

Social Cognition and Sense of Belonging among Institutionalized Schizophrenic Patients

Fatma N. Kotb

Psychiatric Mental Health Nursing, Faculty of Nursing, Minia University, Egypt
e-mail: fatmazezo40@yahoo.com

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ABSTRACT

Context: Schizophrenia is one of the perilous mental health problems. It hinders the patient's ability to think clearly, make life decisions, manage their emotions, and build healthy relationships.

Aim: This study aimed to explore the relationship between social cognition and a sense of belonging among institutionalized schizophrenic patients.

Methods: The study used a descriptive research design to achieve the aim of this study. This research was carried out in the inpatient unit of Minia Hospital for Mental Health and Addiction Treatment. A convenient sample of 100 institutionalized schizophrenic patients recruited in the current study. This study's three tools include socio-demographic and medical data questionnaire, Observable Social Cognition Rating Scale, and Sense of Belonging scale.

Results: The main findings of this study revealed that more than three-fourths of schizophrenic patients had low levels of social cognition and a sense of belonging. There was a significant positive relationship between social cognition and the sense of belonging of institutionalized schizophrenic patients.

Conclusion: The current study concluded that institutionalized schizophrenic patients have a positive connection between their social cognition and a sense of belonging. Recommendations: The study recommended that schizophrenic patients in a very high need for a psycho-educational program for improving their cognitive abilities, which will improve their social cognition and interaction with others and enhance their sense of belonging.

Keywords: Social cognition, sense of belonging, institutionalized schizophrenic patient

1. Introduction

Schizophrenia is one of the perilous mental health problems. It hinders the patient's ability to think clearly, make life decisions, manage their emotions, and build healthy relationships. Schizophrenia affects one percent of all Americans. Even though it could occur at any age, it commonly affects teenagers and those in the early twenties for men and the late 20s to early 30s for women (*Owen, Sawa, & Mortensen, 2016*). The same author added that schizophrenia encompasses various symptoms. These include delusions, thought disorders, auditory hallucination, social isolation, blunted emotion, and volition. Besides, schizophrenic patients always complain of anxiety, depression, or substance use disorder. These symptoms started early in childhood, but unfortunately, it never resolves in most cases (*National Institute of Mental Health, 2016*).

Institutionalization refers to the process of embedding some conception (for example, a belief, norm, social role, particular value, or mode of behavior) within an organization, social system, or society as a whole. The term may also be used to refer to committing a particular individual or group to an institution, such as a mental or welfare institution, as patients with schizophrenia requiring long-term institutionalization represent cases with poor

outcomes (*Seguin, 2013*). Furthermore, as reported by *ElGamal, ElTayebani and Bassim, (2012)*, in a study about Psychiatric morbidity of chronic institutionalized patients with schizophrenia, eighty percent had compromised cognitive deficits. Early age of onset of schizophrenia and being older were powerful predictors for repeated admission, a long duration of illness, and chronic hospitalizations. Also, schizophrenia is a chronic, devastating illness that impacts function and cognitive abilities. It is characterized by a high rate of admission, chronic course of illness, and chronic institutionalization.

The symptoms of schizophrenia are often accompanied by massive and progressive disability in almost every facet of patients' life. The common functional impairments appear in their cognitive deficiencies (executive functions, information processing, and attention, learning and memory), psychomotor activity and speech, thought process, perception, and abstraction (*WHO, 2016*). Recently many researchers steadily count the neurocognitive impairments as a core of the disease (*Micheal, 2016*). Moreover, Cognitive deficits are also considered a critical predictor for the outcome of the disorder and a key target of treatment efforts, given their strong associations to poor psychosocial functional status (*Green, 2016*).

Social cognition is "a sub-topic of social psychology" concerned with how person thoughts, process feelings, behave in different social situations (*Adolphs, 2009*). In the same line, *Nuechterlein (2011)* explained the

¹ Corresponding author: Fatma Nagy Kotb

conceptualization of social psychology based on information of processing theory and methods of social psychology.

Besides, social cognition is an analysis for understanding the phenomena of social psychology by exploring the multiple features of cognitive processes. These concerns comprised predominantly the processes of perceiving, judging, and memorizing social stimuli. Besides, the studies are investigating the effect of affective and social factors on information processing, relational and behavioral consequences of cognitive processes (Husain, 2012). While, in the past, there has been controversy over what social cognitive processes should cover, social cognition is now generally defined as encompassing four key domains: emotion perception (EP)/emotion processing, theory of mind /mental state attribution, attribution style, and social perception (Pinkham et al., 2013). Social cognitive processes were also further examined and confirmed in social neurosciences study, which revealed the underlying involvement of different but related brain structures (Green, Horan, & Lee, 2015).

