A DISSERTATION ON

A COMPARATIVE STUDY OF INSIGHT BETWEEN PATIENTS WITH SCHIZOPHRENIA AND MANIA WITH PSYCHOSIS

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CERTIFICATE

This is to certify that the Dissertation entitled **"A COMPARATIVE STUDY OF INSIGHT BETWEEN PATIENTS WITH SCHIZOPHRENIA AND MANIA WITH PSYCHOSIS"** is a bonafide work done by **Dr.E.JAYASEELI** in the Department of Psychiatry, Government Thanjavur Medical College, Thanjavur, during her Post Graduate Course from 2014 to 2017. This is submitted in part fulfilment for the requirement of **M.D. Degree Examinations** – Branch – XVIII (Psychiatry) to be held in April 2017.

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DECLARATION

I **Dr. E.JAYASEELI,** solemnly declare that the dissertation titled "**A COMPARITIVE STUDY OF INSIGHT BETWEEN PATIENTS WITH SCHIZOPHRENIA AND MANIA WITH PSYCHOSIS"** is a bonafide work done by me at Department of Psychiatry, Government Thanjavur Medical College Hospital, Thanjavur, during the period of February 2016 – July 2016.

This dissertation is submitted to **"The Tamilnadu Dr. M.G.R. Medical University, Chennai",** Tamilnadu in part fulfilment for the requirement of **M.D. Degree Examinations** – Branch – XVIII (Psychiatry) to be held in April 2017.

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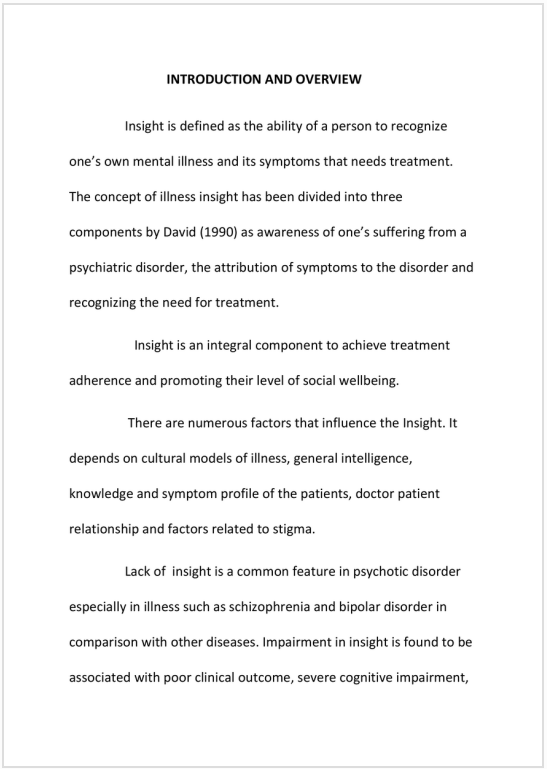

INTRODUCTION AND OVERVIEW

Insight is defined as the ability of a person to recognize one's own mental illness and its symptoms that needs treatment. The concept of illness insight has been divided into three components by David (1990) as awareness of one's suffering from a psychiatric disorder, the attribution of symptoms to the disorder and recognizing the need for treatment.

Insight is an integral component to achieve treatment adherence and promoting their level of social wellbeing.

There are numerous factors that influence the Insight. It depends on cultural models of illness, general intelligence, knowledge and symptom profile of the patients, doctor patient relationship and factors related to stigma.

Lack of insight is a common feature in psychotic disorder especially in illness such as schizophrenia and bipolar disorder in comparison with other diseases. Impairment in insight is found to be associated with poor clinical outcome, severe cognitive impairment,

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LIST OF ABBREVATION

BPRS	Brief Psychiatric Rating Scale
YMRS	Young Mania Rating Scale
GAF	Global Assessment of Functioning
SAI-E	Schedule for the Assessment of Insight - Expanded version
ICD -10	International Classifications of Diseases
SUMD	Schedule for the assessment of Unawareness of Mental Disorder
ITAQ	Insight and Treatment Attitude Questionnaire
WCST	Wisconsin Cord Sorting Test
GAS	Global Assessment Scale
CBT	Cognitive Behavioural Therapy
CGI	Clinical Global Impression

CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION AND OVERVIEW

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Lack of insight is a common feature in psychotic disorder especially in illness such as schizophrenia and bipolar disorder in comparison with other diseases. Impairment in insight is found to be associated with poor clinical outcome, severe cognitive impairment, non-compliance to medications and severe disruption in socio-occupational functioning.

