**) who found that 83.1% of the sample with schizophrenia investigated did not have any preoccupation with suicidal ideation at the time of the study.

According to (**Long, et al., 2018**), only 18 patients (28.6%) had suicidal thoughts at the time of the study, which is further evidence for this finding. These findings imply that lower cognitive decline in verbal understanding and working memory may be associated with suicidal ideation in schizophrenia.

In the same way, this conclusion is consistent with a report by **Chong et al. (2020**) indicating 74.6% of hospitalized schizophrenia patients do not have suicidal ideation. Additionally, it was found by (**Bohaterewicz, et al., 2018**) that 20 of the schizophrenic patients exhibited modest suicidal ideation, or 37.7%, demonstrating that the existence of negative symptoms in schizophrenia patients did not significantly enhance the likelihood of suicide acts.

Additionally, according to the Beck Depression Inventory Scale (no ideation 71% and ideation but no intent: 27.7%), this result is in line with (Depp, et al., 2016), which demonstrated that suicidal ideation among schizophrenia patients may include diminished "wanting" of social relationships and decreased "liking" of being alone. Additionally, (**Hutton, et al., 2019**) who provided data that 50% of psychotic patients reported having mild suicidal ideation concur with this finding. 10% of people reported having serious to very serious thoughts of suicide.

In fact, this result is in line with those of (**Amir, et al., 2019**), who said that only 6.1% of all subjects had suicidal thoughts. Suicidal ideation in schizophrenic patients was connected with onset age, family history of psychiatric disorders, and schizophrenic disorder. Additionally, religion is a barrier against suicide, and culture, tradition, and practices may reduce the likelihood of suicidal ideation.

Part (III): Relation between emotional intelligence, suicidal ideation and socio demographic data among the studied sample: (Table 2-3)

The studied sample's gender and emotional intelligence do not significantly correlate with one another. Mental disability has an impact on both genders' ability to manage their emotions, thus this may be related to that. Additionally, the conditions, sociocultural backgrounds, and cognitive abilities of male and female patients were comparable. This result is consistent with (**Kumar, Gaur & Mohanty, 2018**), who demonstrated that among the patients who were evaluated, there is no statistically significant relationship between emotional intelligence and gender (p value) (0.3).

In this regard, it was shown that the mean emotional intelligence score of male patients was substantially greater than that of female patients. This may be explained by the fact that male patients are more likely to manage and control their emotions than female patients. Additionally, female patients experienced psychological discomfort, unhappiness in interpersonal interactions, a lack of socialization, social roles, and support, all of which contributed to lower emotional IQ scores. Additionally, male patients are more empathic and able to articulate their emotions than female patients. The results of (**Frajo-Apor, et al., 2021**) who discovered that male patients had a higher emotional intelligence score than female patients (58.7%) are consistent with these results.

Additionally, it was noted that patients who were employed had significantly higher mean emotional intelligence scores than those who were jobless. It was clarified that the presence of peer interactions in the workplace enabled individuals to perceive, comprehend, and communicate their own as well as others' thoughts. Additionally, the patient's capacity for employment boosts their sense of motivation and self-worth. As opposed to that,, (**Albacete, et al., 2016**) reported that patients who were unemployed (41.7%) scored higher on emotional intelligence than those who were employed.

The present study also revealed that, there is no significant relation between emotional intelligence and the age among the studied sample. This result could be explained as emotional intelligence increases with age development. In addition, schizophrenia is a long-lasting, permanent mental condition that impairs the development of emotional intelligence with age. This conclusion is not corroborated by the research of (**Wu, Tan, Xiu, De Yang, Soares & Zhang, 2016**), which discovered a highly statistically significant link between emotional intelligence and age as among sample under study with a p value of (0.001**).

Furthermore, **Mao et al. (2016)** disagrees with this finding and reported that there is a statistically significant relationship between emotional intelligence and age in the sample under study, with a p value of (0.001). In this study, it was noted that, the highest mean value of emotional intelligence was among patients in age group of 31-43yrs; It might be connected to the fact that the patients were at the stage of adulthood known for emotional regulation and maturation, and they developed more maturity and social skills through connection with others. So, emotional intelligence is high in that period. According to (**Aunjitsakul & Pitanupong, 2018**), patients in the 40–49 year age group had the greatest mean emotional intelligence score (39.6±10.4). This conclusion conflicts with their findings.

As regard educational level, As regard educational level, the highest mean value of emotional intelligence was among patients group of high education; It might be accounted for by the fact that a high degree of education improves a patient's capacity for comprehension, discernment, expression, perception, and management of one's own and other people's emotions. A high level of education enables the patient to use, express, comprehend, and regulate emotions in order to foster the intellectual and emotional development of others as well as himself. The results of this study are in agreement with those of (**Aunjitsakul & Pitanupong, 2018**), who found that

patients in the highly educated patient group had the highest mean emotional intelligence scores (35+36.5).

As regard marital status, there is a significant relation between emotional intelligence and marital status. The emotional regulation of patients may be impacted by marriage unhappiness, conflict, and increased familial, marital issues, and sensation of loneliness.