The study of social cognition in schizophrenia targeted two distinctive purposes. First, studying the nature of particular symptoms related to paranoia and thought regulation. The second purpose is concerned with examining the functional outcomes of the social cognitive role. Although the proliferation of research in this promising area, several fundamental issues remain mostly unexplored (Green et al., 2008). A constant presentation for a schizophrenic patient to social cognitive impairment is represented chiefly in their attribution style, emotion perception, mind theory, and related processes (Kohler, Walker, Martin, Healey, & Moberg, 2015). Over the past ten years, the researchers provide great concern to the study of social cognition and its effect on functional outcomes (Couture, Granholm, & Fish, 2011). Recent findings from a meta-analysis indicate that SC has a stronger relationship with the functional outcome than neurocognition, Fett, Viechtbauer, Dominguez, Penn, & Van, (2011).

Sense of belonging is a basic human need, with many psychologists discussing this need as being at the level of importance of that as food, water, and shelter. A sense of belonging can be so powerful that it can create both value in life and the ability to learn healthy coping skills when experiencing intensive and painful emotions. Also, it is the experience of feeling as if one belongs or fits in with other people, communities, or society (Cheyenne, 2018). Also, humans seem to be hard-wired to be with other people; isolation or alienation is not only detrimental to overall health but is also viewed as socially unacceptable or as an unfavorable state of being. Sense of belonging is a vital mental health concept closely correlated with social and psychological functioning (Choenarom, Williams, & Hagerty 2005).

Maslow hypothesized the human motivation theory that generated the hierarchy of basic human needs. It started with fulfilling essential physiological needs, followed by safety needs and the need for belonging, love, and esteem. In the final level, Maslow settles the need for self-

actualization. Maslow's theory is still valid and widely spread around the globe. Maslow wrote of belonging, "We have very little scientific information about the belongingness need, although this is a common theme in novels, autobiographies, poems, and plays." Maslow further describes the need for belonging as a hunger for a loving relationship with people in general, namely, for a place in his group or family. After thirty-two years, Maslow's statement is still factual (Jones, 2009). Maslow also emphasized the importance of fulfilling love and belonging needs to avoid illness and remain healthy. Maslow also stated the adverse consequences for the belonging need deprivation. It included all types of maladjustment that might lead to severe pathology (Maslow, 1954).

Baumeister and Leary (1995) debated Maslow's theory and provided comprehensive support to Maslow's view of belonging need. Their debate emphasized this need as a unique human trait that supports human motivation. In reciting of their own words, "love and belonging needs affect cognitive processing, wide-ranging of behaviors, and deprivation lead to ill effects on health and proper adjustment." Fulfillment of these needs also provokes goal-oriented behaviors that enhance motivation, substitutability of objects, and satisfaction. It also includes a guide to social behavior when indicates such direction as being universal in dealing with all people, being oneself in creating individual motives, and have insinuations that surpass immediate psychological functioning.

Moreover, several types of research explored the human motivation of establishing and maintaining social bonds, cognition of human attachment and belonging, belonging emotional connections, consequences of belonging needs deprivation with or without caring concern, and frequent interaction. They also acknowledged that belonging was negatively impacting mental and physical health (Corey, 2001). Furthermore, the same author added that the importance of belonging was echoed in a statement, "Only when we have a sense of belonging, we able to act with courage in facing and dealing with our problems."

It has been suggested that a sense of belonging plays a more significant role in improving psychological functioning than increasing social support. It may be that the focus on social support alone in interventions for persons with schizophrenia is insufficient in that it does not encompass a sense of belonging. A person may have social supports available but may not be as meaningful if these supports do not make the person feel as if he/she belongs. A shift from interventions that increase social support to enhancing the person's sense of belonging can also improve quality of life and enhance outcomes. First, because the literature on the sense of belonging in schizophrenia is minimal, the concept needs to be explored further to explicate meaning and determine significance in persons with schizophrenia (Jennifer, Mary, Paul, & Sheila, 2016).

Furthermore, schizophrenia causes alterations in a person's cognition, perceptions of reality, and social

interactions with others, often preventing full participation in work, school, or family activities even during periods of stable disease symptoms. The acute symptoms of schizophrenia often produce behaviors and experiences outside of social norms and result in stigma and marginalization that further impede social functioning (Wahl, 2012). The same author added that these behavioral and environmental conditions likely contribute to the social isolation, loneliness, lack of sense of belonging, and hopelessness that persons with this disorder commonly experience.

