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Research Paper

A study on false memory and global function in patients with schizophrenia on remission period and to compare with the normal individual

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ABSTRACT

The present study has been carried out to assess the influence of false memory between patients with schizophrenia on remission and normal group. Schizophrenia with remission phases who are attending Industrial training centre in Inpatient ward of Institute of Mental Health, Chennai where taken for the study. The design used in the present study was a descriptive study. SAMPLE: The total sample size is 60 among which 30 patient of each group (13 female and 17 male respectively), A purposive sampling technique was followed for the collection of sample, PANSS(Positive and negative syndrome scale) and GAF (Global assessment function), were assessed initially the patients who scored mild to moderate level of functioning are included for the study. For both the group false memory episodes are assessed. Results concluded that schizophrenia on remission has made higher amount of causal, plausible and intrusion error and both groups has committed more or less equal amount of extra error, the present study revealed that patients with schizophrenia on remission has made higher number of errors in false memory when compared to the normal group.

Keywords: *False Memory, Global Function, Schizophrenia, Remission Period*

It is now widely recognized that human memory is not an exact reproduction of past experiences but it is an flawed process that is disposed to various kinds of errors and distortions. Studies of memory distortion have a long history in both theoretical and applied cognitive psychology. However, they have become even more prominent during the past two decades as a result of increased awareness that memory errors associated with eyewitness, and evidence that inaccurate or false memories played a major role in the recent controversy concerning the accuracy of recovered memories of childhood sexual abuse. At the same time, researchers in cognitive neuroscience have begun to examine the neural underpinnings of memory distortion and to determine how brain activity can distinguish between true and false memories (Daniel et al., 2017)

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Memory is known as an imperfect collection of our experience, it is essential at this early stage, to distinguish false memory from the more familiar idea of memory fallibility. While talking about the memory fallibility, the laypersons and researchers similar referring to the erosion of memory through normal forgetting. Without the aid of external memory stores we are able to regain only a minute fraction of the content of our practise as time passes .To explain at a trial being held several weeks after a baseball game in which a stabbing occurred, observer who attended the game might not able to remember whether one of the pitchers was left offered whether there were any dual plays where he parked his car or what he had to eat or drink .Though there is another less traditional , meaning of memory fallibility –namely false memory. In its most general sense ,false memory refers to situations in which we are possessed of positive , definite memories of events although the degree of certainty may vary-that did not actually happened to us, as when the respondent in the stabbing case is wrongfully convicted because our witness testifies to having seen the offender standing behind the victim just before the stabbing when in fact he saw them on separate occasions , or testifies to having seen the defendant with a knife in his hand when in fact he had seen a hairbrush , it is this second form of memory fallibility –errors of commission rather than omission –that is the focus of the science of false memory. (Brainerd et al.,2005)

Theoretical Explanations of false memory

There are three early theories associated with false memory

Bransford et al.,(1971) reported that, Constructivism is associated with the studies of false memory for semantic inference conducted by and other psycholinguists Kintsch 1974 as well as with Bartletts 1932 classic work of false memory for ambiguous narratives , and subsequently, it was intended to explain errors in memory for complex narrative material.

Lampinen et al ,(2001) Schema theory evolved from constructivism and from research on schema-consistent memory and it therefore centres on erroneous memories of people , that is where the object, and events that are normally experienced as part of every day situation which they were aware of , such that attending game or dining at a restaurant.

Source monitoring framework emerged during the course of studies of reality monitoring Johnson et al, (1988) and was therefore designed to account for those partly true and partly false memories in which the remembered events was actually experienced in once dreams or thoughts about events,as per the source monitoring theory the origin of such experience often incorrectly remembered by trusting on cues that are generally but not invariably dependable discriminators of actual versus mental experience

Theories of false memory

The Fluency-Misattribution Perspective

According to fluency –Misattribution theory False memories result from the misattribution of the fluency processing. Jacoby et al., (1989), reports that the subjective experience of understanding results from the unconscious attribution of fluency processing of their past. Whittlesea et al.,(2000). Reports that when fluency due to the previous presentation of a stimulus is attributed to the past experience, results to veridical recognition.

Source Monitoring framework

Loftus et al., (1970) Reports that, according to the Source Monitoring framework, it is not the case of finding the memories but rather it is the mental experiences that are attributed to the

memory but not by ongoing judgment processes. This explains various key aspects of the memory attributions:

1. Memory attributions are built on numerous qualitative characteristics of the mental experience. Based on once perception, spatial ability, temporal, and emotional details do affect the mental experience which reflects on true memory.
2. Memory is enclosed firmly by a surrounding mass and impacts the mental experience. These surrounding be determined by factors as the availability of supporting memories, consistency with knowledge and their beliefs (e.g., plausibility), and consistency of the information, and agreement with the reports of others about the event.
3. Memories are made according to few measures based on which qualities are considered and how they are weighted, how much evidence of any given type is needed). This shows that what may be taken for a memory under one set of circumstances might not be under another.
4. Goals, beliefs, and motivational, social factors influence what characteristics are looked for, how much surrounding occurs, and which criteria are applied. Different kinds of imagination and perception arise the false memory from the mental experience from the events, which overlap in characteristics (they are imperfectly differentiated) and because the processes that make decisions about these mental experiences are also imperfect

False memory

False memories is defined as remembering of events that has never happened or remembering them relatively different from the way they have happened **(Roediger et al., 1995)**

Schizophrenia

Schizophrenia is a mental illness people with schizophrenia shows the character of illogical thoughts, bizarre behaviour and speech, and delusions or hallucinations, such as hearing voices. Which mostly occur in the beginning of early adulthood (

Schizophrenia on remission

Remission in schizophrenia. Is when the symptoms be based on maintenance of low level of symptoms for at least 6 months in psychoticism, disorganization, and negative symptoms

Factors causing false memory:

Inference: New information is mostly competed with old memories and experiences. The old memories affect or modify the new memories, new information can make it difficult to remember previously stored information. As the parts of old information back together, there are sometimes holes or gaps in the memory. Human minds mostly fill in the missing spaces, by using current knowledge as well as beliefs or expectations.

Emotions: Recalling an emotional event they were mostly details of an emotionally-charged feelings are expressed (e.g., an argument, an accident, a medical emergency), probably these emotions can damage the memory. These strong emotions make our experience more memorable, but sometimes they can lead to mistaken or untrustworthy memories.

Misinformation: This is when the correct information gets mixed with incorrect information, which then misrepresents our memories for events.

