

Social Cognition and Quality of Life in Patients with Schizophrenia in India -Systemic Review

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ABSTRACT

Background: Schizophrenia is a severely debilitating disease caused by a wide variety of environmental and genetic variables. More studies are needed to understand social cognition and Quality of Life (QoL), particularly in countries like India where insanity is still largely forbid-den and surrounded by stigma. **Aim:** To understand the social cognition and Quality of life in patients with schizophrenia in India. **Methodology:** PRISMA guidelines were followed for identification of studies. Scopus and web of Science databases were used for searching relevant articles. To complete the task, a total of 34 papers were evaluated. **Results:** The primary goal of this systematic review was to compile the findings of various studies conducted on different variables influencing patients' well-being and the treatment methods accessible for SZ patients in India. **Conclusion:** Schizophrenia is characterized by psychosis, which is also observed in many of the medical issues. As a result, the goal of this comprehensive analysis was to bring together re-search on social cognition and Quality of life in the Indian context.

Keywords: Schizophrenia, Stigma, Social Cognition, QoL, Hallucinations, Mental Illness

Schizophrenia is a dysfunctional psychotic condition defined by the presence of delusional ideas, hallucinations, and disruptions in thinking, perception, and behavior. The word was introduced by Eugen Bleuler in 1908. Positive symptoms include hallucinations, delusions, and formal thinking problems, while negative symptoms include speech impairment and lack of desire (Davis et al., 2016). Psychosis is a hallmark of schizophrenia which is a frequent but varied aspect of mood and drug use disorders, and a somewhat common component of many developmental, inherited, and degenerative neurological and medical problems. Psychosis is a factor in disability and an impediment to work and social life for people with these illnesses. It is also a relevant diagnostic and therapeutic focus for neurologists and psychiatrists (Morgan et al., 2014). A clinical schizophrenia diagnosis is determined after acquiring a complete psychiatric history and ruling out all other causes of psychotic illness.

Birth difficulties, birth season, severe maternal malnourishment, maternal influenza during pregnancy, family background, childhood trauma, social withdrawal, cannabis usage,

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minority race, and urbanization are all risk factors (Davis et al., 2016). Even though the illness affects a relatively small percentage of the population, the worldwide prevalence of schizophrenia is immense. It is one of the top causes of disability across the globe since more than half of the patients have serious mental and medical co-morbidities (Chaiyakunapruk et al., 2016).

The lifetime prevalence of schizophrenia in India is 1.4%, while the present prevalence is 0.5%, according to the National Mental Health Survey of India, 2015-16. According to a study two-thirds of those with psychosis reported considerable impairment in their ability to function in important areas of their lives, including those involving their families, friends, and places of employment (Davis et al., 2016). Schizophrenia affects between 0.6 and 1.9% of the adult population in the United States, however, estimates vary widely among countries (Agarwal et al., 2014).

Epidemiology:

Growing data from epidemiological studies of schizophrenia suggests that exposure to certain environmental conditions at developmental ages might raise the likelihood of acquiring the illness. Infection, malnutrition, cannabis usage, and social variables including relocation, childhood trauma, and socio-economic status are all in this category. An increasing body of literature on these effects in animal models, as well as recent studies on the clinical pathogenic mechanisms of schizophrenia, lend credence to these findings. Although this area of study is only beginning, it is already clear that the interplay between genetic and environmental factors, as well as between various environmental inputs, account for a considerable measure of the disorder's risk. These papers indicate preventative measures and future study directions that may build on recent advances in translational science (Brown & Lau, 2016).

Prognosis:

With regard to schizophrenia, individuals with lower levels of insight have a poorer prognosis in terms of Quality of life, social relationships, work, or vocational outcomes across different countries. Intuitively this would largely depend on the refusal of treatment that leads to an increased likelihood of relapses.

Because of its early start and chronic history, the condition may be devastating for both the sufferer and his or her family. Struggling to focus, cognitive function impairment, and difficulty in execution are common symptoms that contribute to a person's disability during schizophrenia.

Additionally, positive symptoms like paranoia, delusions, and hallucinations might lead to relapse (Tandon et al., 2013).

Pathophysiology:

Causes and pathophysiological pathways are poorly understood because of the disease's intricacy and variability. There are primarily three ideas on what causes schizophrenia. The neurochemical abnormality theory proposes that the psychiatric symptoms of the condition arise from an imbalance of dopamine, serotonin, glutamate, and GABA. This theory proposes that schizophrenia results from a disruption in four distinct dopaminergic circuits. Positive symptoms, according to the dopamine hypothesis, are caused by the overactivation of D2 receptors in the mesolimbic pathway, while motor symptoms are thought to be caused

by a lack of dopamine in the nigrostriatal pathway, which would then affect the extrapyramidal system.

The unpleasant effects are assumed to originate from low mesocortical dopamine levels caused by the mesocortical circuit. Blocking the tuberoinfundibular route may lead to high prolactin levels, which in turn can cause other symptoms including amenorrhea and low libido. Synaptic glutaminergic hypoactivity has been linked to schizophrenia via studies of NMDA receptor antagonists and serotonergic hyperactivity has also been linked to the disorder (El-Mallakh & Findlay, 2016).

There are a number of variables that affect the outlook of people with schizophrenia. Acute onset, female sex, and living in a developed nation indicate somewhat stronger predictive markers than insidious onset, childhood/adolescent onset, poor premorbid adjustment, and cognitive impairment. Two-thirds of persons with schizophrenia report having considered suicide at least once (Ventriglio et al., 2016).

In recent years, Quality of Life (QoL) measures have gained prominence in assessing the success of schizophrenia treatments (Chaiyakunapruk et al., 2016). According to the research, QoL is an essential factor in determining whether or not schizophrenia would reoccur. Improvements in Quality of life are associated with a reduced risk of recurrence after two years. According to the World Health Organization, Quality of life is "a person's assessment of their own circumstances in light of their own objectives, expectations, standards, and concerns." <https://www.who.int/tools/who>

Poor Quality of life and poor levels of social functioning are linked to the presence of both positive and negative psychotic symptoms, as well as severe depression and worse sleeping disruption patterns. Antipsychotics have a crucial role in the management of schizophrenia. Studies on the effectiveness of antipsychotics, the role of cognition in schizophrenia, and the negative effects of antipsychotics on the Quality of life in people with schizophrenia have all been published extensively during the last 60 years (Wang et al., 2020).

Most of the time, general measures like the WHO-QOL BREF have been employed in Indian research on QOL in schizophrenia because of their cross-cultural validity. Other disease-specific measures, including the Quality of Life Scale for Schizophrenia, have also been utilized in a multitude of research studies (Radhakrishnan et al., 2012).

Past research investigations on the Quality of life for people with schizophrenia in India have offered sociocultural factors for why their QOL is lower than that of those in developed countries. Joint families, income sharing, social support from extended families, a lack of focus on education, and low importance given to recreation and leisure have all been offered as possible factors. However, it's possible, though, that this is shifting in response to broader societal developments in India during the last two decades (Chaturvedi et al., 2016).

Work, physical and mental health, independence, and amusement and leisure all seem to be somewhat too highly significant to the patient's Quality of life, according to the results of a recent study. In addition, all 40 patients in the sample rated having a job as highly essential to their Quality of life, both because it provided financial stability and because it allowed them to actively contribute to society. In the qualitative phase, 57.5% of patients' priorities shifted from tangible concerns like employment and family understanding to more abstract ones like religion and spirituality.

Social Cognition and Quality of Life in Patients with Schizophrenia in India -Systemic Review

To have a well-rounded grasp of social interactions, one must be able to read facial expressions, infer others' thoughts, and understand social roles and norms. We also find that the patient's QOL is affected by his or her participation in a variety of leisure activities, social position, ability to live independently, religious and spiritual beliefs, and other personal factors. However, a job seems to be highly significant for the patient's Quality of life, and the research emphasizes the urgent need to establish recovery-oriented programs that incorporate vocational rehabilitation services (Durgoji et al., 2019).

Nevertheless, establishing a diagnosis of schizophrenia spectrum disorder may still have a detrimental impact on the person and his or her loved ones, therefore it's important to remember that everyone involved will need time to adapt to the new normal after receiving the news.