Prevalence of impaired insight is difficult to estimate as these patients often failed to seek help from the professionals. Prevalence rate of impaired insight in schizophrenia as quoted by various studies varied between 50-85%. In bipolar disorder approximately 63 % of the patients have impaired insight

comparable to that of schizophrenic patients mainly in the manic phase of the illness. Though schizophrenia and bipolar disorder share several common risk factors, studies comparing the prevalence rate of insight between these disorders were limited.

Keeping this in background this study was designed to compare the prevalence rate of insight in schizophrenia and bipolar illness mania with psychosis and to explore the various consequences associated with poorer insight in these patients and to find out the relationship between severity of psychotic symptoms and poor insight and whether the insight improves during hospitalisation and their level of functioning.

REVIEW OF LITERATURE

The link between the schizophrenia and unawareness of disease was known even when the disorder was first named by Eugen Bleuler (Bertschinger., 1916; Mayer – Gross., 1920 as cited by Wciorika, 1988). The scientific consensus in the field (as of 1999) says that lack of insight is common in schizophrenia, is linked to the disturbances in executive function , which has a major impact on the illness course, and causes both partial and complete nonadherence with treatment. (Xavier Amador et al, New York., 2006).

Poor insight is common in schizophrenia, and indeed of psychosis in general (Amador& David, 2004). Lack of insight has been linked to the poor treatment adherence (Kemp& David, 1997), impaired level of functioning (Pyne et al, 2001), psychopathology severity (Mintz et al, 2003), relapse and poorer outcome (David et al, 1995), cerebral ventricular enlargement (Takai et al, 1992) and reductions in regional blood volume (Gilleen J., 2010 & Morgan KD., 2010).

As early as 1934 authors argued that lack of insight was arise from a deficit in the neuropsychological aspects (Lewis, 1934; David, 1999), although others maintain that ‘impaired insight’ should not conceived solely as a defect within the individual response but more as a socio cultural response (Saravanan et al, 2004).

Impaired insight is associated with the disturbed functioning of prefrontal cortex, which sub serves abstract thinking, self concept formation, cognitive flexibility and self reflection (David, 1990). Numerous studies reported poor insight was associated with poor performance on several neuropsychological tests (Morgan& David, 2004). For example relation of insight with performance on the Wisconsin Card Sorting Test (WCST) has repeatedly been found (Young et al,1993; Rossell et al, 2003), and many studies failed to accept such a relationship between lack of insight and impaired performance on neuropsychological tests (e.g. Cuesta et al, 1995; Dickerson et al, 1997).

Insight assessment is involved with a lot of controversies. Insight is assessed as a part of Standard Mental State Examination, but no guidelines exists as how to quantify or qualify it (Markova& Berrios, 1992).

Many studies have been published on insight into the behavioural disorders, with a wide spectrum of assessment methods being used to evaluate the insight in bipolar disorder (Cassidy F., 2010).

Models of Insight:-

Several correlational and controversial patterns have begun to emerge with in the study of awareness of one's own disease in schizophrenia (David. 1990). These have been solidified into three main schools of thought based on aetiology that contributing to psychosis: the Psychological defense model, the

Cognitive Deficit Model and the Neuropsychological Deficit Model (Rickelman, 2004).

i) The Psychological Defense Model:-

It was the only practically existed school of thought about awareness of illness prior to 1990. The prevailing assumption was failure to identify or conclude a mental illness was a conscious or subconscious denial rather than an inability.

Historically, insight deficit in schizophrenia have been understood as stemming from psychological defenses or one's adaptive coping skills. Schizophrenia patient's defensive strategies have been categorized into four by Mayer-Gross (1920). i.e. rejection of future, creation of new life after illness, rebuff and melting of the psychotic experience into a another new set of life experiences.

Numerous studies suggested that, strong correlation between insight improvement and increased risk of depression (Weiler et el., 2000, Caroll et al., 1999, Smith et al., 2004).