2. Significance of the study

Schizophrenia is a leading cause of disability. The impact of untreated disease is more significant than the illness rates, partially due to illness burden, suffering, and high comorbidity and mortality rates. Moreover, schizophrenia is a widely prevalent psychiatric disorder. Also, its diagnosis carries a heavy toll on individuals, families, and society at large. The burden on society is more significant due to the direct impact of the symptoms on patient's behavior, mainly social cognitive deficits that affect patient interaction in society, inability to hold a job, and maintaining a relationship with others, which also decrease their ability to belong to others.

Furthermore, deficits in social cognition (i.e., emotion processing and management, theory of mind, social perception, and attribution style) are only partly predicted by other cognitive deficits and were found to mediate the impact of the latter on functional outcome and to explain a unique proportion of functional outcome variance. Besides, because the social cognitive deficit in schizophrenia has been linked to poorer outcomes, decreased QOL, decreased functioning, higher rates of illness relapse, and increased number and length of hospitalizations, so, this study aimed to explore the relationship between social cognition and a sense of belonging among institutionalized schizophrenic patients.

3. Aim of the Study

This study aimed to explore the relationship between social cognition and a sense of belonging in institutionalized schizophrenic patients.

3.1. Research question

What is the relationship between social cognition and a sense of belonging among institutionalized schizophrenic patients?

4. Subjects & Methods

4.1. Research design

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

4.2. Research setting

This study was conducted in the inpatient unit of Minia Hospital for Mental Health and Addiction Treatment. It is a governmental hospital affiliated to the general syndicate for

psychiatric health affiliated to the Ministry of Health. It serves all nine districts of the Minia governorate. The hospital consists of inpatients departments (psychiatric wards and addiction wards) and outpatient clinics (children and adolescent clinic, psychiatric clinic, neurologic clinic); the capacity for the hospital was 53 beds (33 beds for psychiatric patients and 20 beds for addiction patients).

4.3. Subjects

A convenience sample consisted of 100 institutionalized schizophrenic patients admitted to the inpatient unit (in six months) of the Mental Health and Addiction Treatment Hospital.

Inclusion criteria

- Age ranged from 20 to 60 years old.
- A confirmed medical diagnosis of schizophrenia with its all types by the psychiatrist responsible for the treatment using Diagnostic and Statistical Manual of Mental Disorders (DSM 5) as diagnostic criteria.
- Institutionalized schizophrenic patients.

Exclusion criteria

- Dual diagnosis of schizophrenia, such as a neurological disorder, a developmental disability, or a substance abuse problem.
- Diagnosis of intellectual disabilities

4.4. Tools of data collection

Three tools were used to collect data in the current study.

4.4.1. Socio-demographic data questionnaire

The researcher developed this tool to collect such data as age, sex, level of education, social status, working status, residence, number of admissions to the hospital, length of stay, and types of medications.

4.4.2. Observable Social Cognition Rating Scale (OSCAR)

OSCAR was developed by Penn, Combs, Roberts, and Keefe (2014). This tool was designed to broadly assess the social cognitive (SC) domains of the theory of mind, cognitive rigidity, emotion perception, presence of attribution style, and jumping to a conclusion. The scale comprises eight subscales. Each OSCAR item comprised a question probing a social cognition construct. Then, it was followed by four general example behaviors that reflect impairment in that domain, with a total of (32 items).

The items were rated on a 4-point Likert-type scale. Anchor points designed as four levels (1, 2, 3, and 4), the OSCAR was administered as a semi-structured interview, which takes approximately 30–40 minutes to administer and rate. The total score was 32–128, a high score indicating a high level of social cognition. It was distributed as (Low level from 32 - 64, moderate 65–97, and high 98–128).

In patients diagnosed with schizophrenia, the model that best fit is the two-factor solution. The first factor was labeled "Social Cognitive Bias," as it appears to assess SC

behavioral indicators of impulsivity, hostility, and rigidity. It contained high loadings for questions probing emotion perception (1), attribution style (2), jumping to conclusions (3), and cognitive rigidity (4 and 5). The second factor was labeled "Social Cognitive Ability," as items share content involving perceptual and reasoning abilities. The second factor contained questions probing theory of mind, numbered (6, 7, and 8). The internal consistency of the OSCARS (Cronbach's alpha) was .80. The test-retest reliability of the eight OSCARS items was .86. Three experts checked this questionnaire content validity of these items in the psychiatric field after translation to Arabic and then back translation to English; the researchers checked the reliability of this tool ($r=0.86$), indicating strong reliability.