Misattribution: When elements merge with the different events into one united story, which leads to misremembering where one obtained a particular type of information, or even recalling imagined events from our childhood and believing that they are real.

Fuzzy Tracing: When memories formed, mostly we fail to focus on the basics details instead we remember an overall impression of what happened. This theory suggests that people make verbatim traces of events and other times make only gist traces. Verbatim traces is based on the real events as they have actually happened, while gist traces are on our interpretations of events. The information which was interpreted do not exactly reflect on what has really has happened. These biases interpretations of events can lead to false memories of the original events. (Kendra cherry 2017)

In split-brain patients, levels of false recognition of meaning-preserving distractors are greater when target material is presented to the left hemisphere than when it is presented to the right, but false recognition of unrelated distractors is the same. Fuzzy-trace theory provides three possible explanations: Gist storage is superior in the left hemisphere, verbatim storage is superior in the right hemisphere, or both. A series of experiments on a single split-brain patient, using a variety of manipulations of the surface and semantic content of target materials, favoured the view that verbatim storage was superior in the right hemisphere and gist storage was superior in the left hemisphere (Metcalfe et al., 1995). However, these results may depend on visual presentation of target material (Bowden et al.,1998).

Studies of other types of patients, amnesiacs with damage to the medial temporal lobes, have produced conflicting findings. In false-recognition designs in which related distractors were composites of targets (e.g., Hand gun and Shot gun are targets and Handgun is a related distractor), amnesiacs with damage to the medial temporal lobes had higher false-alarm rates than normal participants (Tulving et al., 1996), sometimes to the point that targets were not discriminated from distractors. Here, the obvious explanation is differences in the accessibility of verbatim traces: Handgun preserves the weapon meaning of Shotgun, which supports false alarms if verbatim traces of Handstand and Shotgun cannot be accessed (Jackson et al., 1999). In sharp contrast, when the Deese/Roediger/McDermott paradigm is used, amnesiacs' false-alarm rates to critical distractors are lower than normal participants' (Schacter et al., 1996). Fuzzy-trace theory again generates three possible explanations: differences in the accessibility of gist memories, differences in the accessibility of verbatim memories, or both. Schacter et al. concluded that their data favored the conclusion that relative to normal participants, the ability of some types of amnesiacs to store gist memories of the themes that are repeatedly cued by Deese/Roediger/McDermott lists is impaired. A finding supporting this conclusion is that semantic false-recognition effects are comparable in amnesiacs and controls with more conventional lists in which the targets do not repeatedly cue a single theme (Koutstaal et al., 1999).

LITERATURE REVIEW

1) Intellectual factors in false memories of patients with schizophrenia. Zhu et al.,(2018)

The current study explored the intellectual factors in false memories 139 patients with schizophrenia, using a recognition task and an IQ test. The full-scale IQ score of the participants ranged from 57 to 144 (M = 100, SD = 14). The full IQ score had a negative correlation with false recognition in patients with schizophrenia, and positive correlations with high-confidence true recognition and discrimination rates. These findings contribute to a better understanding of the cognitive mechanism in false memory of patients with

schizophrenia, and are of practical relevance to the evaluation of memory reliability in patients with different intellectual levels.

2) The role of attention at retrieval on the false recognition of negative emotional DRM lists Lauren et al., (2017)

The aim of the study is to examine the role of attention at retrieval on the false recognition of emotional items using the Deese–Roediger–McDermott (DRM) paradigm. Negative and neutral DRM lists and completed recognition tests under conditions of full and divided attention were given to the participants. The study Found that at retrieval divided attention has increased false remember judgements for critical lures compared to retrieval under full attention, but in both retrieval conditions, false memories were greater for negative compared to neutral stimuli.

3) False Memories for Affective Information in Schizophrenia. Flavia et al., (2016)

The aim of the study is to find the false memories of affective information in schizophrenia The study includes every day episodes composed of 12 photographs that depicted positive, negative, or neutral outcomes24 patient group and healthy adults respectively and , have completed a false memory task .Patients with schizophrenia made a higher number of false memories than normal controls ,when remembering episodes with positive or negative outcomes. The effect of valence was apparent in the patient group. Emotional information reduces the probability of generating causal errors in healthy adults but not in patients suggesting that emotional memory impairments may contribute to deficits in reality monitoring in schizophrenia when affective information is involved.

4)False memories and the DRM paradigm: effects of imagery, list, and test type Oliver et al., (2015)

Is to study effect of imagery, list, and test type of false memory and DRM paradigm Semantic and phonological DRM lists were shown to 102 participants, followed by a free recall test and final recognition test. Some participants received instructions to imagine list items during the study phase to facilitate memory, and others were simply told to remember list items. Imagery instructions enhanced correct memories and further suggested a trend for decreased false memories, with phonological lists eliciting higher false memories at recall, and semantic lists eliciting higher false memories at recognition.

5) False memory in schizophrenia patients with and without delusions. Bhatt et al., (2010)

The aim is to study false memory in schizophrenia patients with and without delusion Classic Deese-Roediger-McDermott (DRM) paradigm to compare false memory production in schizophrenia patients who were currently experiencing delusions (ED), patients not experiencing delusions (ND) and healthy control participants. Shows that both patient groups also recognised fewer correct words than the healthy controls and both showed greater confidence in their false memories; however, on the recognition task, The ED group recalled twice as many false-positive memories (i.e., memory for words not previously seen) as both the controls and crucially, the ND group.

6) False memory and schizophrenia: evidence for gist memory impairment. Leeys et al., (2007)

The aim of the study is to examine patients' false memory, for a non-presented event, to search for a further source of converging evidence for the impairment of semantic memory in

individuals with schizophrenia. In two experiments we compared the pattern of false memory created by the Deese-Roediger-McDermott (DRM) paradigm between individuals with schizophrenia and those of a normal control group. Experiment 1 tested participants on both recall and recognition of lists of semantically related words. The 2nd Experiment is meaning recognition test, in addition to the standard recognition test, to assess the participants' gist memory. Individuals with schizophrenia performed worse than normal controls on both recall and recognition of studied words. The schizophrenia patients had higher rates of false recall and false recognition for semantically unrelated words than did the normal controls, suggesting an abnormal pattern of semantic activation in the former group. More importantly, no differences were found between the two groups with regard to false recall and false recognition of semantically related words. When the participants were tested for meaning recognition, however, the schizophrenia patients gave fewer 'old' responses to non-studied semantically related words than did the control group, indicating an impaired gist memory in schizophrenia patients.