McGlashan and Carpenter (1976) stated in their review of literature that its relation to denial in schizophrenia. They stated that post psychotic depression arising from a impaired defensive denial, which results in the patients becoming aware of their disorder. McGlashan (1975), suggested that insight exists in a continuum of recovery styles. On the one end lies 'sealing over' i.e, patients

who prefer not to think or talk about their psychotic experience. On the other end lies 'integration' i.e, patients who are willing to discuss about their psychotic experience and learn about themselves. These were interpreted and reflected as adaptive coping skills applicable to other stressful life events besides schizophrenia. The frequent finding of poor insight which is strongly correlated with elated mood and claiming high has also been interpreted as evidence that impaired insight serves as a self defensive function (van putten et al., 1976).

ii) The Cognitive Deficit Model:-

It acknowledges a slightly more organic aetiology for explaining the lack of insight. Drawing on research linked that, insight impairment is directly proportionate with impaired performance in Wisconsin Card Sorting Test (WCST) and other measures of cognitive function (Keshavan et al., Young et al., 1993). This model suggests that unawareness is a result of progressively degenerating cognitive function over the illness course. More numbers of impaired insight seen in patients with first episode of schizophrenia (Keshavan et al., 2004). Progressive degeneration of cognitive function does not seem to be a likely causal factor for impaired insight. In fact, the link between poor performance on WCST scores, a known measure of frontal lobe dysfunction and impaired insight in patients with psychosis may be an evidence for more neurological basis of poor insight.

Donohoe et al., (2005), concluded that insight impairment does appear to be associated with executive dysfunction; this association may not be specific but may instead relate to deficits in cognitive function more generally.

Craig Goodman et al., (2005) found that there is a relationship between lack of insight and cognitive impairment in schizophrenia patients, but he also concluded that the association may not be specific to frontal lobe dysfunction.

iii) **Neuropsychological Deficit Model:-**

This model was developed out of an identified similarity between the symptoms of impaired insight and a condition in neurology called Anosognosia (Amador and Paul-Odouard, 2000; Lele et al., 1998). Both have a severe impairment in awareness of their deficits, which persists despite all evidence to the contrary, have a strong belief to prove their own assertions and as such, they invent confabulations to explain away their pathological symptoms. Furthermore, both sets of patients often demonstrate (through Functional or imaging tests) deficits in frontal lobe function.

Lele and Joglekar (1998), have carried the analogy further, pointing out that poor insight in schizophrenia and anasognosia can be either generalised (relating to all aspects of the disease) or domain specific (patient is aware of some kind of symptoms or functional deficits, but not others). Likewise, Amador et al., (1994) have found what they call “spotty insight” among patients with schizophrenia.

Neuropsychological dysfunction, especially impairment in set shifting and error monitoring contributes to a lack of insight in psychosis (Aleman a, Agrawal N, Kevin D. Morgan, Anthony S. David., 2006).

The specific brain regions that appear to be more closely associated are the part of parietal lobe and frontal lobe (Flashman et al., 2001; Amador and David et al., 2004).

Many authors had correlated deficits in insight with both neuro anatomical abnormalities in frontal lobe (Flashman et al., 2001) as to poor performance in task related frontal lobe activation (Keshavan et al., 2004; Lele, 1998; Young et al., 1993).

Smith et al., (2004) have proposed one possible mechanism that integrates current models of insight, involving abnormalities in fronto-cortical-striatal circuitry.

Assessment of Insight:-

Early studies defined insight as a single dimension – awareness of having illness – to be applied in a binary fashion such as patients having insight or lacked it completely (Jaspers K., 1913 &Lewis A., 1934). Subsequent authors have proposed insight into a multidimensional and continuous construct (Mintz AR., 2003).

Insight is conceptualised as a continuous process and assessed in terms of score from structured schedules based on an unitary concept (McEvoy et al., 1989) or on multidimensional models (Amador et al., 1991; David , 1990). Problems tormented the categorical approach , a common one is the anchor points as full, partial or absent are rarely defined as in Eskey (1958), Heinrich et al., (1985), Van Putten et al., (1976), Cuesta & Peralta (1994) and Takai et al., (1992) where more or less structured methods of mental state examination were used but the scalar criteria were not specified. Categorical approach is based on narrow definitions of insight, generally said in terms of recognition or awareness of mental illness, with some studies added awareness of importance or need for treatment.

The dimensional approach, on the other hand, has conceptualised to broaden and operationalize the assessment of Insight. McEvoy et al., (1989), devised the Insight and Treatment Attitude Questionnaire (ITAQ). This scale measures the extent to which a patient's awareness of disorder and need for management and to hospitalization. This scale correlates with symptomatology of illness to a moderate degree, suggesting its distinctiveness but also providing some construct validity. This has a greater focus on attitudes towards the management rather than psychopathology.

Recently, some authors viewed insight as "multidimensional" (Amador et al., 1991 & David et al., 1990 & Greenfield et al., 1989), i.e., consisting of

related dimensions susceptible to assessment and quantification by standard schedules.