4.4.3. Sense of Belonging Instrument

The Sense of Belonging Instrument (SOBI) was developed by *Hagerty and Patusky (1995)*. The instrument consists of 27-items but is broken into two separate tests, which assess belonging to others in two separate areas and assess a sense of psychological belonging (valued fitting and involvement). The SOBI-P assessed it. The second test assessed the antecedents to a sense of belonging, people's motivation (desire and ability) for a sense of belonging. The SOBI-A assesses this part. A 4-point- Likert-style scoring system was used in both tests.

The test scored against responses ranging from strongly agree (1 score) to strongly disagree (4 scores). The negative statements have a reverse score. Thus, the affirmative statement total score means a high sense of belonging in SOP1-A, and the negative statement total score means a low sense of belonging. The total scores of SOBI-P ranged from 18-72, scores on the SOBI-A ranged from 9-36, the total score for SOBI was 27-108, the high score indicating a high level of belonging distributed to (low level from 27-54, moderate 55-82, and high 83-108).

Hagerty and Patusky (1995) reported both internal consistency and test-retest reliability. For SOBI's Internal consistency reliability. They tested with coefficient alphas for both the SOBI-P and SOBI-A, respectively were .93 and .91. Test-retest reliability established were 0.84 for the SOBI-P and .66 for the SOBI-A. This tool content validity was established by a panel of three expert professors of Psychiatric Nursing after translation to Arabic and then back translation to English. Each expert on the panel was asked to examine the instrument for content, coverage, clarity, wording, length, format, and overall appearance. The researcher estimated the reliability test using Cronbach's Alpha Coefficient for the tool, which indicates that the questionnaire was highly reliable. The test result for the questionnaire was ($r=0.84$).

4.5. Procedure

The study started with an extensive review of relevant literature using textbooks, scientific journals to investigate the research problem, build and select appropriate tools for data collection. Official permission was obtained from the responsible authority of Mental Health and Addiction treatment Hospital at Minia governorate to conduct the current study. The researcher clarified the study aim through direct personal contact with patients. The patient's approval for participation was obtained before gaining their cooperation.

The researcher assured the ethical principles of approval of research from the ethical committee of the Faculty of Nursing, Minia University. The study aim was explained to each potential participant. Anonymity and voluntary participation are assured. Verbal consent took from uneducated patients and informed written consent was obtained from educated patients. Patients reported that the collected data would be confidential, used only for research, and contained no harmful interventions. Data coded and kept in a locked place, and the researcher visits the hospital two days/week for data collection for eight months from August 2018-March 2019. The assessment tools take about 30-40 min with each patient.

A pilot study was conducted at the beginning of the study. It included 10 cases (or 10% percent) of the total sample to investigate the feasibility of data collection tools for their content validity and clarity. A total of 10 subjects were recruited for the pilot study. All subjects recruited in the pilot study met the criteria for inclusion in the study. Subjects included in the pilot study were excluded from the actual study sample, and the results of the pilot study were not included in the current study.

4.6. Limitations of the study

- Many patients refuse to participate in the study.
- Generalizability is limited to the geographical location, setting, and sample composition. The inclusion of more stable and functioning outpatients from multiple sites could provide a complete portrait of the lived experiences of schizophrenic patients.

4.6. Data analysis

Data were collected, coded, tabulated, and analyze by using personal computers. The Statistical Package for the Social Sciences (SPSS) version (20) was used to analyze data for this study. Numerical data analyzed using frequency and percentage distribution. Mean and standard deviation was also used for relational statistics; Probability (p-value) less than 0.05 was considered significant, and less than 0.001 considered highly significant.

5. Results

Table 1 shows that the studied sample consisted of 100 patients, 41% their ages ranged from 20-<29 years old. The higher percentage of the sample were males, 71%, about half of the sample were single (47%), and 30% were married. While 73% of the sample was unemployed, and 64% of the sample resided in a rural area. Also, 46% of the studied sample was admitted to the hospital one time only, while 80% of the sample stayed in the hospital about one month or less in the previous hospitalization.

Table 2 presents that most patients have a low level of the total sense of belonging and its subscales psychological sense of belonging and people motivation (77%, 83%, & 76%). A small number of patients have a high level of the total sense of belonging and its subscales psychological sense of belonging and people motivation. (7%, 6%, & 5%, respectively).

Table 3 illustrates that the majority of patients have a low level of social cognition and its subscales (emotional perception, attribution style, jumping to conclusions, cognitive rigidity, and theory of mind) (83%, 71%, 76%, 78%, 82%, and 85% respectively). Simultaneously, a small number of patients have a high level of social cognition subscales (emotional perception, attribution style, jumping to conclusions, cognitive rigidity, and theory of mind) (8%, 12%, 11%, 6%, 8% respectively).