Need for the present study

There are no many studies assessing false memory in schizophrenic patients in the Indian population, many studies reveal that false memory was assessed by verbal test (DRM) which had been proved that there is a significant difference between experimental and control group. Therefore, the present study aimed to focus on nonverbal test to assess the influence of false memory and also It would be helpful for measuring the false memory in illiterate and literate population**.**

The Present Study

The review of literature suggests that the epidemiological studies on false memory compared between patients with schizophrenia on remission and normal individuals in Indian population are very few. Review shows that the main tools used are Deese–Roediger–McDermott (DRM) paradigm, it is a procedure in cognitive psychology used to study false memory in humans, it was pioneered by JamesDeese in 1959, Henry L.Roediger and Kathleen McDermott extended the line of research in 1995. PANSS Positive and Negative Syndrome Scale (PANSS) is a medical scale used for measuring symptom severity of patients with Schizophrenia. It was published in 1987 by Stanley Kay, Detailed assessment of false memory has not generally done.

Aim

The aim of the study is to investigate the effect of false memory and global function in patients with schizophrenia on remission compared with the normal individual.

Objectives

1)To study the influence of false memory between patients with schizophrenia in remission and normal individual.

Hypothesis

1. There is no significant difference between the normal individual and schizophrenia on remission in measuring the false memory
2. There is no significant gender difference between schizophrenia on remission and normal individuals on false memory
3. There will be no significant difference between the age and false memory among normal individual and the schizophrenia on remission.

Research approach: Quantitative approach.

Research design: The study will be a Explorative study.
Selection of the sample: The data were collected from general setting for normal sample, who shows no psychiatric illness in the family. Inpatients of schizophrenia in remission period, who attend Industrial training centre (ITC) data were collected from Institute of Mental Health, Kilpauk Chennai.

Sample: The study consists of schizophrenia on remission period and normal individuals.
Sample size: The total sample size consists of 60 out of which 30 samples belongs to schizophrenia in remission and 30 were normal individual.

Sampling technique: the sampling technique used for the study is purposive sampling.

Criteria for sample selection
Inclusion criteria for patient population

1. Patients who were diagnosed as Schizophrenia as per ICD-10 criteria and fulfilled the criteria for remission period
2. Patients with in the age range of 25-60 years
3. Married and unmarried individuals
4. Patients who attend ITC
5. Patients who are educated up to Higher secondary
6. Married and unmarried patients

Inclusion criteria for normal population

1. Normal individuals were selected from general population
2. Age range between 25-60 years
3. Married and unmarried individuals

Exclusion criteria

1. Other co morbid psychiatric conditions, Organic mental illness, Co-morbid physical illness.
2. Paranoid schizophrenia

Tools
Socio demographic data sheet: This was prepared by the investigator to obtain information about the participants age, gender, education, occupation, marital status, comorbid psychiatric and physical illness. ICD-10 Criteria for diagnosis of schizophrenia.

Positive and Negative Syndrome Scale (**PANSS**: Kay et al.,1984) Positive and Negative Syndrome Scale (PANSS) is a medical scale used for measuring symptom severity of patients with Schizophrenia.

To assess a patient using PANSS, an approximately 45-minute clinical interview, Rating is from (1-7) 1- absent,2-Minimal,3-Mild ,4-moderate ,5-moderate severe,6-severe,7 extreme. Positive scale has7 Items, (minimum score = 7, maximum score = 49), Negative scale has 7 Items, (minimum score = 7, maximum score = 49) General Psychopathology scale16 Items, (minimum score = 16, maximum score = 112).

PANSS items in Positive scale (Delusion, conceptual disorganization, hallucinatory behaviour, Excitement, Grandiosity, suspiciousness, hostility)

Negative scale items (Blunted affect, Emotional withdrawal, Poor rapport, passive social withdrawal, difficulty in abstract thinking, lack of spontaneity and flow of conversation, stereotyped thinking)

General psychopathology scale (Somatic concern, Anxiety, Guilt feeling, Tension, Mannerisms and posturing, Depression, Motor retardation, uncooperativeness, unusual thought content, Disorientation, poor attention, Lack of judgment and insight, Disturbance of volition, poor impulsive control, preoccupation, active social avoidance)

Therefore, the potential ranges are 7 to 49 for the Positive and Negative Scales, and 16 to 112 for the General Psychopathology Scale, Test–retest reliability for the total score and subscales is reported as 0.77–0.89, Criterion-validity.

Global assessment of functioning –A modified scale (Hall, M.D.,1993)

The scale assigns a clinical judgement in numerical fashion to the individuals overall function level, impairment in psychological social and occupational/school function are considered.

The scale ranges from 0(inadequate information) to 100 (superior function) 71-90 mild psychological problem (51-60) moderate (21-30) severe, (1-10) is reserved for persistent suicidal or person incapable for meeting even minimal personal hygiene

The modified global assessment of functioning (mGAF) scale provides a detailed criterion and it is approved by RCC. Reliability=Inter rater reliability (Intra class correlation coefficients ICCS(1=.81)

mGAF items are work /school, family/home, social, judgment, thinking, mood. The scoring intervals are:

- 0-10 In persistent danger of severely hurting self or others
- 11-20 In some danger of hurting self or other
- 21-30 Inability to function in almost all areas
- 31-40 Major impairment in several areas of functioning
- 41-50 some serious symptoms or impairment in functioning
- 51-60 Moderate symptoms
- 61-70 some persistent mild symptoms
- 71-80 some transient mild symptoms
- 81-90 absent or minimal symptoms.

False memory episodes

The present study has 4 episodes which includes the following situations

1. Going for jogging
2. Children playing in a park
3. Women going for shopping
4. Getting ready for school

The episodes were designed to investigate four types of errors, which can occur during elaboration for cohesion, The situations are shown in the form of different pictures, each

situation has 15-17 pictures in the encoding phase, 19 pictures in recognition phase. Each episode.

Encoding phase: The list of 15-17 pictures are shown to the sample one by one and are instructed to remember the picture and asked to concentrate on the background of the picture also each picture is shown for 10-20 sec.

Recognition phase: The samples are shown selective pictures to elicit the false memory.