Research on the relationship between social cognition and schizophrenia has seen a dramatic increase. Perceiving, interpreting, and processing information for adaptive social relationships are all part of social cognition, a wide field that incorporates these brain activities and much more. Emotional processing and mentalizing are two areas of social cognition that have received the greatest attention in the context of schizophrenia. There has been a very little amount of research on social bias and how people perceive others.

Facial emotion perception/identification is the most often researched element of this field, which essentially refers to recognizing and employing (e.g., controlling) emotions in an appropriate manner. The capacity to "mentalize" involves figuring out what other people are thinking and feeling, as well as determining whether or not they are being serious, sarcastic, or dishonest. People with schizophrenia show substantial abnormalities in both emotional perception/processing ($d=0.89$) and mentalizing ($d=0.96$), as shown by over 50 research. The capacity to recognize one's own social role, social norms, and social setting based on nonverbal clues is a measure of social perception (e.g., voice intonation, body language, proxemics). People with schizophrenia have a significant deficit in this region, according to the little data available ($n=12$; $d=1.04$).

A growing body of research demonstrates that, in schizophrenia, social cognition deficiencies are as severe as cognitive abnormalities (Savla et al., 2012). The Indian sociocultural context was used to validate the Social Cognition Rating Tools in Indian Setting (SOCRATIS) as a means of assessing social cognition among Indians (Mehta et al., 2013).

Social perception, comprehension, and judgment are the three fundamental components of social cognition. Although social cognitive deficiencies increase with symptom amelioration, they continue to some degree throughout the remission period, as shown by substantially greater levels of deficits in all areas of social cognition in schizophrenic patients at both the baseline and follow-up assessments.

This work adds to the growing body of evidence showing that people with schizophrenia have impairments in social cognition throughout both the symptomatic and remission phases of the illness. Poor overall performance, social and occupational functioning, and a greater degree of disability are linked to impairments in social cognition throughout the symptomatic and remission period. All these areas, and the overall result of schizophrenia, may benefit from efforts to remediate the impairment in social cognition (Valaparla et al., 2017). Based on research males are more likely to have subpar social cognition compared to

females (Dewangan et al., 2018). The importance of social cognition as a target for therapeutic approaches is highlighted by the well-established clinical relevance of SC abnormalities in schizophrenia (Mehta et al., 2014).

It's possible that psychopharmacological treatments might be useful as well. While oxytocin has been investigated as a potential pharmaceutical tool to improve social cognition in both healthy persons and a variety of clinical situations, its benefits on social cognition have not been consistently shown across investigations, especially in the context of schizophrenia (Davis et al., 2014).

Future pharmaceutical therapies or neuro-stimulation procedures (such as transcranial direct current stimulation) may be utilized in a tailored way to alter a specific social processing system, given our improving knowledge of the neural systems that are engaged in the cognition processes. With any luck, a deeper insight into the neurological processes underlying social cognition in schizophrenia may lead to more effective treatments for the disorder and a reduction in the social incapacity it causes (Green et al., 2015).

However, little advancement has been made in identifying the implementation challenges in a developing nation like India, despite the fact that the research reveals a very well need for attention on physical health among individuals with mental illness. Multiple comorbid medical disorders may go unnoticed due to the economic imbalance in our country and a general lack of knowledge of their existence. In India, people have a hard time speaking up about problems until they are directly asked about them by a medical practitioner. They may have trouble communicating their pain and suffering, leading to the possibility that their mental health issues take precedence.

In India, the number of people in need of mental health care is more than the number of educated experts available to help them. If a patient's symptoms aren't explicitly mentioned by either the patient or the carer, it's possible that they may be missed during treatment. An additional barrier to effective collaborative treatment is the inability of different healthcare practitioners to access the patient's medical records (Padmavati et al., 2021).

According to research findings, it was evident that being free from symptoms and full return to previous levels of social and vocational functioning are the primary goals of rehabilitation in the Indian setting. The recovery model emphasizes the importance of helping patients realize that their mental illness is just a part of who they are and that they are capable of leading fulfilling life despite their struggles. Problem avoidance must give way to problem-solving, and we must stop associating our own selves with our mental health issues (Jacob, 2015).

Recovery may be seen differently in Asia and the West because of the prejudice and sociocultural taboos surrounding mental diseases in India and other poor nations, where patients and carers may be less focused on developing strength in the patient and more on symptom eradication. Scientists found that schizophrenia individuals had a greater rate of physical illness than the normal population. Additionally, greater than 50% of the patients were single. Given these traits, it's clear that such patients need additional social assistance in order to get adequate medical and spiritual care.

Aggression was also linked to clinical characteristics including medication adherence, physical illness, and positive symptom ratings, as well as sociodemographic factors like

marital status. Aggression may be reduced if there is better treatment for and adherence to physical diseases and medications (Wu et al., 2018). Mental disease recovery particularly that from schizophrenia, has assumed a pivotal position in the management strategy, and it requires suitable therapies administered by a multidisciplinary team. To better define and create therapies that are culturally acceptable and practicable for the Indian subcontinent, we need to understand recovery from the client and carer perspectives and from the Indian sociocultural viewpoint (Gopal et al., 2019).

It would be tremendously beneficial to start an early intervention approach to individuals in need, only if we could predict which groups were at high risk of developing full-blown psychosis. Finding biomarkers that can accurately depict the pathophysiology of schizophrenia and, more crucially, the molecular alterations that occur during the early stages of psychosis, is vital (Lin & Lane, 2019).

Research gap and the reasons for taking up this topic in the Indian context

Maintaining a state of mental wellness is crucial to thriving as a human being. Many studies have shown that the topic of mental disease in India is mired in misinformation and prejudice. Many variables, including melancholy, have been linked to the development of schizophrenia. Patients with SZ often have a low Quality of life and impaired social skills before they receive a correct diagnosis. Thus, there has been no comprehensive collection of information on social reasoning and Quality of life in schizophrenia patients in an Indian setting. For this reason, we have conducted a comprehensive literature evaluation to fill this void. However, throughout the review, we have only focused on the Indian context because most schizophrenic patients in India go undiagnosed due to social stigma, taboos, socio-economic burden, and poverty, and there is very little evidence reporting the state of well-being of patients and their carers in India. Consequently, the following objectives are proposed with India as the primary emphasis.

Research objectives

- The present study is aimed to evaluate the effects of schizophrenia on social cognition in patients suffering from schizophrenia disorder.
- The understand rehabilitation support in the Indian context.
- Finally, to assess the effect of schizophrenia on life satisfaction in patients with schizophrenia.

The hypothesis of the research

Based on the above objectives and through the systematic literature review on the social cognition and Quality of life of patients suffering from Schizophrenia in India, we hypothesize that:

- The study would be able to compile different research studies and discuss the findings on the effect of schizophrenia on patients in India that can further be helpful in designing different treatment strategy and reduce the burden on the patients and their families.

METHODS

Data sources and searches

Inclusion criteria: Articles that are in English and related to schizophrenia and Quality of life, schizophrenia, and social cognition were included in the review. Also, the studies that were done between 2013 - 2023 were selected for review.

Social Cognition and Quality of Life in Patients with Schizophrenia in India -Systemic Review

Exclusion criteria: Articles that are non-English, articles published before the year 2013, and general articles on schizophrenia were excluded from the study.

Search strategy:

Specific search strings were developed by combining various keywords. The systematic literature search was conducted between 2013 to 2023/2022, using the search strategy primarily in databases that include Scopus and Web of Science. These two databases gave the required results for the mentioned keywords. In most cases, similar results were obtained irrespective of mixing the terms.

Study selection.

Studies showing relevancy were selected by adopting the search strategy as shown in Table-1. Firstly, the articles with appropriate topics were screened using important keywords concerned with the study. The database used here is Scopus and Web of Science. Secondly, the articles were screened independently by three reviewers. After study selection, a consensus was made before the inclusion of the studies in this review. Any conflicts were resolved through discussion and consensus between reviewers. The total number of articles obtained was screened for the English language. In the third step, the articles were screened according to the year of publication. The fourth step involved screening for Indian-specific filters. Finally, only the relevant articles according to the filters applied were selected which is a total of 34 articles.