Table 4 reveals statistically significant differences between the mean score of sense of belonging regarding their sex at ($p=0.023$). In contrast, there were no statistically significant differences between the mean score of social cognition regarding their sex ($p=0.639$). Besides, there were statistically significant differences between the mean score of social cognition and their job at ($p=0.013$). Moreover, the mean score of females and working patients was more than males and not working regarding the sense of belonging and social cognition (46.6 ± 17.1 , 54.8 ± 13.6 & 41.5 ± 16.3 , 59.7 ± 52.5 respectively).

Table 5 presents no statistically significant difference between the mean score of sense of belonging regarding their residence ($p=0.120$). Simultaneously, there were statistically significant differences between the mean score of social cognition and their residence ($p=0.010$). Moreover, the mean score of sense of belonging and social cognition is higher in patients residing in urban areas than those from rural areas (44.3 ± 18.4 & 55.4 ± 13.8 , respectively).

Table 6 shows statistically significant differences between the mean score of sense of belonging and the patients' age ($p=.013$). Simultaneously, there were no statistically significant differences between the mean score of social cognition and their age ($p=.392$). The higher mean score of sense of belonging and social cognition was at the younger age group 20-<29 (46.5 ± 19.3 & 55.8 ± 11.8 respectively).

Table 7 represents no statistically significant differences between the mean scores of sense of belonging and social cognition regarding their level of education and marital status ($p=0.882$, 0.373 & 0.464 , 0.676 respectively). Also, the mean

score of sense of belonging and social cognition was highest among university and married patients (42.2 ± 15.4 , 56.3 ± 10.9 & 42.8 ± 18.1 , 56.5 ± 14.9 respectively).

Table 8 reveals that, there were statistically significant positive correlation between social cognition dimensions (emotional perception, and theory of mind) and sense of belonging dimension (psychological sense of belonging) ($r=0.273$, $p=0.006$ & $r=0.327$, $p=0.001$ respectively). Besides, A statistically significant positive correlation were present between total social cognition and total sense of belonging ($r=0.243$, $p=0.025$). Moreover, there was a statistically significant positive correlation between total social cognition and its dimensions (emotional perception, attribution style, jumping to conclusion, cognitive rigidity, and theory of mind) ($r=0.537$ $p=0.000$, $r=0.485$ $p=0.000$, $r=0.327$ $p=0.001$, $r=0.277$ $p=0.005$, $r=0.473$ $p=0.000$ respectively).

Table (1): Frequency and percentage distribution of the studied patient according to their demographic and medical data (n=100).

Socio-demographic characteristics	(N=100)	%
Age		
20-<29years	41	41.0
30-<39years	34	34.0
40 years and more	25	25.0
Gender		
Male	71	71.0
Female	29	29.0
Level of education		
Cannot read and write	39	39.0
Secondary	42	42.0
University	19	19.0
Social status		
Single	47	47.0
Married	30	30.0
Divorced	14	14.0
Widow	9	9.0
Working status		
Work	27	27.0
Not work	73	73.0
Place of residence		
Urban	36	36.0
Rural	64	64.0
Number of admissions		
Once	46	46.0
Twice	33	33.0
Three times and more	21	21.0
Duration of stay at the previous entry point		
One month or less	80	80.0
More than one months	20	20.0
Three months and more	0	0.0
Types of medications		
Typical antipsychotics	93	93.0
Atypical antipsychotics	7	7.0

Table (2): Frequency and percentage distribution of sense of belonging and its dimensions among the studied sample (N=100).

Sense of belonging and its dimensions	Levels of sense of belonging					
	Low		Moderate		High	
	N	%	N	%	N	%
Psychological sense of belonging	77	77.0	16	16.0	7	7.0
Peoples motivation	83	83.0	11	11.0	6	6.0
A total sense of belonging	76	76.0	19	19.0	5	5.0

Table (3): Frequency and percentage distribution of social cognition and its dimensions among the studied sample (N=100).

Social cognition and its dimensions	Levels of sense of belonging					
	Low		Moderate		High	
	N	%	N	%	N	%
Emotional perception	83	83.0	9	9.0	8	8.0
Attribution style	71	71.0	17	17.0	12	12.0
Jumping to conclusions	76	76.0	13	13.0	11	11.0
Cognitive rigidity	78	78.0	16	16.0	6	6.0
Theory of mind	82	82.0	10	10.0	8	8.0
Total social cognition	85	85.0	15	15.0	0	0.0

Table (4): Relation between personal data (sex and job) and the various studied variables (n=100).