Description of the errors

1. **Causal error: -** The picture shown in the encoding phase is altered and shown in the recognition phase with some noticeable changes, if the participants fail to notice the change then it is considered as the person has committed causal error
2. **Plausible error: -**The picture shown in the encoding phase is altered and shown in the recognition phase with minute changes, if the participants fail to notice the minute changes in the recognition phase then it is considered as the person has committed plausible error.
3. **Intrusion error:-** The picture not shown in the encoding phase but introduced a new picture in the recognition phase, but it is associated with the event, if the participants say that they have also seen the picture in the encoding phase then it is considered as the person has committed Intrusion error.
4. **Extra error:** When the participants reject the encoding phase picture in the recognition phase then it is considered as the person as committed extra error.

0-is scored when the person has not committed any error,1-is scored when the person has committed one error,2-is scored when the person has committed 2 errors,3-is scored when the person has committed 3 errors,4-is scored when the person committed 4 errors and respectively.

Procedure

The samples in the present study conducted in the Institute of Mental health for the patient population (patient with schizophrenia on remission) currently in IP (In patient) who are attends ITC, and obtained permission letter from the director of the institute , and also got approved from the ethics committee from Madras Medical college to conduct the study, Patient population Demographic data sheet and written informed consent were obtained. Initially for the patient population, PANSS and GAF are administered, who obtains the score of mild to moderate level of functioning are selected based on both the scale for schizophrenia in remission group.

Original false memory pictures was taken from an article False memories for affective information in schizophrenia Beth Fairfield et al.,2016,Showed 9 episodes such as typical morning routine before going to school), going shopping (i.e., young boy going grocery shopping with his mother), dating/meeting a friend (boy and girl meeting in the park), bike trip (i.e., girl going on a bike trip in a downtown area), rock climbing (i.e., boy climbing a wall), track competition (i.e., young girls getting ready for and performing a competition), coming back from a long trip (i.e., girl coming back by train from a trip and entering her home), playing games (i.e., video games in a bar), and a party (i.e., a girl welcoming guests and blowing out candles)was presented to the research committee meeting The panel of research committee consist of 4 professional clinical psychologist (professor, associate

professor, assistant professor) in that the panel selected 4 episodes and in that 4 concept the picture has been changed to Indian figures, the research committee suggested to do the change (eg changing the dress of the model relating it to Indian population),After the change the picture were shown to the committee and got its approval from the research panel encoding phase and recognition phase are shown for both the group, and scored accordingly, Patient population was seen for two session and normal population is seen for one session. Patient population was initially screened with PANSS and Global functional assessment, in the second session the patients are shown the encoding pictures in the laptop followed by which comes the recognition phase and the errors are noted accordingly as mentioned above

Statistics

Chi-square – it is first discovered by Helmert in 1875 and then rediscovered independently by Karl Pearson 1900 who applied a test of goodness of fit, A chi square (X^2) is used to investigate whether distributions of categorical variables differ from one another.

Independent sample t-test -The independent t-test, otherwise known as two sample t-test, independent-samples t-test or student's t-test it is an inferential statistical test which determines whether there is a statistically significant difference between the means in two unrelated groups

RESULTS AND DISCUSSION

Table 1: Shows socio demographic characteristic of sample

S:no	Demographic Variable		N
1	Age	<40	12
		40-49	24
		50-59	24
2	Gender	Male	34
		Female	26
3	Education	Primary school	14
		Higher secondary school	12
		Illiterate	34
4	Marital status	Married	45
		Un Married	15

The above table shows the demographic detail of the study, the study includes individuals age range from 28-59 (<40=12,40-49=24,50-59=24).There are 12 individuals belong to age less than 40, 24 individuals who belong from age 40-49,and 24 individuals belong to age 50-59) There are 34 male and 26 female in the study, the education background includes Primary, Higher secondary, illiterate 14 ,12,34 individuals respectively, the study also include married and un married population (45=Married , 15=Unmarried) .

Table :1.1 shows the difference in false memory among patients with schizophrenia on remission and normal individual.

Patient				Normal				
	N	Mean	SD	N	Mean	SD	t-test	Sig
False memory	30	11.57	2.69	30	6.2	2.27	8.364	0.000***
Causal error	30	3.3	1.02	30	2.0	1.017	4.938	0.000***
Plausible error	30	3.20	.847	30	1.73	1.015	6.078	0.000***
Intrusion error	30	2.07	1.413	30	.77	.817	4.363	0.000***
Extra error	30	3.00	3.280	30	1.70	1.264	2.026	0.50

****P<0.00(Significant at 0.00 level)*

The above table shows the difference of false memory among both the Patient with schizophrenia on remission group and the normal group, Patient population (N=30, Mean=11.57, SD=2.69),Normal population (N=30,Mean=6.2, SD=2.27) t-test value is 8.364 and P<0.000*** reveals that there is a significant association between the patient group and the normal group.

The table shows that the patients with schizophrenia on remission has committed higher amount of false memory when compared with the normal individual. On causal error patient population (N=30 Mean=3.3, SD= 1.02) Normal population (N=30, Mean=2.0, SD=2.27,) t-test =4.938, P<0.000***reveals that there is a significant association between the patient and the normal population in respect to causal error.

On plausible error patient with schizophrenia on remission population (N=30, Mean=3.20, SD=.847) Normal population (N=30, Mean=1.73, SD=1.015) t- test =6.078, P<0.000*** reveals that there is a significant association between the patient and the normal population in respect to plausible error.

On Intrusion error patient with schizophrenia on remission population (N=30, Mean=2.07, SD=1.413) Normal population (N=30, Mean=.77, SD=.817) t- test =4.363 , P<0.000*** reveals that there is a significant association between the patient and the normal population in respect to intrusion error.

On extra error patient with schizophrenia on remission population (N=30, Mean=2.07, SD=1.413) Normal population (N=30, Mean=.3.00, SD=.3.280) t- test =2.026 , P<0.50 reveals that there is no significant association between the patient and the normal population in respect to normal extra error.

Table 2.1: Shows the causal error difference between the schizophrenia in remission and the normal group

Causal error									
	Error	**0**	**1**	**2**	**3**	**4**	**Total**	**Value**	**Sig**
Patient population	N	1	1	3	8	17	30	24.539	0.000***
	% within group	3.3%	3.3%	10.0%	26.6%	56.7%	100.0%		
	% within causal error	25.0%	16.7%	20.0%	43.8%	94.4%	50.0%		
Normal population	N	3	5	12	9	1	30		
	% within group	10.0%	16.7%	40.0%	30.0%	3.3%	100.0%		
	%with in causal error	75.0%	83.3%	80.0%	56.2%	5.6%	50.0%		
Total	N	4	6	15	16	18	60		
	%Withi n group	6.7%	10.0%	25.0%	28.2%	30.0%	100.0%		
	%within Causal error	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		

******P<.000***

The above table shows the difference in causal error between patients with Schizophrenia in remission and normal group, among which N=30 are patients with Schizophrenia in remission and N=30 are normal population overall the sample size is 60.