Table 1. Summary of search strategy terms and no. of relevant articles found by using different databases

Data Base	Keywords/search strategy	Total no of articles	Articles in English	Year (2013 - 2023)	Indian specific filters	Relevance
Scopus	Social cognition and schizophrenia patients	3883	3493	1751	44	4
	Social cognition and schizophrenia in Indian patients	17	All	14	11	11
	Quality of life and schizophrenia in Indian patients	7	-	-	-	6
	Social cognition and schizophrenia patients in India	20	-	-	-	4
	Attribution bias and schizophrenia patients in India	-	-	-	-	-
Web of Science	Social cognition and schizophrenia in Indian patients	65	all	26 (Till 2022)	24	22 (Duplicate) 2 (new)
	Quality of life and schizophrenia patients	27				6
	Attribution bias and schizophrenia patients in India	1				1

Data extraction and Quality assessment

Separate data retrieval procedures were carried out for each research. The procedure was reviewed by two different people, and they both came to the same conclusion. Details about the studies themselves, such as the number of patients enrolled and their ages, as well as

Social Cognition and Quality of Life in Patients with Schizophrenia in India -Systemic Review

details about the caretakers involved, the study designs used, and the features and primary results of each research, were collected from the available literature.

Findings from the selected articles were further evaluated in light of the study's selection criteria. Each of the final 34 articles was examined extensively to determine whether or not it included social reasoning among schizophrenia patients in India. Extracted from the selected articles were findings regarding the connection between social and neurocognitive processes. The findings from each research were pooled to draw inferences about the effectiveness of therapy interventions for schizophrenic patients and their Quality of life.

The grade of the comprehensive literature evaluation was determined by evaluating each individual paper based on the objectives of the study. Every article's accompanying data was carefully examined before the final decision was made. The grade of the research was determined by examining how well the included papers reported their results.

Data synthesis and analysis

Once the highest-quality studies were found, the different coping techniques recommended therein were thoroughly examined. The inferences drawn from this comprehensive literature review were determined by combining the treatments received from the various studies' data. The studies were then summed and assessed for the uniqueness of the results from all the individual studies pulled from the database comprising comparable information on social cognition and Quality of life, as well as other information, on patients suffering from schizophrenia in India.

RESULTS

PRISMA sheet for finalized references

The search in Scopus using the keyword “*Social cognition and schizophrenia patients*” gave 3883 results. Similarly, the keyword “*Social cognition and schizophrenia in Indian patients*” gave 17 results and the keyword “*Quality of life and schizophrenia in Indian patients*” gave 7 results and “*Social cognition and schizophrenia patients in India*” keyword gave 20 search results. Thus, using different search terms, the number of records identified from Scopus alone was 3927. Next using the Web of Science, the keyword “*Social cognition and schizophrenia in Indian patients*” generated around 65 search results, keyword “*Quality of life and schizophrenia patients*” gave 27 results and keyword “*Attribution bias and schizophrenia patients in India*” gave 1 search results. Which is a total of 4020 records that were identified. Out of 4020 records, 184 were removed before screening as they were found to be duplicates. The remaining 3836 were screened. Out of the 3836 studies, 370 of them were excluded as they were non-English. The rest 3466 records were screened for retrieval. However, 20 of those articles were not retrieved hence they were excluded, and the remaining 3446 records were checked for their eligibility. Nevertheless, among those 3446 records, 1311 were excluded as they were not within the expected time period. Also, 2101 studies of non-Indian origin were also removed from the total of 3446 which finally gave us 34 studies that were included in the review.

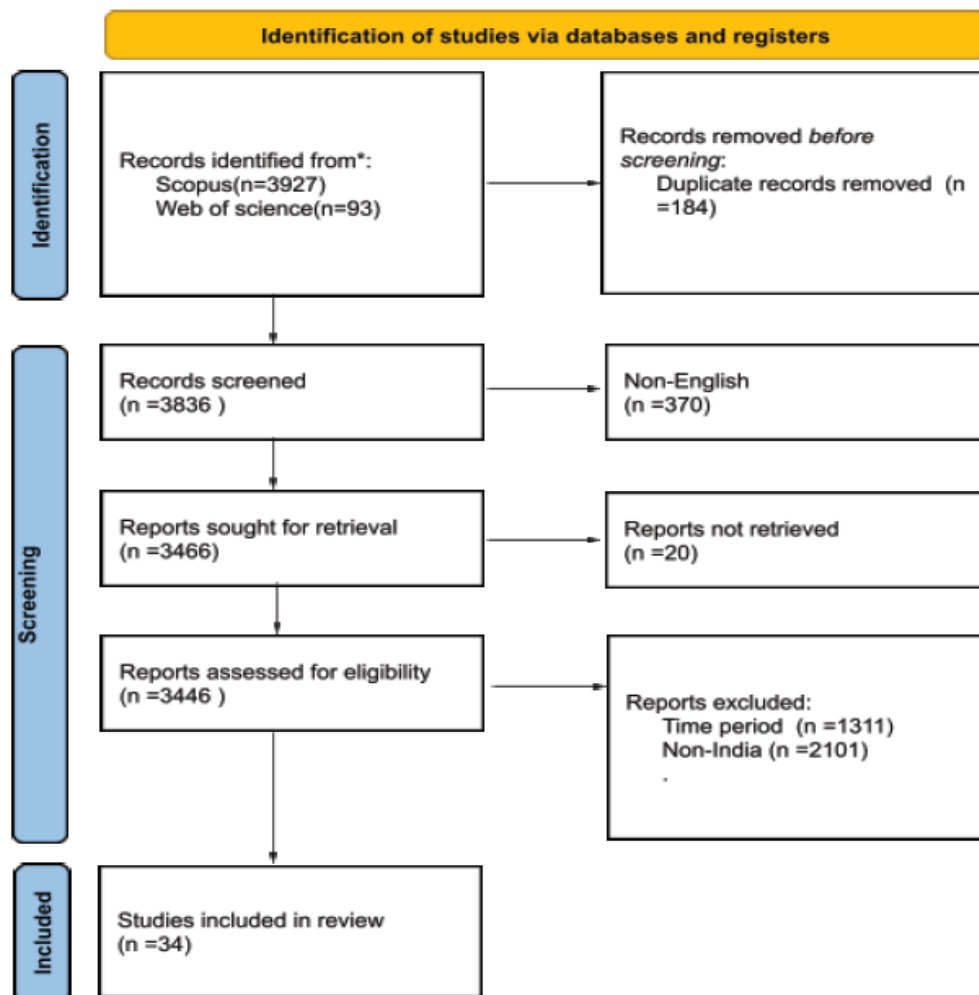


Figure 1. PRISMA sheet summarizing the selection of final articles for review

Summary of study characteristics

Table 2. Summary of study characteristics of various studies included in this review

Nature of the Study	Total number of Patients	Observation of the Study	Reference
Longitudinal study	32 patients	Impairments in all the domains of SC (except for social perception index) and NC (except for WCST) improve in the remission phase.	Valaparla et al., 2021
Longitudinal study (Letter to Editor)	At the initial assessment, 33 patients underwent NC and SC assessments. However, at the end of 3 months of clozapine therapy, only 25 patients were available for reassessment.	Clozapine treatment in patients with TRS does lead to improvement in SC but not NC	Verma et al., 2020
Linear mixed model	30 male patients of 30 years with schizophrenia and 30 age-matched healthy male volunteers.	Found aberrant social decision making and increased inequity aversion in patients with SCZ	Patil et al., 2020

Social Cognition and Quality of Life in Patients with Schizophrenia in India -Systemic Review