Additionally, emotions serve as a main motivator, raise, influence human behavior, assist individuals in recognizing their own and others' emotions, and greatly enhance social interactions. Marriage and marital factors also promote the development of emotional intelligence. This finding concurs with that of (**Dawson, Kettler, Burton, & Galletly, 2012**), who found a statistically significant link between emotional intelligence and married status among the patients who were subjected to the study with a p value of.015 (0.07).

The current study also demonstrated a substantial correlation between emotional intelligence and the length of sickness within the sample being studie. This may be related to that; emotional intelligence will increase and be better when the length and onset of the sickness are less. In addition, familial and financial support as well as adherence to the prescribed treatment aid the patient in recognizing, using, and controlling both their own and other people's emotions. A longer illness course is linked to a worsening of the condition, more environmental stresses, greater societal issues, burden, and parental chronic illness. This result contradicts that of (**Frajo-Apor, et al., 2021**) who found a statistically significant correlation between emotional intelligence and the severity of the illness in schizophrenic patients (0.438).

As regard number of hospital admission, there is no conclusive connection between emotional intelligence and the overall frequency of hospital admissions among them. This finding refutes **Leszczynska's (2015)** argument that, with a p value of (0.008 **), there is a highly statistically significant association between emotional intelligence and the frequency of hospital admissions among people with schizophrenia. Additionally, it was found that patients who had only ever been hospitalized had the highest mean emotional intelligence scores. This finding may be related to the deleterious effects that frequent hospitalization and chronic mental illness have on emotional intelligence.

Relation between suicidal ideation and personal data among the studied patients: (Table 4-5)

As regard gender, there was no significant relation between gender and suicidal ideation. This conclusion might be accounted for by the prevalence of religious beliefs and the culture of Egypt's attitude toward suicidal ideation and suicide. Additionally, schizophrenic patients' suicidal ideation may be accompanied by a decreased "wanting" and enjoyment of social contacts as well as a decreased "liking" of being by themselves. Moreover, the current study observed that, the highly mean score of suicidal ideation was among male than female patients. This could be taken to mean that men are more impulsive and aggressive than women. Additionally, male patients have less effective coping mechanisms for handling daily stressors and managing problems. This conclusion is corroborated by (**Depp, et al., 2016**), who demonstrated that there was no difference in suicidal thoughts, gender, or the control groups using a p value (0.410).

Additionally, this outcome is similar with (**Gill, et al., 2015**), who showed that male patients (61.1%) made up a higher proportion of patients with clinically significant suicidal thoughts than did female patients. This data, however, conflicts with that of (**Bornheimer, et al., 2021**), who claimed that male patients experienced suicidal ideation at a higher rate than female patients (67%).

Concerning occupation, the highly mean score of suicidal ideations was among unemployed than employed patients. This may be connected to the fact that schizophrenia patients struggle with their social relationships, job environments, and interactions with others because they are preoccupied with delusions and command auditory hallucinations.

Likewise, unemployment had a detrimental effect on the community's sense of self-worth, value, and quality of life. Additionally, the patient feels humiliated because of how negatively society views mental illness, which has been connected to suicidal ideation. This result is in line with that of (**Bornheimer & Jaccard, 2017**), who discovered that unemployment was associated with a high score of suicidal thoughts (92%).

Additionally, this conclusion is at odds with that of (Bornheimer, et al., 2020), who discovered that employed individuals had the highest rate of suicidal ideation (65.4%) and that social isolation increases suicidal ideation more than hallucinations and delusions do. These findings have significant clinical ramifications for expanding social networks and social skills.

As regard age, there is no statistically significant relation between age and suicidal ideation. Also, the highest mean value of suicidal ideation was among patients in age group of 18-30 years included in the study. High suicidal ideation that worsens in early adulthood as a result of the beginning of schizophrenia and familial issues may be the interpretation. The significance of having a partner or someone with whom to discuss difficulties with a patient, particularly as they approach maturity. Additionally, the study sample's stressors were directly and significantly impacted by appraisal and social support. This finding supports (**Sher, et al., 2021)**'s statement that there was no difference in the groups (suicidal and non-suicidal thoughts) in terms of the age that the p value was calculated (0.34).

Additionally, when it pertains to their educational level, patients who were illiterate had the highest mean value of suicidal thoughts. Low education or illiteracy has an impact on a person's manner of thinking, planning, and reaction to suicide. Furthermore, patients who lack literacy are unable to speak or express their negative emotions. Additionally, cultural ignorance and a lack of understanding of religious perspectives on suicide are significant risk factors for suicidal ideation in schizophrenia patients.

The patients' educational background had a significant impact on how they experienced stressors and how they responded to them. Patients with low levels of education were less likely to be able to manage stressors and be aware of coping mechanisms. Additionally, failure-focused thinking and unemployment. This finding contradicts the findings of (**Chong, et al., 2020**), who observed that the group of suicidal patients with the largest proportion (50%) of tertiary education had the highest score of suicidal thoughts.