N-30 patients with Schizophrenia in remission 17 (56.7%) has committed 4 errors ,8 (26.6%) has committed 3 errors ,3 (10.0%) have committed 2 errors (13.3%) have committed 1 error,1 (3.3%) have committed 0 error.

N-30 normal group 1(3.3%) has committed 4 error ,9 (30.0%) have committed 3 error, 12(40.0%) have committed 2 error, 5 (16.7%) have committed 1 error, 3 (10.0%)have committed 0 error The chi-square value = 24.539 reveals that there is significant association between the group and the causal error (P< .ooo***) that is in other words there is significant difference between the patient and normal group in respect to causal error .Hence the null hypothesis is rejected.

Table: 2.2: Shows the plausible error difference between the schizophrenia in remission and normal group

	Plausible error								
	Error	**0**	**1**	**2**	**3**	**4**	**Total**	**Value**	**sig**
Patient population	N	0	1	5	11	13	30	24.591	0.000***
	% within group	0.0%	3.3%	16.7%	36.7%	43.3%	100.0%		
	% within Plausible error	0.0%	12.5%	27.8%	68.8%	92.9%	50.0%		
Normal population	N	4	7	13	5	1	30		
	% within group	13.3%	23.3%	43.3%	16.7%	3.3%	100.0%		
	%with in Plausible error	100.0 %	87.5%	72.2%	31.2%	7.1%	50.0%		
Total	N	4	8	18	16	14	60		
	%Within group	6.7%	13.3%	30.0%	26.7%	23.3%	100.0%		
	%within Plausible error	100.0 %	100.0%	100.0%	100.0%	100.0%	100.0%		

The above table shows the difference in Plausible error between the patient with Schizophrenia in remission and normal group among which N=30 are patients with Schizophrenia in remission and N=30 is the normal population overall the sample size is N=60.

N-30 patients with Schizophrenia in remission 13 (43.3%) has committed 4 errors ,11 (36.7%) has committed 3 errors ,5(16.7%) have committed 2 errors, 1 (3.3%) have committed 1 error. 943.3

N-30 normal group 1(3.3%) has committed 4 error ,5(16.7%) have committed 3 error, 13 (43.3%) have committed 2 error, 7(23.3%) have committed 1 error, 4 (13.3%) have committed 0 error.

The chi-square value= 24.591 reveals, that there is significant association between the group and the plausible error (P<. ooo***), that is in other words there is significant difference between the patient and normal group in respect to plausible error. Hence the null hypothesis is rejected.

Table 2.3: Shows the intrusion error difference between schizophrenia in remission and normal group

Intrusion error									
Patient population	N	4	9	5	5	7	30	14.971	.005*
	% within group	13.3%	30.0%	16.7%	16.7%	23.3%	100.0%		
	% within intrusion error	23.5%	42.9%	55.6%	83.3%	100.0%	50.0%		
Normal population	N	13	12	4	1	0	30		
	% within group	43.3%	40.0%	13.3%	3.3%	0.0%	100.0%		
	%with in intrusion error	76.5%	57.1%	44.4%	16.7%	0.0%	50.0%		
Total	N	17	21	9	6	7	60		
	%Within group	28.3%	35.0%	15.0%	10.0%	11.7%	100.0%		
	%within intrusion error	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		

The above table shows the difference in Intrusion error between patients with Schizophrenia in remission and normal group, among which N=30 are patients with Schizophrenia in remission and N=30 is normal group overall the sample size is N=60.

N-30 from Patients with Schizophrenic in remission 7(23.3%) has committed 4 errors ,5 (16.7%) has committed 3 errors, 5 (16.7%) have committed 2 errors, 9 (30.0%) have committed 1 error, 4 (13.3%) have committed 0 error.

Among the normal individual 0(0.0%) has committed 4 error ,1 (3.3%) have committed 3 error, 4 (13.3%) have committed 2 error, 12(40.0%) have committed 1 error, 13 (43.3%) have committed 0 error.

The chi-square value =14.971 reveals that there is significant association between the group and the intrusion error (P<. oo5*) that is in other words there is significant difference between patient and the normal group in respect to intrusion error. Hence the null hypothesis is rejected.

Table 2.4 Shows the extra error difference between schizophrenic in remission and the normal group

	ERROR	0	1	2	3	4	5	6	8	9	13	TOTAL
	NUMBER OF INDIVIDUALS	9	3	5	3	2	2	2	2	1	1	30
PATIENT GROUP	% WITHIN GROUP	30.0%	10.0%	16.7%	10.0%	6.7%	6.7%	6.7%	6.7%	3.3%	3.3%	100%
	% WITHIN EXTRA	69.2%	21.4%	38.5%	33.3%	100.0%	100.0%	66.7%	100.0%	100.0%	100.0%	50.0%
	NUMBER OF INDIVIDUALS	4	11	8	6	0	0	1	0	0	0	30
NORMAL GROUP	% WITHIN GROUP	13.3%	36.7%	26.7%	20.0%	0.0%	0.0%	3.3%	0.0%	0.0%	0.0%	100.0%
	% WITHIN EXTRA	30.8%	78.6%	61.5%	66.7%	0.0%	0.0%	33.3%	0.0%	0.0%	0.0%	50.0%
TOTAL	NUMBER OF INDIVIDUALS	13	14	13	9	2	2	3	2	1	1	60
	% WITHIN GROUP	21.7%	23.3%	21.7%	15.0%	3.3%	3.3%	5.0%	3.3%	1.7%	1.7%	100.0%
	% WITHIN EXTRA	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

VALUE	Sig
16.520[a]	0.057

The above table shows the difference in the extra error between patients with Schizophrenic in remission and normal group among which N= 30 are patients with Schizophrenia in remission and N=30 in the normal group overall the sample size is N=60.

N-30 from patient with Schizophrenia in remission 1(3.3%)has committed 13 errors , 1(3.3%)has committed 9 errors ,2 (6.7%)have committed 8 errors , 2(6.7%)have committed 6 error, 2(6.7%) have committed 5 error,2(6.7%) have committed 4 errors,3 (10.0%) have committed 1 errors, 9(30.0%) have committed 0 error.