Nature of the Study	Total number of Patients	Observation of the Study	Reference
Cross-sectional study	One hundred individuals with schizophrenia 18–50 years	Individuals with schizophrenia have poor Neurocognitive insight	Baliga et al., 2020
Cross-sectional study	50 patients in each group between 18 and 25 years	Social cognitive measures may be used as reliable endophenotype markers for schizophrenia and its sub-domains may be used for valid identification of AR individuals.	Tikka et al., 2020
Cross-sectional study	The study comprised 3 groups: Group-I included 34 siblings of patients with schizophrenia, Group II included 34 corresponding patients of schizophrenia and Group III included 31 healthy controls. 16 years of age or more	Social cognitive deficits can act as an important endophenotype for estimating the risk of schizophrenia in at-risk siblings	Raju et al., 2019
A cross-sectional multicentric study	253 non-selected stabilized SZ outpatients	SZ women in Latin America have a better clinical profile on cognitive and negative symptoms compared to men, as what has been previously found in Western countries	Caqueo-Urizar et al., 2018
A case–control study	100 diagnosed (as per ICD-10) paranoid schizophrenia cases (males = 56 and females = 44) 25-35 years old	A significant impairment in SC was observed among paranoid schizophrenia cases in Chhattisgarh, India.	Dewangan et al., 2018
Longitudinal study	51 patients; 16-55 years of age	Impairment in social cognition in patients with schizophrenia is present both in the symptomatic and remission phase, with higher levels of deficits during the symptomatic phase.	Valaparla et al., 2017
Cross-sectional study	136 patients 18-65 years.	One-fourth of patients with schizophrenia have depression, compared to HDRS and PANSS-D, CDSS has the highest concordance with the clinician's diagnosis of depression and the presence of depression is related to cognitive insight	Grover et al., 2017
Open-label	29 clinically stable patients with SZ 18-50 years	IPT provided inputs in cognitive functions, social perception, social skills and verbal communication across 16–20 sessions and may be cost- and time-effective	Taksal et al., 2015
-	Ten patients (six male and	Assertive community	Arahanthabailu et

Social Cognition and Quality of Life in Patients with Schizophrenia in India -Systemic Review

Nature of the Study	Total number of Patients	Observation of the Study	Reference
	four female)	interventions with suitable modifications for local resource-limited conditions may be an effective option in promoting functional recovery in Schizophrenia.	al., 2022
-	59 patients 18 years and above	(1) Positive symptoms were independent predictors of both subjective life satisfaction and objective psychosocial function; (2) negative symptoms were also an independent predictor of psychosocial status but not subjective life satisfaction, and 3) depression and better working memory skills predicted worse subjective life satisfaction but not objective psychosocial status	Kurtz et al., 2019
Cross-sectional stud	100 patients 18 - 65 years	Caregivers of patients with schizophrenia experience substantial stigma	Singh et al., 2016
A prospective naturalistic study	71 patients 18-45 years	Reducing the dose of antipsychotics during the maintenance phase was associated with improved cognitive functions without an increased risk of relapse	Singh et al., 2022
-	54 schizophrenia patients	The magnitude of early motor resonance was reduced in the antipsychotic-naïve schizophrenia group, compared to healthy subjects. Early phase motor resonance was associated with social cognition deficits in patients	Mehta et al., 2019
Review article	Not applicable	Conceptual understanding of cognition with its neurobiological correlates in schizophrenia and its different clinical implications.	Kar & Jain (2016)
Cascading model & Combined model	170 outpatients 18 - 55 years	Cognitive deficits and residual symptom dimensions influence functional outcome via both direct and indirect paths. NC and SC impacted functional outcomes directly, as well as, through specific influences on insight and negative symptoms/motivation respectively	Bhagyavathi et al., 2015
Cross-sectional study	100 FDRs 18 - 50 years	Similar to schizophrenia patients, first-degree relatives (FDRs) also	Baliga et al., 2020

Social Cognition and Quality of Life in Patients with Schizophrenia in India -Systemic Review

Nature of the Study	Total number of Patients	Observation of the Study	Reference
		have poor Neurocognitive insight (NI)	
Cross-sectional study	54 patients aged 18–60 years	Poor medication adherence was seen in more than one-third of remitted patients with schizophrenia	Settem et al., 2019
Cross-sectional study	30 spouses of male patients with schizophrenia 30 age-matched spouses of male participants without psychiatric disorders	Wives of patients with schizophrenia have lower QOL and marital adjustment compared to controls.	Sahu et al., 2020
Naturalistic follow-up study	52 participants at the baseline and three months (± 1 week) after initiation of clozapine	Treatment with clozapine leads to improvement in core symptoms of schizophrenia and is also associated with significant improvement in the Quality of life, functioning, and disability	Verma et al., 2021
Cross-sectional design	130 consecutive patients with schizophrenia Above 18 years	Explanatory models of illness are associated with perceived Quality of life in patients with schizophrenia	Jacob & Kuruvilla, 2018
Cross-sectional study	Forty patients with schizophrenia with a mean age of 38.5 years	Work is very important for all patients with schizophrenia for their QOL	Durgoji et al., 2019
-	250 participants diagnosed with schizophrenia	Around one-fifth of patients with schizophrenia have significant depression during the phase of clinical remission.	Subodh & Grover, 2020
Cross-sectional study	120 remitted schizophrenic patients	There are definite and substantial psychosocial dysfunctions in personal, familial, social, vocational, and cognitive spheres with the advancement of the duration of illness in chronic schizophrenic patients.	Swain et al., 2017
Randomized controlled trial	66 patients and their key relatives	BPI is associated with a significant improvement in QOL as well as the burden of care of key relatives of patients with schizophrenia, which, in turn, results in an improvement in QOL of their patients.	Kumar et al., 2020
Cross-sectional study	100 patients with schizophrenia	Higher levels of religiosity and spirituality were associated with better medication compliance.	Triveni D et al., 2021

Social Cognition and Quality of Life in Patients with Schizophrenia in India -Systemic Review

Nature of the Study	Total number of Patients	Observation of the Study	Reference
Current theme	Not applicable	Stigma is a clinical risk and barrier to the outcome, and therefore the response to stigma, needs to be individually tailored for clinical practices	Shrivastava et al., 2013
-	56 patients diagnosed with schizophrenia 18-61 years	Relatives of patients with schizophrenia suffer from a considerable amount of distress and burden	Chaturvedi et al., 2014
-	170 schizophrenia patients out which 69 were parents	Second-order theory of mind deficits are specifically associated with parental role dysfunction of patients with schizophrenia	Mehta et al., 2014
Multidimensional study	60 schizophrenic patients and 60 healthy controls	Patients had deficits in both SC and NC compared to healthy controls	Mehta et al., 2013
-	30 patients with first-episode psychosis and 26 healthy controls 18-55 years	Compared to healthy controls, patients with FEP have impairment in the domains of second-order ToM and Faux Pas Composite Index	Sen et al., 2020
Multivariate regression Analysis	170 schizophrenia patients among whom 49 were females.	NC predicts anywhere between 4-40% of the variance observed in specific SC sub-dimensions. Emotion-driven processes like emotion recognition, social perception, and faux pas recognition had the strongest association with NC; while attribution bias had the least association with NC.	Mehta et al., 2014

Impairments in social cognition among schizophrenic patients in India and its connection with neurocognition.

The research by Valaparla et al was carried out in a tertiary care facility in northern India. Patients diagnosed with schizophrenia using the Mini International Neuropsychiatric Interview PLUS (MINIPLUS) version of the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) were included in the research. Participants also had to be able to read and comprehend Hindi and/or English, be between the ages of 16 and 55, have had their ailment for between 1 and 10 years, be agreeable throughout the evaluation, and meet other inclusion requirements. SC rating techniques in an Indian context (SOCRATIS) were used for the evaluation (Mehta et al., 2014).

The results showed that Social Cognition and NeuroCognition impairments are present in individuals with schizophrenia both throughout the symptomatic phase and the time of remission, with a greater degree of impairment during the symptomatic phase. During the symptomatic period the second-order ToM score is significantly correlated with IQ,

however, during the remission phase, this association disappears. Although there is no link with SC or NC during any stage of the disease (Valaparla et al., 2021)

Prevalence and effect of depression during schizophrenia

Studies on the incidence of depression in people with schizophrenia have been conducted, but they have often neglected to define clinical remission (of schizophrenia symptoms) as part of their evaluations of depressive symptoms. Moreover, there is a lack of data on the incidence of depression and its associations among people with schizophrenia who have achieved clinical remission. This is why researchers set out to assess the incidence of depression and its effects on function, impairment, and Quality of life among people with schizophrenia who are in clinical remission. Findings from the research indicated that roughly 20% of individuals with schizophrenia had substantial depression during remission, highlighting the necessity for frequent screening for depression in schizophrenic patients during the remission period.