Suicidal ideation and marital status have a substantial relationship in terms of marital status. It was noted that widow patients had the greatest mean value of suicide ideation. This may be because certain people are more prone to suicidal ideation and attempts owing to their loneliness, social

isolation, and loss of a partner and social network. This finding conflicts with that of (**Chong, et al., 2020**), who showed that patients who were divorced or separated had the highest prevalence of suicidal ideation.

Relation between suicidal ideation and clinical data among the studied patients:

Suicidal thoughts and (length of sickness & number of hospital admissions) did not significantly correlate with one another, respectively. Additionally, the results of the current study showed that individuals with schizophrenia who had been unwell for less than a year had the lowest mean score of suicidal ideations. Low suicidal ideation linked to an early onset of condition may be connected to that. They therefore experienced reduced disorder degradation and cognitive affection. This finding conflicts with that of (**Bornheimer, et al., 2021**) who claimed that the majority of participants (53%) had schizophrenia diagnoses and had attempted suicide at least once in the previous seven months. When assessing people who have had schizophrenia for a longer period of time, the relationship between general cognition and suicidal thoughts is compared.

In terms of the number of hospital admissions, patients who were admitted just once had the highest mean score for suicidal ideation. This might be the result of poor medication compliance, hospitalization, treatment, ECT dread, and individual neglect. Additionally, there is a lack of social, economical, stress-management, and coping mechanisms. Relapse rates and hospitalization frequency rise as schizophrenia progresses.

This finding conflicts with that of (**Chong, et al., 2020**), who observed that, despite having a mean (6.51± 8.04), the number of prior admissions did not significantly correlate with suicidal behavior.

Part (IV): Correlation between emotional intelligence, self-esteem and suicidal ideation among the studied sample: (Table 6)

The results of this study showed that among the sample under research, there was a statistically highly significant association between emotional intelligence and self-esteem (Table 6); It might be connected to that since low emotional intelligence has been linked to low self-esteem by raising the negative feelings and self-defeating beliefs in the sample population. Therefore, it's essential to express and talk about unpleasant emotions in order to boost self-esteem.

This result is in line with (**Frajo-Apor, et al., 2021**) who stated that emotional intelligence focuses on personality traits and talents to assist schizophrenic patients to cope with others' emotions and raise self-esteem. Additionally, this study in a similar spirit with that of (**Trigueros, et al., 2020**), who discovered that having emotionally intelligent traits and the capacity to control unpleasant emotions that may be brought on by residing with others had a good impact on other people's self-esteem.

Additionally, according to the American Psychological Association (**2016**), individuals with schizophrenia had their self-perception, symptomatology, positive and negative affect (expressed emotion), which is regarded as a component of emotional intelligence, evaluated. As expected, low emotional intelligence and a negative self-perception were highly linked to positive symptoms of schizophrenia. In addition, self-esteem is a personality characteristic linked to the ideas of self-conscience and self-image according to (**Abdel-Khalek, 2016**). The ability to feel happy and reduce unpleasant feelings depends in large part on one's level of self-esteem. He further stated that interest and emotional well-being are significantly influenced by one's sense of self.

This result is also in line with (**Ciompi., 2015**) who demonstrated that comprehension of emotions, particularly negative ones, may be felt even more profoundly by schizophrenic patients than by others and results in low self-esteem. Additionally, this outcome is consistent with (**Tabak, Green, Wynn, Proudfit, Altshuler & Horan, 2015**) findings indicating schizophrenic individuals with higher emotional intelligence scores occasionally experience positive outcomes like increased self-esteem.

The current study also revealed a negative relationship between emotional intelligence and suicidal thoughts in the sample being studied ; Suicidal thoughts may be less common in schizophrenia patients as a result of their ability to verbalize their unpleasant emotions and sensations. Because it allows a person to recognize, use, comprehend, regulate, and express negative emotions and sentiments, emotional intelligence also acts as a safeguard against suicide thoughts and actions. This result is in line with that of (**Ganaprakasam, 2018**), who demonstrated a negative link between emotional intelligence and suicidal ideation with a p value (0.05), indicating that a higher emotional intelligence can lessen suicidal thoughts

In addition, this finding showed moderate positive correlation between emotional intelligence and mental health, which evidenced that higher emotional intelligence, enhanced mental health. While, this finding also indicated moderate negative correlation between mental health and suicidal ideation, which outlined the correlation between poor mental health and a propensity for suicidal thoughts, as well as the importance of emotional intelligence as a safeguard against that risk.

Additionally, this finding agrees with (**Villa, et al., 2018**) who discovered no connection between emotional intelligence and suicide ideas or behavior among psychotic diseases. This study, however, conflicts with that of (**Comparelli, et al., 2018**), who found a link between suicidal thoughts in schizophrenia patients and (MSCEIT) scores.

Conclusion

The majority of the studied sample, according to the study's findings, had low emotional intelligence and few suicide thoughts. Additionally, no statistically significant relation has been found between all sociodemographic characteristics and suicidal ideation. There was a negative correlation between emotional intelligence and suicidal ideation among them.

Recommendations

It is essential to implement psychoeducational programs for schizophrenia patients in a larger sample and different situations to increase emotional intelligence and suicidal ideation.

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