Among the normal individual 0(0.0%) has committed 13 error ,0 (0.0%) have committed 9 error, 0 (0.0%)have committed 8 error , 1 (3.3%)have committed 6 error, 0(0.0%) have committed 5 error ,0 (0.0%)have committed 4 error ,6 (20.0%) have committed 3 error ,8 (26.7%)have committed 2 error ,11(36.7%) have committed 1 error, 13 (21.7%) have committed 0 error.

The chi-square value =16.520 reveals that there is no significant association between the group and the extra error (P>.005) level indicating there is no significant difference between

the patient and the normal group in respect to extra error, Hence the null hypothesis is accepted.

Table 3.1: Shows the gender difference of the causal error

Causal error									
	Error	**0**	**1**	**2**	**3**	**4**	**Total**	**value**	**Sig**
Patient Female	N	0	0	1	3	9	13	33.568	.004**
	%Within group	0.0%	0.0%	7.7%	30.8%	69.2%	100.0%		
	%Within Causal error	0.0%	0.0%	6.7%	12.5%	50.0%	21.7%		
Normal female	N	0	2	6	4	1	13		
	%Within group	0.0%	15.4%	46.2%	30.8%	7.7%	100.0%		
	%within causal error	0.0%	33.3%	40.0%	25.0%	5.6%	21.7%		
	N	1	1	2	5	8	17		
Patient male	%Within group	5.9%	5.9%	11.8%	29.4%	47.1%	100.0%		
	%within causal error	25.0%	16.7%	13.3%	31.2%	44.4%	28.3%		
	N	3	3	6	5	0	17		
Normal male	%Within group	17.6%	17.6%	35.3%	29.4%	0.0%	100.0%		
	%with in causal error	75.0%	50.0%	40.0%	31.2%	0.0%	28.3%		
Total	N	4	6	15	17	18	60		
	%Within group	6.7%	10.0%	25.0%	28.4%	30.0%	100.0%		
	%within causal error	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		

***P<.004*

The above table shows the gender difference in causal error among the patient population female, normal population female and the patient population male and normal population male

Among 60 were13 (21.7%) belongs to patient female of which 7.7% have committed 2 causal error ,30.8% has committed 3error,69.2% has committed 4 error. Among 13 (21.7%) belong to normal population female of which 15.4% has committed 1 error, 46.2% has committed 2 error,30.8% has committed 3 error 7.7% has committed 4 error.

In male population N=17 (28.3%) belong to patient population male of which 5.9% has committed 0 error ,5.9% has committed 1 error,11.8% has committed 2 error, 29.4% has committed 3 error, 47.1% has committed 4 error.

Among N=17 (28.3%) belong to normal population male of which 17.6% has committed 1 error, 35.3% has committed 2 error ,29.4% has committed 3 error.

When compared with the four group the table shows that the Patient female has committed more error when compared to patient male, and normal female has committed more error than the normal male in respect to causal error.

The chi-square value =33.568 reveals, that there is significant association between the group and the causal error (P<.004**) that is in other words there is significant difference between the gender, hence there the null hypothesis is rejected.

Table 3.2 Shows the gender difference of the plausible error

Plausible error									
	Error	**0**	**1**	**2**	**3**	**4**	**Total**	**value**	**Sig**
Patient female	N	0	0	2	8	3	13	42.349	.000
	%Within group	0.0%	0.0%	15.4%	61.5%	23.1%	100.0%		
	%Within Plausible error	0.0%	0.0%	11.1%	50.0%	21.4%	21.7%		
Normal female	N	0	3	5	4	1	13		
	%Within group						100.0%		
	%within Plausible error	0.0%	37.5%	27.8%	25.0%	7.1%	21.7%		
	N	0	1	3	3	10	17		
Patient male	%Within group	0.0%	5.95%	17.6%	17.6%	58.8%	100.0%		
	%within Plausible error	0.0%	12.5%	16.7%	18.8%	71.4%	28.3%		
	N	4	4	8	1	0	17		
Normal male	%Within group	23.5%	23.5%	47.1%	5.9%	0.0%	100.0%		
	%with in Plausible error	100.0%	50.0%	44.4%	6.2%	0.0%	28.3%		
Total	N	4	8	18	16	14	60		
	%Within group	6.7%	13.3%	30.0%	26.7%	23.3%	100.0%		
	%within Plausible error	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		

****P<.000*

The above table shows the gender difference in Plausible error among the patient population female, Normal population female and the patient population male and normal population male.

Among 60 were 13 (21.7%) belongs to patient female of which 15.4 % have committed 2 plausible error,61.5% has committed 3error,23.1 % has committed 4 error. Among 13 (21.7%) belong to normal population female of which 23.1% has committed 1 error, 38.5% has committed 2 error,30.8% has committed 3 error 7.7% has committed 4 error.

In male population 17 (28.3%) belong to patient population male of which ,5.9% has committed 1 error,17.6% has committed 2 error, 17.6% has committed 3 error, 58.8% has committed 4 error. Among 17 (28.3%) belong to normal population male of which ,23.5% has committed 0 error,23.5% has committed 1 error, 47.1% has committed 2 error ,5.9% has committed 3 error.

When compared with the four group the table shows that the Patient female has committed lesser error compared to patient male, and normal female has made more error when compared to normal male in respect to Plausible error.

The chi-square value = 42.349 reveals that there is significant association between the group and the plausible error (P<.000***) that is in other words there is significant difference between the gender and plausible error, hence the null hypothesis is rejected.

Table 3.3 shows the gender difference on Intrusion error

	Intrusion error								
Patient female	**Error**	**0**	**1**	**2**	**3**	**4**	**Total**	**value**	**Sig**
	N	1	6	3	2	1	13		
	%Within group	7.7%	46.2%	23.1%	15.4%	7.7%	100.0%		
	%Within Intrusion error	5.9%	28.6%	33.3%	33.3%	14.3%	21.7%		
Normal female	N	2	7	3	1	0	13		
	%Within group	15.4%	53.8%	23.1%	7.7%	0.0%	100.0%		
	%within Intrusion error	11.8%	33.3%	33.3%	16.7%	0.0%	21.7%		
	N	3	3	2	3	6	17		
Patient male	%Within group	17.6%						31.885	.001***
	%within Intrusion error	17.6%							
	N	11							
Normal male	%Within group	64.7%	29.4%	5.9%	0.0%	0.0%	100.0%		
	%with in intrusion error	64.7%	23.8%	11.1%	0.0%	0.0%	28.3%		
Total	N	17	21	9	6	7	60		
	%Within group	28.3%	35.0%	15.0%	10.0%	11.7%	100.0%		
	%within intrusion error	100.0%	100.0 %	100.0 %	100/0 %	100.0 %	100.0%		

***P<.001

The above table shows the gender difference in Intrusion error among the patient population female, Normal population female and the patient population male and normal population male.