Overall psychopathology, functioning, interpersonal activities, and Quality of life were all shown to be negatively affected by depression in the present research on individuals with schizophrenia. One-fifth of people with schizophrenia had severe depression during clinical remission, according to the study's results. Patients with schizophrenia who also suffer from depression have worse outcomes in terms of residual psychopathology, and Quality of life. Hence, the evaluation and therapy of depression in individuals with schizophrenia should be the primary emphasis of any effort to improve outcomes during the time of clinical remission (Subodh & Grover, 2020)

Analyzing the Quality of life of schizophrenia patients and its impact on caregivers in India.

One hundred people who cared for individuals with schizophrenia were assessed using the Stigma scale for carers of people with mental illness (CPMI), the Explanatory model interview catalog stigma scale (EMIC), the General health questionnaire-12 (GHQ), the Self-report attitude towards medications questionnaire, and the Knowledge mental illness scale (KMI). Among the three subscales of the CPMI, the emotional subscale had the highest score (2.370.5), followed by the cognitive subscale (1.970.9) and the behavioral subscale (1.870.6). When asked to rate the degree of the stigma they experienced, more than 50% of carers agreed or strongly agreed with 20 of the 22 questions on the CPMI. The mean stigma score on EMIC was 21.776.3. Higher levels of affiliate and/or experiential stigma were linked to shorter illness and treatment times, shorter times in the role of caretaker, low-earning family members, higher numbers of pills prescribed, and higher levels of psychological morbidity among the carers (Singh et al., 2016).

Yet another research looked at how Explanatory models affected the way persons with schizophrenia felt about their own well-being and Quality of life. The research method was cross-sectional. Over a 12-month period, 100 people were selected from the outpatient clinic at the Psychiatry Department. The Positive and Negative Symptom Scale (PANSS), a modified version of the Short Explanatory Model Interview (SEMI), and the World Health Organization Quality of Life-BREF (WHOQOL-BREF) Scale were used to evaluate their psychotic symptoms, disease beliefs, and Quality of life, respectively. Quality of life was shown to be significantly affected by housing and socioeconomic status. Patient drug misuse was associated with worse Quality of life ratings. Functional impairment and adaptive capacity are further exacerbated by the presence of co-occurring disorders. Results showed

that Quality of Life (QoL) ratings decreased with increasing levels of both negative symptoms and overall psychopathology (Jacob & Kuruvilla, 2018).

Parenting unresponsiveness among schizophrenia patients in India.

Impairments in parenting may result from a lack of emotional reactivity, an inability to create connections and express love, or both. One's parenting style has a profound impact on their child's development across the board, and it also has a positive effect on the parent's own personal growth and maturation. The research was thus undertaken to document the patients' attempts at the cognitive deconstruction of their parental competence. The findings of their research suggest that better parenting therapies for people with schizophrenia might benefit from a focus on the cognitive deconstruction of parental function in this population. When evaluated during symptom remission, when active recovery-oriented treatment measures are most likely to be initiated, these results take on added significance. They observed that the second-order theory of mind deficiencies was substantially linked to dysfunctional parenting, which is a step towards improving parenting intervention design and comprehending parenting deficits in schizophrenia (Mehta et al., 2013).

Therapeutic interventions in the management of Schizophrenia

The feasibility of Integrated Psychological therapy (IPT).

Patients with schizophrenia often make significant progress toward recovery, and one measure of this progress is the functional outcome in SZ patients. Neurocognition is only one of many aspects that might have an effect on a person's social skills. Patients with SZ have shown improvement in social functioning after receiving Integrated Psychological Treatment (IPT). Although its potential is undeniable, further research is needed to fully understand its effects across the Indian subcontinent. Twenty-nine clinically stable outpatients with schizophrenia/schizoaffective disorder (DSM IV-TR) participated in an open-label design research to assess the impact of IPT on neurocognition and social functioning in patients with SZ. Neurocognitive, social, and symptomological evaluations were performed on the patients. Findings suggested that Integrated Psychological Therapy (IPT) may have cost- and time-effective compared to treatments that give inputs in single domains, but need the same amount of time (or more), and that it gave inputs in cognitive processes, social awareness, social competence, and verbal communication over the course of 16-20 sessions. Results also indicated that IPT might be used in therapeutic settings and adapted to each patient's specific needs to enhance schizophrenic patients' social functioning (Taksal et al., 2015).

The effectiveness of low-dose antipsychotic drugs on cognitive functions of Schizophrenic patients

So far, there is still no clear treatment for cognitive impairments, even though they are strong predictors of social functioning. Reduced antipsychotic dosing may improve cognitive performance, but it is not without risk of recurrence. But nobody has ever looked at this in the actual world yet. Hence, researchers looked at patients aged 18-45 who were in the recovery phase of their therapy and who had been hospitalized for no more than 5 years. A Brief Assessment of Cognition in Schizophrenia was used to measure any mental state changes (BACS). Patients were separated into three categories according to the amount of antipsychotic medication they were given. The study's findings indicate that reducing the antipsychotic dosage in people with schizophrenia on maintenance therapy may enhance their cognitive performance. Unfortunately, neither current practice nor the present research provides any guidance as to when or by how much antipsychotics should be reduced.

The results also demonstrated that lowering antipsychotic doses during the maintenance phase led to better cognitive functioning without increasing relapse risk. They also demonstrated that withdrawal of antipsychotics is associated with a greater risk of relapse, suggesting that reducing the dosage first may be preferable. It is important to strike a balance between dosage reductions and relapse prevention, since both cognitive symptoms and functional results are important predictors (Singh et al., 2022).

Changes in the Quality of life and functioning in schizophrenic patients after Clozapine treatment.

It is generally accepted that clozapine therapy leads to a reduction in the severity of schizophrenia's core symptoms. Nevertheless, its effect on other outcome factors is little understood. Hence, studies were conducted to assess the efficacy of clozapine in the short-term (three months) for patients with treatment-resistant schizophrenia (TRS) in terms of Quality of life, functioning, impairment, and neuropsychiatric (including depressive symptoms, obsessive-compulsive symptoms, and insight about illness). The study's secondary objective was to assess the frequency of clozapine's adverse effects. Patients who were given clozapine showed considerable improvements in their psychosocial functioning and had a large decrease in their disability, according to the findings of the current research.

It was also shown that after 3 months of therapy with clozapine, psychopathology was significantly reduced as measured by the PANSS, CDSS, and CGI Scale. Clozapine has been shown to have positive effects on a variety of different outcomes, including reductions in OCD symptoms, increases in clinical and cognitive insight, functional improvement, impairment reduction, and Quality of life. As clozapine has been shown to enhance the long-term prognosis of schizophrenia, it implies that it should be evaluated at an earlier stage in the treatment of individuals with TRS. Results from this trial further indicate that clozapine is unlikely to cause any serious adverse effects in the majority of patients.

Again, this shows that practitioners shouldn't be afraid of clozapine's potential for adverse effects and shows that it should be evaluated for all patients who have become resistant to other treatments and need the same therapy. The research also revealed an increase in the incidence of metabolic syndrome among clozapine patients. Researchers also noted that clozapine is not to blame for the elevated rates of metabolic syndrome seen in those taking the drug. Patients taking clozapine should be routinely watched for metabolic changes, and all patients should be counseled on dietary and lifestyle adjustments to lessen the risk of metabolic complications (Verma et al., 2020).

The outcome of the modified assertive community treatment program (M-ACT) as a part of therapeutic intervention.

When left untreated, schizophrenia may severely impact a person's Quality of life. Treatment with antipsychotics, in addition to other forms of psychosocial rehabilitation, is crucial for facilitating functional recovery. Recovery from schizophrenia may be encouraged with the use of the Assertive Community Therapy (ACT) model. In poor and middle-income nations, there is fewer data on the efficacy and viability of community-based assertive treatments. This is why researchers in South India set out to assess how well modified assertive community therapy worked for their patients and how the program was received by their carers. M-ACT was developed primarily for those who have been suffering from serious mental illness over an extended period of time and have had many relapses.