Variables	No	Sense of Belonging		T test	P	Social cognition		T-test	P
		Mean±SD				Mean±SD			
Gender									
Male	71	38.5±15.3		2.31	0.023	53.5±11.8		0.470	0.639
Female	29	46.6±17.1				54.8±13.6			
Working status									
Work	27	41.5±16.3		0.213	0.832	59.7±52.5		2.54	0.013
Not work	73	40.7±16.3				52.5±12.1			

Table (5): Relationship between the place of residence and the various studied variables (n=100).

Variables	No	Sense of Belonging		T test	P	Social cognition		T-test	P
		Mean±SD				Mean±SD			
Residence									
Urban	36	44.3±18.4		1.56	0.120	55.4±13.8		0.582	0.010
Rural	64	39.1±14.6				53.9±12.7			

Table (6): Relation between age group and the various studied variables (n=100).

Variables	No	Sense of Belonging		F test	P	Social cognition		F test	P
		Mean±SD				Mean±SD			
Age group									
20-<29years	41	46.5±19.3		4.51	0.013	55.8±11.8		0.944	0.392
30-<39years	34	36.9±13.2				51.9±9.81			
40 year and more	24	37.1±11.3				55.7±18.1			

Table (7) Relationship between the level of education, marital status, and the various studied variables (n=100).

Variable	No	Sense of Belonging		F test	P	Social cognition		F test	P
		Mean±SD				Mean±SD			
Level of Education									
Cannot read and write	39	39.9±16.3		0.126	.882	52.3±11.3		0.996	.373
Secondary	42	41.2±16.7				55.8±15.5			
University	19	42.2±15.4				56.3±10.9			
Marital status									
Single	47	35.00±11.3		0.861	.464	50.7±14.1		0.511	.676
Married	30	42.8±18.1				56.5±14.9			
Divorced	14	37.2±11.5				53.7±12.9			
Widowed	9	41.4±16.1				54.7±8.42			

Table (8): Correlation between the sense of belonging and social cognition and their dimensions among the studied sample.

Variables	Psychological sense of belonging	Peoples motivation	A total sense of belonging	Emotional perception	Attribution style	Jumping to conclusion	Cognitive rigidity	Theory of mind	Total social cognition
Psychological sense of belonging	1	0.431	0.955	0.273	0.391	0.500	0.301	0.327	0.278
Peoples motivation		1	0.639	0.132	0.190	0.580	0.780	0.390	0.108
A total sense of belonging			1	0.246	0.146	0.144	0.190	0.295	0.243
Emotional perception				1	0.882	0.571	0.188	0.130	0.537
Attribution style					1	0.738	0.240	0.176	0.485
Jumping to conclusion						1	0.227	0.180	0.327
Cognitive rigidity							1	0.141	0.277
Theory of mind								1	0.473
Total social cognition									1

6. Discussion

This study aimed to explore the relationship between social cognition and a sense of belonging among institutionalized schizophrenic patients. Regarding the distribution of the sample according to demographic data, most of the sample were males. About two-fifths of the studied patients ranged between 20-<29 years old. Most of them were unemployed. Besides, about half of the sample was single and lived in rural areas, and less than half-educated. This result could be due to the prevalence of schizophrenia more in males, and the females often refused hospitalization due to the stigma of illness. Most of the patients were unemployed due to the deterioration of the patient's condition due to symptoms, the severity of delusion, hallucination cognitive disabilities; all these symptoms decrease the patient's ability to hold a job.

This result is congruent with *Jennifer et al. (2016)*, who illustrated that most of the participants were male. While predominantly single, and seventy percent of participants had a high school education or more. This result is incongruent with *Charernboon and Patumanond (2017)*, who reported that most of the participants were female (66.7%) with an average age of 37. Also, this result inconsistent with *Talreja, Shah, and Kataria (2013)*, who reported, in a study about the association of socio-demographic factors with cognitive function in a patient with schizophrenia, that the results were more than three fourth belonged to the age group 18-40 years; more than half of patients were males, and about half were females; about fifty percent of patients were married, and about one third were unmarried.

Regarding frequency distribution of the sense of belonging and its dimensions, most patients have a low level of the total sense of belonging and its dimensions (the psychological sense of belonging and people motivation). These results may be related to schizophrenic patients have

a diminished ability to relate to others, interact with them, and the social cognitive deficits of schizophrenia frequently result in difficulty engaging in regular interpersonal interactions at work, school, or with friends and family. Moreover, some of the lack of sense of belonging experienced by individuals with schizophrenia may be imposed by the illness. However, it may also be that the emotional distancing cultivated by some to protect themselves from the pain of this lack paradoxically keeps them distant from others and perpetuates feelings of not belonging.