Among 60 were N=13 (21.7%) belongs to patient female of which 7.7% has committed 0 error, 46.2% has committed 1 error, 23.1 % have committed 2 error, 15.4% has committed 3error, 7.7 % has committed 4 error.

Among N=13 (21.7%) belong to normal population female of which 15.4% has committed 0 error,53.8% has committed 1 error, 23.1% has committed 2 error,7.7% has committed 3 error 0.0% has committed 4 error.

In male population N=17 (28.3%) belong to patient population male of which ,17.6% has committed 0 error, 17.6% has committed 1 error, 11.8% has committed 2 error, 17.6% has committed 3 error, 35.3% has committed 4 errors. Among N=17 (28.3%) belong to normal population male of which, 64.7% has committed 0 error, 29.4% has committed 1 error, 5.9% has committed 2 error.

When compared with the four group the table shows that the Patient female has made lesser error when compared to patient male in case of normal female and normal male there is no difference in respective to Intrusion error.

The chi-square value = 31.885 reveals that there is significant association between the group and the normal error (P<.001**) that is in other words there is significant difference between the gender, hence there the null hypothesis is rejected.

Table 3.4 Shows the gender difference of the extra error

		0	**1**	**2**	**3**	**4**	**5**	**6**	**8**	**9**	**13**	**TOTAL**
	N	3	1	2	2	2	1	1	2	0	0	13
Patient Female	% Within Group	23.1%	7.7%	15.4%	7.7%	15.4%	7.7%	7.7%	15.4%	0.0%	0.0%	100.0%
	% Within Extra	23.1%	7.1%	15.4%	11.1%	100.0%	50.0%	33.3%	100.0%	0.0%	0.0%	21.7%
	Count	3	3	3	3	0	0	1	0	0	0	13
Normal Female	% Within Group	23.1%	23.1%	23.1%	23.1%	0.0%	0.0%	7.7%	0.0	0.0	0.0	100.0%
	% Within Extra	23.1%	21.4%	23.1%	33.3%	0.0%	0.0%	33.3%	0.0%	0.0%	0.0%	21.7%
	N	6	2	3	2	0	1	1	0	1	1	17
Patient Male	% Within Group	35.3%	11.8%	17.6%	11.8%	0.0%	5.9%	5.9%	0.0%	5.9%	5.9%	100.0%

		0	1	2	3	4	5	6	8	9	13	TOTAL
	N	3	1	2	2	2	1	1	2	0	0	13
	% Within Extra	46.2%	14.3%	23.1%	22.2%	0.0%	50.0%	33.3%	0.0%	1000%	100%	28.3%
	N	1	8	5	3	0	0	0	0	0	0	17
Normal Male	% Within Group	5.9%	47.1%	29.4%	17.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
	% Within Extra	7.7%	57.1%	38.5%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	28.3%
	N	13	14	13	9	2	2	3	2	1	1	60
Total	% Within Group	21.7%	23.3%	21.7%	15.0%	3.3%	3.3%	5.0%	3.3%	1.7%	1.7%	100.0%
	% Within Extra	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

VALUE	Sig
34.794[a]	0.144

The above table shows the gender difference in extra error among the patient population female, Normal population female and the patient population male and normal population male.

Among 60 were 13 (21.7%) belongs to patient female of which 15.4% has committed 8 extra error,7.7% has committed 6 error, 7.7% have committed 5 extra error,15.4% has committed 4 error,7.7 % has committed 3 error,15.4% has committed 2 error,7.7% has committed 1 error. Among 13 (21.7%) belong to normal population female of which 23.1% has committed 0 error,23.1% has committed 1 error, 23.1% has committed 2 error,23.1% has committed 3 error,7.7% has committed 6 error.

In male population 17 (28.3%) belong to patient population male of which ,35.3% has committed 0 error,11.8% has committed 1 error, 17.6% has committed 2 error, 11.8% has committed 3 error,5.9% has committed 5 errors,5.9% has committed 6 error,5.9% has committed 9 errors, 5.9% has committed 13 errors. Among 17 (28.3%) belong to normal population male of which ,5.9% % has committed 0 error,47.1 % has committed 1 error, 29.4% has committed 2 error,17.6% has committed 3 errors.

When compared with both the group the table shows that the Patient female and male, normal female and male has committed more or less same amount of extra error.

The chi-square value = 34.794 reveals that there is no significant association between the gender in respective to extra error (P>.05) that is in other words there is no significant difference, null hypothesis accepted in aspects of extra error.

Table:4 Shows the descriptive statistics of false memory

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	t	Sig
False memory	60	15.00	2.00	17.00	8.8833	3.65964	13.393	8.364	.522
AGE	60	31	28	59	45.93	7.748	60.029		
Valid N (list wise)	60								

The above table shows that descriptive statistics of false memory and age, the overall sample size is 60 in age the range =31,minimum age in the study is 28 and the maximum age is 59 and the mean value =45.39, SD=7.748,t-test=8.364 P value is .522 (P>.005),Hence the table shows there is no significant difference between age and false memory.

DISCUSSION

The aim of the present study was to find out the influence of false memory between patient with schizophrenia in remission and normal group. This study found that the patient with Schizophrenia in remission shows higher false memory error when compared to normal individual, The errors are causal, Plausible, Intrusion and extra error, on which patient population has committed higher error on causal, plausible, Intrusion than the normal population ,when compared to with normal population, Extra error is more or less equally committed by both the group.

The finding of the present study are consistent with the findings of Beth Fairfield et al.,(2016) In most of the study done so far on false memory Schizophrenia patients generally made more errors than healthy controls, in the present study table (2.1,2.2,2.3) shows patient population has committed more error when compared to normal group. Patients with Schizophrenia in remission 17 (56.7%)has committed 4 errors ,8 (26.6%) has committed 3 errors ,3 (10.0%)have committed 2 errors (13.3%) have committed 1 error,1 (3.3%)have committed 0 error.N-30 normal group 1(3.3%) has committed 4 error ,9 (30.0%) have committed 3 error, 12(40.0%) have committed 2 error , 5(16.7%) have committed 1 error, 3 (10.0%) have committed 0 error.