Social Cognition and Quality of Life in Patients with Schizophrenia in India -Systemic Review

According to the research, community-based rehabilitation programs for persistent schizophrenia are uncommon in resource-limited settings like India. The results show that with certain adjustments, assertive community therapy for people with schizophrenia may improve global functioning, disability, and familial stress while decreasing readmission rates in settings with limited resources. While most respondents had a favorable impression of the M-ACT program, they were able to demonstrate substantial enhancements in patients' levels of functioning, adherence to medication, relapse rates, and impairment following their enrollment in the program.

Hence, in addition to antipsychotic medication, proactive community interventions that are appropriately adapted to local resource-limited situations may be a viable choice for supporting functional recovery in Schizophrenia (Arahanthabailu et al., 2022).

DISCUSSION

This is the first study to pool the data on Social Cognition and Quality of Life in patients with Schizophrenia in the Indian context. A total of 34 articles were selected using different criteria based on the research objective.

In general, the summary of the findings reported in this study on impairments in social cognition and its connection with neurocognition among SZ patients showed that Social Cognition and Neuro Cognition impairments are evident in persons with schizophrenia both during the symptomatic period and the time of remission, with a larger degree of impairment during the symptomatic phase, which is in accordance with another study which also described that social and vocational impairments, as well as a greater degree of disability, were the consequences of deficits in social cognition (Valaparla et al., 2017).

Our review's analysis was consistent with a previous study showing that patients, when compared to healthy controls, had shortcomings in both SC and NC. SC deficits remained even after accounting for NC impairments, suggesting that SC impairments operated independently of NC performance. The connection between neurocognition and distress symptoms was mediated by SC. Moreover, they demonstrated that SC impairments are universal across cultures, meaning that they are present in people with schizophrenia despite geographical or linguistic differences. When comparing the western and Indian contexts, the impact sizes of SC impairments (particularly in ToM and emotion detection) in schizophrenia seem to be bigger in the Indian context (Grover et al., 2017).

Deficits in social cognition have been linked to worse levels of social and vocational functioning, more ignorance, lower Quality of life, and greater stigma can be seen in a number of studies. Nevertheless, there are no negative effects on Quality of life associated with social cognitive deficiencies, and only a few associations exist between them and other psychosocial outcomes of first-episode psychosis (Kar & Jain, 2016).

Neurobiological correlations for several facets of cognition have been identified. Patients with schizophrenia have a distinctive pattern of cognitive deficiency that may be traced to the involvement of certain brain areas. Yet, there is substantial overlap between the brain regions implicated in many mental diseases (for example, mood disorder and dementia), which results in overlapping patterns of cognitive disability (Bhagyavathi et al., 2015).

Functional outcome is affected in both direct and indirect ways by cognitive impairments and residual symptom characteristics such as insight, motivation, and other unpleasant

symptoms. This suggests that both Neuro Cognition and Social Cognition may have direct and indirect effects on functional ability, with NC and SC impacting functional outcomes both directly and via their respective effects on insight and negative symptoms/motivation (Subodh & Grover, 2020).

Patients' social cognition performance was correlated with their ability to engage in early-phase motor resonance, which distinguished antipsychotic naïve individuals from treated patients/healthy volunteers. It has the potential for significant translational consequences and may provide direction for future research into the link between social cognition and early motor resonance in schizophrenia, as well as for the development of social cognitive remediation therapies (Mehta et al., 2019).

The second section of the summary focuses on the role of depression in schizophrenic patients, as indicated in separate research that assessed the prevalence of depression using several measures in individuals with schizophrenia and investigated the connection between depression and cognitive insight, clinical insight, disability, and socio-occupational functioning.

As one-fourth of schizophrenic patients are depressed, and the existence of depression is linked to cognitive insight, social cognition may unquestionably affect the Quality of life of schizophrenic patients (Grover et al., 2017).

One of the biggest obstacles to recovery from mental disease, especially schizophrenia, is the pervasiveness of stigma and prejudice in these individuals' daily lives. The field of stigma research has advanced to the point where we can now describe the phenomenon, evaluate its consequences, and even investigate potential interventions. Stigma has been identified by researchers as a possible therapeutic risk factor.

Disability, prejudice, and seclusion persist even among those who have sought help through mental health services because stigma slows treatment seeking, impairs course and result, lowers compliance, and raises the risk of recurrence. Suicide, aggression, damage to others, and a diminished ability to care for one's bodily health are just some of the possible outcomes when people with mental health issues wait to get help because of shame (Kurtz et al., 2019).

Some studies included in this evaluation found that carers also experienced increased psychiatric illness. Researchers found that factors like living conditions and financial position greatly impacted participants' Quality of life. Quality of life scores was lower when patients reported more substance abuse. A lower Quality of Life (QOL) was reported by research participants as their degrees of depressive symptoms and total disorder increased (Singh et al., 2016).

When treating schizophrenia, it's important to focus on alleviating the favorable symptoms as soon as possible to boost treatment adherence and, ultimately, people's Quality of life. Targeting melancholy has been shown in studies to be an effective strategy for raising clients' levels of happiness in their lives (Durgoji et al., 2019) QOL was also found to be poorer for the partners of schizophrenic patients when compared to healthy controls (Chaudhury et al., 2020).

Social Cognition and Quality of Life in Patients with Schizophrenia in India -Systemic Review

Due to limited funds, low incomes, a lack of education, and a dearth of accessible healthcare facilities, managing schizophrenia has been a significant failure in the Indian context. The majority of patients experiencing a first incident of insanity react favorably to reduced dosages. In rare cases, it may be necessary to use extremely large (mega) dosages of antipsychotic medications like clozapine. Patients in India have been found to require fewer psychotropic medication dosages than their Western counterparts (Avasthi et al., 2017).

It is clear from this analysis that antipsychotics like clozapine, in conjunction with psychological rehabilitative treatments like Integrated Psychological Therapy (IPT) and adapted Assertive Community Treatment Program, can be effective in managing patients and enhancing their Quality of Living.

CONCLUSION

The frequency of schizophrenia in India is estimated to be between two and three per one thousand people. It's a mental disease that can be very disabling and has a broad range of symptoms. Patients' QoL and ability to interact socially can be affected by a number of variables, among which neurocognition is one. Few cognitive impairments are helped by pharmacological treatments. However, the effectiveness can be enhanced by including psychological treatments. In light of this, recognizing life-threatening signs can aid in initiating early therapy options for the patient, without which there is a high probability of deterioration in social cognition and QoL. Therefore, the hypothesis-driven systemic literature review conducted allowed for the identification and analysis of a wide range of research findings concerning patients' social cognition and Quality of life, as well as the identification of treatment interventions for patients with schizophrenia, with a focus on the Indian context.

In conclusion, our comprehensive literature analysis covered only material specific to Indian patients with schizophrenia, including but not limited to social cognition, Quality of life, attribution bias, familial unresponsiveness, and treatment strategies. This comprehensive review did not assess the effectiveness of non-pharmacologic and psychological treatments that can be given to the patient to ameliorate symptoms and improve the patient's Quality of life.