This result is congruent with *Jennifer et al. (2016)*, who reported that most of the studied schizophrenic patients could describe having had a sense of belonging at some point in their lives, if not current, and identified it as being a valuable and feeling of being lonely and feeling like an outsider in most situations was a collective experience for participants. Also, it is consistent with *Jennifer (2018)* in his study. The scores predominantly centered in the lower-middle of the range. This finding indicates that these participants had some degree of sense of belonging, but not strongly so. In this study, the lower scores may be related to the high percentage of single individuals, who may not have the social support or sufficient interactions to experience a higher sense of belonging. It may also be that sense of belonging is a deficit in this population because of impaired social cognition.

Concerning frequency distribution of social cognition and its dimensions, most patients have a low social cognition level and subscales (emotional perception, attribution style, jumping to conclusions, cognitive rigidity, and theory of mind). These results might be related to that social cognition impairment possibly represents one of the core symptoms and a trait characteristic of schizophrenia. The effect of schizophrenic symptoms as delusion and preoccupation with hallucination decreases the patient's ability for social cognition. This result agrees with most

studies that schizophrenia is characterized by a deficit in social cognition (Green et al., 2015). Also, this result is consistent with Charernboon and Patumanond (2017). They reported that the patients' group demonstrated significant deficits relative to the healthy control group across all measures of social cognition in their study. In the same context, Gauri, Casey, and David (2013) reported that in all domains, scores reflected social cognitive abilities (with lower scores indicating poorer social cognition).

Moreover, the present study illustrated statistically significant differences between the mean score of sense of belonging regarding their sex, and there were statistically significant differences between the mean score of social cognition regarding their job. In contrast, there were no statistically significant differences between the mean score of social cognition regarding their sex. Also, female and working patients' mean score was more than male and not working regarding the sense of belonging and social cognition. This result may be related to impairment in social cognition that affects all schizophrenic patients regardless of their sex.

The impairment in social cognition affecting their social functioning and the ability to be included and interacted with others. This finding because female and working patients is the smallest group in the study. Work and interaction with people help improve patient cognition and enhance their ability to understand others' emotions and infer positive and negative feelings from different events. Also, females can interact and belong to others than males. This result is consistent with prior studies, Hazarika (2014), who also observed gender differences when studying all domains of social cognition in schizophrenic patients. Leung and Chue (2000) reported similar findings when compared social cognition in both males and females. Male have poor social cognition compared to females. This finding could be explained by various psychological factors, different sex hormones, and different neurocognitive development.

Besides, there was no statistically significant difference between the mean score of sense of belonging regarding their residence. Simultaneously, there were statistically significant differences between the mean score of social cognition regarding their residence. Moreover, patients residing in urban areas are more than patients residing in rural areas regarding a sense of belonging and social cognition. These results may be due to the deficit in social cognitive functioning is the main problem in schizophrenic patients regardless of their residence. This deficit diminished their ability to have the sense to belong to others, make relations and interact with others.

Social cognitive impairments also impact these patients' daily functioning, which measures how people perform in everyday situations, including instrumental activities, interpersonal functioning, and vocational achievement. However, there is a slight increase in social cognition and a sense of belonging in patients residing in urban areas regarding their residence. This finding may be related to people in those areas who have improved their ability to work in many fields interact with others, and the

availability of multiple activities in urban areas improves their social functioning and increases their motivation to relate to others and act appropriately in social situations people in rural areas. This result congruent with Jennfier (2018), who found that compared to urban, schizophrenia patients in rural areas had lower social cognition. Despite the previous finding that documents a higher prevalence of schizophrenia among residents of rural areas in India (Varma, Phookun, Misra, Khare, & Tripathi, 1997).

In the same context, the current study showed statistically significant differences between the mean score of sense of belonging regarding their age. Simultaneously, there were no statistically significant differences between the mean score of social cognition regarding their age. The mean score of the age group 20-<29 is more than other age groups regarding a sense of belonging and social cognition. This result might be related to that age group in their early life can interact in a social situation, work, maintain a relationship with others that may improve their social cognition and sense of belonging. This result is consistent with Talreja et al. (2013) who found, that no associations were found between age groups and social cognition. These also results congruent with Sandeep and Lakhan (2013), who illustrated that no significant associations were found between ages regarding social cognition.