Bhatt et al.,(2010)study shows that the Patient experiencing delusion and not experiencing delusion showed higher confidence of false memory when compared to healthy controls. Moritz et al.,(2004) found that there is no group difference in false positive error when compared to healthy group and schizophrenia where showed significantly greater for false negative error relative to control. Patients with Schizophrenia in remission 13 (43.3%) has committed 4 errors ,11 (36.7%) has committed 3 errors ,5(16.7%) have committed 2 errors , 1 (3.3%)have committed 1 error..943.3Normal group 1(3.3%) has committed 4 error ,5(16.7%) have committed 3 error, 13 (43.3%) have committed 2 error , 7(23.3%) have committed 1 error, 4 (13.3%)have committed 0 error normal group 1(3.3%) has committed 4 error ,5(16.7%) have committed 3 error, 13 (43.3%) have committed 2 error , 7(23.3%) have committed 1 error, 4 (13.3%)have committed 0 error. Task Jutta S et al., (2012) Finding suggest that inefficient working memory encoding is responsible for impaired working memory in schizophrenia. Leeys et al.,(2007)Individuals with schizophrenia performed lesser than normal controls on both recall and recognition of studied words. The schizophrenia

patients had higher rates of false recall and false recognition for semantically unrelated words than did the normal controls, suggesting an abnormal pattern of semantic activation in the former group, no differences were found between the two groups with regard to false recall and false recognition of semantically related words. When the participants were tested for meaning recognition, however, the schizophrenia patients gave fewer 'old' responses to non-studied semantically related words than did the control group, indicating an impaired gist memory in schizophrenia patients.

Elvevag et al., (2004) study shows that Patients with schizophrenia did not make more false recognition errors in general, and surprisingly they made disproportionately fewer false recognition errors to semantic specifically, patients with schizophrenia are not especially susceptible to interference from previous tasks and are not particularly prone to false recollections ,in the present study table 2.4 ,3.4 showed that there is no significant difference between the patient group and normal group in committing extra error, so the study also sustained the current findings Zhu et al.,(2018) they contributed to a better understanding of the cognitive mechanism in false memory of patients with schizophrenia High IQ patients had less false recognition more high-confidence true recognition and higher discrimination abilities than those with low IQ. Mayer et al., (2018) found that patients with schizophrenia showed increased numbers of both confident and not-confident errors, suggesting that both sub-processes of working memory -encoding and maintenance-are impaired in schizophrenia. Combined with the delay length-dependent functional dissociation, study propose that these impairments in schizophrenic patients are functionally distinguishable. From Patients with Schizophrenic in remission 7(23.3%) has committed 4 errors ,5 (16.7%) has committed 3 errors ,5 (16.7%) have committed 2 errors, 9 (30.0%) have committed 1 error, 4 (13.3%) have committed 0 error.

Among the normal individual 0(0.0%) has committed 4 error ,1 (3.3%) have committed 3 error, 4 (13.3%) have committed 2 error, 12(40.0%) have committed 1 error, 13 (43.3%) have committed 0 error.

Kelsey M et al., (2006) found that the ability to recall objects is influenced by an interaction between stimulus and participant gender, hence the study concluded that there is a gender difference in false memory. Table 3.1,3.2,3.3 Shows that there is a significant difference between gender and false memory. When compared with the four group the table shows that the Patient female has committed more error when compared to patient male, and normal female has committed more error than the normal male in respect to causal error. Patient female has committed lesser error compared to patient male, and normal female has made more error when compared to normal male in respect to Plausible error. the Patient female has made lesser error when compared to patient male in case of normal female and normal male there is no difference in respective to Intrusion error. Patient female and male, normal female and male has committed more or less same amount of extra error.

SUMMARY AND CONCLUSION

Summary

The importance of memory in the daily life of a person with mental illness is vital. Cognitive deficits are common and clinically relevant features of schizophrenia and are important indices of functional and treatment outcomes in patients. Cognitive deficit persist during the stable phase of schizophrenia which is a core features of schizophrenia and their role is crucial, particularly in terms of prognosis and functional disability, among these memory

appears to be of the impaired cognitive function, forgetting and memory distortions such as false memories have therefore received much attention.

The aim of the current study is to compare the Influence of false memory in schizophrenia patients and healthy individuals. The method used was descriptive study design, The total sample size consist of 60 out of which 30 samples belongs to schizophrenia in remission and 30 were normal individual , the sampling technique used for the study is purposive sampling, The data were collected from general setting for normal sample, who shows no psychiatric illness in the family . Inpatients of schizophrenia in remission period, who attend Industrial training centre (ITC) data were collected from Institute of Mental Health, Kilpauk Chennai. The samples were selected based upon the inclusion and exclusion criteria. The permission letter was obtained from the director of the Institute of Mental Health, and also got approved from the Ethics Committee from Madras Medical college to conduct the Present study, Demographic data sheet and written informed consent were obtained. The patients with schizophrenia were selected based on PANSS and GAF, who obtains the score of mild to moderate level of functioning to ensure the remission period. Later encoding phase and recognition phase are shown for both the group, and scored the level of false memory accordingly, Patient population were seen for two session and normal population are seen for one session. When compared with the patient with schizophrenia in remission and normal group, the first group has scored high amount of false memory when compared to the normal individual. There is a significant difference between both the group where schizophrenia patients in remission had high error in causal, plausible, intrusion, on extra error both the population had scored more or less similar score which shows that there is no significant difference in the extra error. when compared with the age and false memory in both the group it also showed that there is no significant difference between age and false memory, Chisquare test and independent sample t-test were used to find the significant difference between the group.

CONCLUSION

The present study concludes patient with schizophrenia in remission showed higher number of errors on false memory when compared to the normal group. This result might be due to the cognitive deficit being a key feature of schizophrenia. The study also shows there is a significant difference between gender and false memory, and there is no significant difference between age and false memory.

Limitation of the study

The present study has some limitations they are ,

1. The sample size in the study was small
2. The false memory episodes are in a form of pictorial representation
3. Cognitive deficit in neurology patients can be added as a third group for effective comparison.
4. Further studies need to adopt the type of procedure to investigate whether patient with schizophrenia on remission show the same pattern of performance in all the types of memory errors shown in the study.

Scope of the study

The study could help us to understand the cognitive deficit in schizophrenia particularly in terms of prognosis and functional disability, memory appears to be impaired in patient population, Intervention studies can be further carried out for the better understanding of false

memory in patient population. Further studies need to adopt the type of procedure to investigate whether patient with schizophrenia on remission show the same pattern of performance.

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