REFERENCES

- Agarwal, G., Pirigyi, M., & Meltzer, H. (2014). Schizophrenia and suicide: Treatment optimization. *Current Treatment Options in Psychiatry*, 1(2), 149–162. <https://doi.org/10.1007/s40501-014-0012-7>
- Arahanthabailu, P., Purohith, A. N., Kanakode, R., Praharaj, S. K., Bhandary, R. P., & Venkata Narasimha Sharma, P. S. (2022). Modified assertive community treatment program for patients with schizophrenia: Effectiveness and perspectives of service consumers from a South Indian setting. *Asian Journal of Psychiatry*, 73, 103102. <https://doi.org/10.1016/j.ajp.2022.103102>
- Avasthi, A., Grover, S., Chakrabarti, S., & Kulhara, P. (2017). Clinical practice guidelines for management of schizophrenia. *Indian Journal of Psychiatry*, 59(5), 19. <https://doi.org/10.4103/0019-5545.196972>
- Baliga, S., Kamath, R., & Kedare, J. (2020). Subjective cognitive complaints and its relation to objective cognitive performance, clinical profile, clinical insight, and social functioning in patients of schizophrenia: A cross-sectional study. *Indian Journal of Psychiatry*, 62(2), 178. https://doi.org/10.4103/psychiatry.indianjpsychiatry_639_19

- Bhagyavathi, H. D., Mehta, U. M., Thirthalli, J., Kumar, C. N., Kumar, J. K., Subbkrishna, D. K., & Gangadhar, B. N. (2015). Cascading and combined effects of cognitive deficits and residual symptoms on functional outcome in schizophrenia – A path-analytical approach. *Psychiatry Research*, 229(1–2), 264–271. <https://doi.org/10.1016/j.psychres.2015.07.022>
- Brown, A. S., & Lau, F. S. (2016). A review of the epidemiology of schizophrenia. In *Handbook of Behavioral Neuroscience* (pp. 17–30). Elsevier. <http://dx.doi.org/10.1016/b978-0-12-800981-9.00002-x>
- Caqueo-Urizar, A., Fond, G., Urzúa, A., & Boyer, L. (2018). Gender differences in schizophrenia: A multicentric study from three Latin-America countries. *Psychiatry Research*, 266, 65–71. <https://doi.org/10.1016/j.psychres.2018.05.032>
- Chaiyakunapruk, N., Chong, H. Y., Teoh, S. L., Wu, D. B.-C., Kotirum, S., & Chiou, C.-F. (2016). Global economic burden of schizophrenia: A systematic review. *Neuropsychiatric Disease and Treatment*, 357. <https://doi.org/10.2147/ndt.s96649>
- Chaturvedi, S. K., Hamza, A., & Sharma, M. P. (2014). Changes in distressing behavior perceived by family of persons with schizophrenia at home - 25 years later. *Indian Journal of Psychological Medicine*, 36(3), 282–287. <https://doi.org/10.4103/0253-7176.135381>
- Chaturvedi, S., Prasad, K., Angothu, H., & Mathews, M. (2016). How are social changes in the twenty first century relevant to mental health? *Indian Journal of Social Psychiatry*, 32(3), 227. <https://doi.org/10.4103/0971-9962.193195>
- Davis, J., Eyre, H., Jacka, F. N., Dodd, S., Dean, O., McEwen, S., Debnath, M., McGrath, J., Maes, M., Amminger, P., McGorry, P. D., Pantelis, C., & Berk, M. (2016). A review of vulnerability and risks for schizophrenia: Beyond the two hit hypothesis. *Neuroscience; Biobehavioral Reviews*, 65, 185–194. <https://doi.org/10.1016/j.neubiorev.2016.03.017>
- Davis, M. C., Green, M. F., Lee, J., Horan, W. P., Senturk, D., Clarke, A. D., & Marder, S. R. (2014). Oxytocin-Augmented social cognitive skills training in schizophrenia. *Neuropsychopharmacology*, 39(9), 2070–2077. <https://doi.org/10.1038/npp.2014.68>
- Dewangan, R. L., Singh, P., Mahapatra, T., & Mahapatra, S. (2018). Demographic and clinical correlates of social cognition in schizophrenia: Observation from India. *Indian Journal of Psychological Medicine*, 40(2), 143–155. https://doi.org/10.4103/ijpsym.ijpsym_156_17
- Durgoji, S., Muliya, K. P., Jayarajan, D., & Chaturvedi, S. K. (2019). Quality of Life in Schizophrenia: What is Important for Persons with Schizophrenia in India? *Indian Journal of Psychological Medicine*, 41(5), 420–427. https://doi.org/10.4103/ijpsym.ijpsym_71_19
- El-Mallakh, P., & Findlay, J. (2016). Improving treatment adherence in schizophrenia. *Current Treatment Options in Psychiatry*, 3(2), 119–132. <https://doi.org/10.1007/s40501-016-0074-9>
- Gopal, S., Mohan, G., John, S., & Raghavan, V. (2019). What constitutes recovery in schizophrenia? Client and caregiver perspectives from South India. *International Journal of Social Psychiatry*, 66(2), 118–123. <https://doi.org/10.1177/002076401986339>
- Green, M. F., Horan, W. P., & Lee, J. (2015). Social cognition in schizophrenia. *Nature Reviews Neuroscience*, 16(10), 620–631. <https://doi.org/10.1038/nrn4005>
- Grover, S., Sahoo, S., Nehra, R., Chakrabarti, S., & Avasthi, A. (2017). Relationship of depression with cognitive insight and socio-occupational outcome in patients with schizophrenia. *International Journal of Social Psychiatry*, 63(3), 181–194. <https://doi.org/10.1177/0020764017691314>

- Jacob, J. A., & Kuruville, A. (2018). Quality of life and explanatory models of illness in patients with schizophrenia. *Indian Journal of Psychological Medicine*, 40(4), 328–334. https://doi.org/10.4103/ijpsym.ijpsym_144_18
- Jacob, K. S. (2015). Recovery model of mental illness: A complementary approach to psychiatric care. *Indian Journal of Psychological Medicine*, 37(2), 117–119. <https://doi.org/10.4103/0253-7176.155605>
- Kar, S. K., & Jain, M. (2016). Current understandings about cognition and the neurobiological correlates in schizophrenia. *Journal of Neurosciences in Rural Practice*, 07(03), 412–418. <https://doi.org/10.4103/0976-3147.176185>
- Kumar, R., Nischal, A., Dalal, P. K., Varma, S., Agarwal, M., Tripathi, A., Kar, S. K., & Gupta, B. (2020). Impact of brief psychosocial intervention on key relatives of patients with schizophrenia: A randomized controlled trial. *Indian journal of psychiatry*, 62(2), 137–144. https://doi.org/10.4103/psychiatry.IndianJPsychiatry_138_19
- Kurtz, M. M., Gopal, S., John, S., & Thara, R. (2019). Objective psychosocial function vs. subjective quality-of-life in schizophrenia within 5-years after diagnosis: A study from southern India. *Psychiatry Research*, 272, 419–424. <https://doi.org/10.1016/j.psychres.2018.12.149>
- Lin, C.-H., & Lane, H.-Y. (2019). Early identification and intervention of schizophrenia: Insight from hypotheses of glutamate dysfunction and oxidative stress. *Frontiers in Psychiatry*, 10. <https://doi.org/10.3389/fpsy.2019.00093>
- Mehta, U. M., Ashok, A. H., Thirthalli, J., & Keshavan, M. S. (2019). Early motor resonance differentiates schizophrenia patients from healthy subjects and predicts social cognition performance. In *Progress in Brain Research* (pp. 353–374). Elsevier. <http://dx.doi.org/10.1016/bs.pbr.2019.03.011>
- Mehta, U. M., Bhagyavathi, H. D., Kumar, C. N., Thirthalli, J., & Gangadhar, B. N. (2013). Cognitive deconstruction of parenting in schizophrenia: The role of theory of mind. *Australian & New Zealand Journal of Psychiatry*, 48(3), 249–258. <https://doi.org/10.1177/0004867413500350>
- Mehta, U. M., Bhagyavathi, H. D., Thirthalli, J., Kumar, K. J., & Gangadhar, B. N. (2014). Neurocognitive predictors of social cognition in remitted schizophrenia. *Psychiatry Research*, 219(2), 268–274. <https://doi.org/10.1016/j.psychres.2014.05.055>
- Mehta, U. M., Thirthalli, J., Bhagyavathi, H. D., Keshav Kumar, J., Subbakrishna, D. K., Gangadhar, B. N., Eack, S. M., & Keshavan, M. S. (2014). Similar and contrasting dimensions of social cognition in schizophrenia and healthy subjects. *Schizophrenia Research*, 157(1–3), 70–77. <https://doi.org/10.1016/j.schres.2014.05.018>
- Mehta, U. M., Thirthalli, J., Naveen Kumar, C., Keshav Kumar, J., Keshavan, M. S., & Gangadhar, B. N. (2013). Schizophrenia patients experience substantial social cognition deficits across multiple domains in remission. *Asian Journal of Psychiatry*, 6(4), 324–329. <https://doi.org/10.1016/j.ajp.2013.02.001>
- Morgan, C., Lappin, J., Heslin, M., Donoghue, K., Lomas, B., Reininghaus, U., Onyejiaka, A., Croudace, T., Jones, P. B., Murray, R. M., Fearon, P., Doody, G. A., & Dazzan, P. (2014). Reappraising the long-term course and outcome of psychotic disorders: The AESOP-10 study. *Psychological Medicine*, 44(13), 2713–2726. <https://doi.org/10.1017/s0033291714000282>
- Padmavati, R., Kantipudi, S. J., Balasubramanian, S., & Raghavan, V. (2021). Cardiovascular diseases and schizophrenia in India: Evidence, gaps, and way forward. *Frontiers in Psychiatry*, 12. <https://doi.org/10.3389/fpsy.2021.639295>
- Patil, V. A., Jacob, A. A., Chacko, D. M., Chakrabarti, D., Devi, P., Thonse, U., Kumar, V., Varambally, S., Venkatasubramanian, G., & Rao, N. P. (2020). Examination of