Besides, there were no statistically significant differences between the mean score of sense of belonging and social cognition regarding their level of education and marital status. Moreover, the mean score of sense of belonging and social cognition was highest among university and married patients. These results may be due to the high level of education increases the cognitive ability of the patient. It can increase social functioning and the ability to hold a job, interact with others, enhance their motivation to belong to others, and improve their relationships. If those patients are also married, the presence of family support help in improving interaction and social functioning. These results are inconsistent with Jennfier et al. (2016), who reported a strong negative association between stable attribution of negative and positive events and higher education levels. Similar findings reported by Miyaji Yamamoto, Morita, Tsubouchi, and Hoshino (2008) stated that patients with low educational levels perform more deficient on all cognitive function tests than their higher education equivalents.

Also, this result is incongruent with Srivastava (2013), who found that unmarried/divorced/separated had a higher likelihood of perception of higher intensity of social cognition compared to currently married counterparts. Despite thoughts of the protective role of marriage in developed countries, it was not the case in the Indian context. As a psychiatric patient forced to marry, thus a resulting reverse association ensued. Additional findings also reported a strong positive association between the risk of schizophrenia, cognitive impairment, and prevalence of unmarried persons, particularly if the disease strikes before the age of 25 Ponnudurai, Jayakar, Sathiya, and Sekaran (2006).

The current study revealed a statistically significant positive correlation between social cognition dimensions (emotional perception and theory of mind) and the sense of belonging (the psychological sense of belonging). Moreover, there was a statistically significant positive correlation between total social cognition and total sense of belonging and its dimensions (the psychological sense of belonging and people motivation). These results may be related to the impairments in social cognition that might explain the deficits in social skills and social functions of people with schizophrenia. This finding may be related to their diminished ability to detect others' emotions, accurate appraisal of the feelings or intentions of others, and understand social rules. Those deficits also lead to a decrease in their ability to relate or interact with others or having a motivation to experience a sense of belonging with others which is an essential mental health concept that closely correlated with social and psychological functioning.

Additionally, individuals with schizophrenia may not experience a sense of belonging in the broad context of society and the world. These individuals often have few relationships, little social support, and often experience stigma from friends, family, and society at large. This finding may not capture the experience of a sense of belonging in persons with schizophrenia because of the stigmatizing nature of the illness and challenges these individuals face socially.

This result is congruent with *Dewall, Deckman, Pond, and Bonser (2011)*, who found that sense of belonging, is a crucial construct in schizophrenia. Having a definite sense of belonging has been found to enhance interpersonal, professional, and academic success, improve self-concept, to be a protective factor against suicide. Overall to be vital to psychological functioning also, being with others helped them to cope with the symptoms of schizophrenia, and in some cases being with others even lessened those symptoms.

At the same line, *Fett et al. (2011)* reported considerably higher associations between social cognition and functional outcome measures. Also, *Joanna, Jennifer, Jason, & Morris (2013)* reported that social cognitive impairments were illustrated in different social cognitive tasks in schizophrenic patients. Consistent with previous studies, *Song, Xiang, Huang, Wang, and Zhang (2015)*, evidenced that schizophrenic patients had a distorted perception of facial expression compared to their healthy persons.

Furthermore, the present study revealed a statistically significant positive correlation between total social cognition and its dimensions (emotional perception, attribution style, jumping to a conclusion, cognitive rigidity, and theory of mind). This result could be related to the deficit in social cognition reflect a deficit in all dimensions in which the patient has a difficult ability to identify emotions of others or make inferences about the other emotions and impairment in the patient ability to have social interaction and cognitive functioning. This result is

consistent with *Langdon, Coltheart, and Ward (2006)*. They reported significant impairment in schizophrenia patients, which continues to be a significant prognosticator of social competence in those patients (*Brune, Abdel-Hamid, Lehmkämpfer, & Sonntag, 2007*). Also, it is congruent with *Thammanard and Jayanton (2017)*. They reported that schizophrenic patients displayed visible impairment in all three social cognition domains, i.e., emotion perception, theory of mind, and social knowledge, and showed moderate correlations between emotion perception, theory of mind, and social knowledge in healthy controls and patients.

7. Conclusion

The study's findings concluded that institutionalized schizophrenic patients were having a positive connection between their social cognition and sense of belonging. Besides, institutionalized schizophrenic patients have a low level of social cognition and a sense of belonging.

8. Recommendations

In light of the findings of this study, it recommended that:

- A psycho-educational program for improving schizophrenic patients' cognitive abilities will improve their social cognition and interaction with others and enhance their sense of belonging.
- Increase nursing interventions that improve social support to enhance the person's sense of belonging, which could enhance social cognition and improved outcomes.
- Further research that explores the concept of a sense of belonging because of its' minimal presentation in the literature in schizophrenia to explicate meaning and determine significance in persons with schizophrenia.

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