- social decision making in patients with schizophrenia using ultimatum game. *Asian Journal of Psychiatry*, 50, 101937. <https://doi.org/10.1016/j.ajp.2020.101937>
- Radhakrishnan, R., Menon, J., Kanigere, M., Ashok, M., Shobha, V., & Galgali, R. B. (2012). Domains and determinants of quality of life in schizophrenia and systemic lupus erythematosus. *Indian Journal of Psychological Medicine*, 34(1), 49–55. <https://doi.org/10.4103/0253-7176.96159>
- Raju V, V., Grover, S., & Nehra, R. (2019). Social cognitions in siblings of patients with schizophrenia: A comparison with patients with schizophrenia and healthy controls - A cross-sectional study. *Asian Journal of Psychiatry*, 43, 24–33. <https://doi.org/10.1016/j.ajp.2019.04.005>
- Sahu, S., Mujawar, S., Garg, D., Chaudhury, S., & Saldanha, D. (2020). Quality of life and marital adjustment in spouses of schizophrenia patients. *Industrial psychiatry journal*, 29(2), 323–328. https://doi.org/10.4103/ipj.ipj_176_20
- Savla, G. N., Vella, L., Armstrong, C. C., Penn, D. L., & Twamley, E. W. (2012). Deficits in domains of social cognition in schizophrenia: A meta-analysis of the empirical evidence. *Schizophrenia Bulletin*, 39(5), 979–992. <https://doi.org/10.1093/schbul/sbs080>
- Sen, M. S., Nehra, R., & Grover, S. (2020). Social cognition in patients with first episode of psychosis in remission. *Indian journal of psychiatry*, 62(5), 544–554. https://doi.org/10.4103/psychiatry.IndianJPsIndianJP_342_19
- Settem, V. V. J., Karanadi, H., & Praharaj, S. K. (2019). Cognitive deficits, depressive symptoms, insight, and medication adherence in remitted patients with schizophrenia. *Indian journal of psychiatry*, 61(4), 335–341. https://doi.org/10.4103/psychiatry.IndianJPsychiatry_17_19
- Shrivastava, A., Bureau, Y., Rewari, N., & Johnston, M. (2013). Clinical risk of stigma and discrimination of mental illnesses: Need for objective assessment and quantification. *Indian Journal of Psychiatry*, 55(2), 178. <https://doi.org/10.4103/0019-5545.111459>
- Singh, A., Kumar, V., Pathak, H., Jacob, A. A., Venkatasubramanian, G., Varambally, S., & Rao, N. P. (2022). Effect of antipsychotic dose reduction on cognitive function in schizophrenia. *Psychiatry Research*, 308, 114383. <https://doi.org/10.1016/j.psychres.2021.114383>
- Singh, A., Mattoo, S. K., & Grover, S. (2016). Stigma and its correlates among caregivers of schizophrenia: A study from North India. *Psychiatry Research*, 241, 302–308. <https://doi.org/10.1016/j.psychres.2016.04.108>
- Subodh, B. N., & Grover, S. (2020). Depression in schizophrenia: Prevalence and its impact on quality of life, disability, and functioning. *Asian Journal of Psychiatry*, 54, 102425. <https://doi.org/10.1016/j.ajp.2020.102425>
- Swain, S. P., Behura, S. S., Dash, M. K., Nayak, A. K., & Pati, S. S. (2017). The influence of psychosocial dysfunctions in chronic schizophrenia patients in remission: A hospital-based study. *Indian Journal of Psychological Medicine*, 39(2), 157–163. <https://doi.org/10.4103/0253-7176.203120>
- Taksal, A., Sudhir, P. M., Janakiprasad, K. K., Viswanath, D., & Thirthalli, J. (2015). Feasibility and effectiveness of the Integrated Psychological Therapy (IPT) in patients with schizophrenia: A preliminary investigation from India. *Asian Journal of Psychiatry*, 17, 78–84. <https://doi.org/10.1016/j.ajp.2015.06.013>
- Tandon, R., Gaebel, W., Barch, D. M., Bustillo, J., Gur, R. E., Heckers, S., Malaspina, D., Owen, M. J., Schultz, S., Tsuang, M., Van Os, J., & Carpenter, W. (2013). Definition and description of schizophrenia in the DSM-5. *Schizophrenia Research*, 150(1), 3–10. <https://doi.org/10.1016/j.schres.2013.05.028>

Social Cognition and Quality of Life in Patients with Schizophrenia in India -Systemic Review

- Tikka, D. L., Singh, A. R., & Tikka, S. K. (2020). Social cognitive endophenotypes in schizophrenia: A study comparing first episode schizophrenia patients and individuals at clinical- and familial- 'at-risk' for psychosis. *Schizophrenia Research*, 215, 157–166. <https://doi.org/10.1016/j.schres.2019.10.053>
- Triveni, D., Grover, S., & Chakrabarti, S. (2021). Does religiosity in persons with schizophrenia influence medication adherence. *Indian journal of psychiatry*, 63(3), 228–232. https://doi.org/10.4103/psychiatry.IndianJPsychiatry_413_20
- Valaparla, V. L., Nehra, R., Mehta, U. M., & Grover, S. (2021). Social cognitive deficits in schizophrenia and their neurocognitive correlates across the different phases of illness. *Asian Journal of Psychiatry*, 55, 102501. <https://doi.org/10.1016/j.ajp.2020.102501>
- Valaparla, V. L., Nehra, R., Mehta, U. M., Thirthalli, J., & Grover, S. (2017). Social cognition of patients with schizophrenia across the phases of illness - A longitudinal study. *Schizophrenia Research*, 190, 150–159. <https://doi.org/10.1016/j.schres.2017.03.008>
- Ventriglio, A., Gentile, A., Bonfitto, I., Stella, E., Mari, M., Steardo, L., & Bellomo, A. (2016). Suicide in the early stage of schizophrenia. *Frontiers in Psychiatry*, 7. <https://doi.org/10.3389/fpsy.2016.00116>
- Verma, M., Grover, S., & Chakrabarti, S. (2021). Effectiveness of clozapine on quality of life and functioning in patients with treatment-resistant schizophrenia. *Nordic Journal of Psychiatry*, 75(2), 135–144. <https://doi.org/10.1080/08039488.2020.1811374>
- Verma, M., Sahoo, S., Nehra, R., & Grover, S. (2020). Does clozapine improves cognition in patients with treatment resistant schizophrenia?: An exploratory study. *Schizophrenia Research*, 218, 315–317. <https://doi.org/10.1016/j.schres.2020.02.002>
- Wang, W.-L., Zhou, Y.-Q., Chai, N.-N., & Li, G.-H. (2020). Sleep disturbance and quality of life in clinically stable inpatients with schizophrenia in rural China. *Quality of Life Research*, 29(10), 2759–2768. <https://doi.org/10.1007/s11136-020-02541-2>
- Wu, Y., Kang, R., Yan, Y., Gao, K., Li, Z., Jiang, J., Chi, X., & Xia, L. (2018). Epidemiology of schizophrenia and risk factors of schizophrenia-associated aggression from 2011 to 2015. *Journal of International Medical Research*, 46(10), 4039–4049. <https://doi.org/10.1177/0300060518786634>

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Conflict of Interest

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