Amador et al., (1991), suggests a broader multidimensional construct of insight as comprising of: a) awareness of illness and consequences, b) general attribution of illness and specific attribution about symptoms and their consequences, c) self-concept formation, d) self-defensiveness. However in 1993, Amador et al., base their assessment of insight on different dimensions namely, awareness of having a mental illness, the effects of medications, the consequence of mental illness, symptoms and attribution of symptoms to a mental disorder. Eventhough it provides detailed measures of awareness and attribution, it do not measure the patient's attitude toward treatment and it takes longer time to administer and also requires special training in order to use it correctly and reliably.

On the other hand David et al., (1990) proposed Schedule for the Assessment of Insight (SAI), in which assessment based on a) recognition of having an illness, b) ability to relabel psychotic symptoms as abnormal, c) awareness of the need for treatment. This designed to assess awareness into psychotic symptoms in relation to the current state. It does not require special training to administer.

Retrospective Insight:-

Expecting the awareness of illness from a person with psychiatric disorder is asking for a great deal but not the impossible one. Modern authors readily accept the notion that there are degrees of insight (Gelder et al., 1983) of which the retrospective variety is as valid as other items, and its development is an integral part of the recovery process (Landis, 1964).

When the patient accepts the mental illness of the past he is said to have a retrospective insight. Bleuler., (1924) and Jaspers., (1913) insisted us to be cautious in interpreting such retrospective insight and not to believe totally the claims of patients that they have become aware of the past unreal experiences.

Wing et al., (1964), before the discharge he assessed a group of 113 male schizophrenia patients whether they would classify themselves as having been mentally ill. 20% of patients answered yes; 52% used words like ‘strain’ and ‘nerves’; 23% said that their own delusions and hallucinations indicated that they had been mentally ill.

Cutting et al., (1985), asked 20 remitted patients whether they had any mental illness in the past, 17 patients said yes and he concluded that a surprising proportion of patients do possess insight contrary to the expectation of many psychiatrists.

Insight is good thing?

Poor insight causes poor compliance with drugs and poor prognosis. When excessive it may be associated with depression and hence produce a poor outcome. This made us to think how much insight is necessary? McGlashan et al., (1981), concluded that absence of negative attitude is more important than a positive attitude.

Roback& Abramowitz et al., (1979), stated that patients with insight have a better behavioural adjustment during their stay in hospital, even though they were more psychologically distressed. David et al., (1990) considered insight as a painful struggle against a psychotic disturbance, and poor insight might serve a protective function.

Poor insight goes along with elevated and elated mood was supported by many authors (VanPutten et al., 1976; Henrich et al., 1985; Bartko et al., 1988). This grandiose conviction of one's mental health is intact seems to serve in patients with schizophrenia, albeit temporarily. It is possible to have too much of insight makes oneself to play a sick role and persistent torturing self examination and referral.

Both too much and too little awareness of one's own illness could be constructed as abnormal illness behaviour (Pilowsky., 1978). A sufficient insight is needed to accept the treatment, but not much, that it might encourage brooding on the reality of how severely ill they are. This formulation was

demonstrated more favourable prognosis achieved by the cancer patients who adopt a fighting spirit (Greer et al., 1983).

Pseudoinsight:-

David et al., (1990), suggested that we have to differentiate insight from pseudo insight where "the patient merely regurgitates overheard explanations arising out of different theoretical perspectives. Reid & Finesinger et al., (1952) suggested that awareness of illness need not imply knowledge of causality either, a view at odds with psychodynamic formulation. It simply requires the admitting that their illness affecting the cognitive function (ability to think, perceive, act, remember etc...) whose aetiology may be and is often unknown.

Neurobiology of Insight:-

Historically, deficits in awareness of illness in schizophrenia have typically been attributed to psychological defense mechanism (McGlashan et al., 1975; McGlashan and Carpenter, 1976; Van Putten et al., 1976; Lally, 1989). Later evidences suggested that insight impairment may be mediated by enduring disturbances in cognitive function, mainly by deficits in fronto cortical neural circuity (Young et al., 1993; Lysaker& Bell et al., 1994, 1998, 2002, 2003; McEvoy et al., 1996; Startup., 1996; Voruganti et al., 1996; Mohamed et al., 1999; Rossell et al., 2004; Shad et al., 2004; 2006,2007).

The association between the impaired insight in schizophrenia and right side of brain (Shad et al., 2004, 2006), it appears to be similar to the relationship

between denial of illness, i.e. anosognosia (Babinski, 1914) and right hemispherical dysfunction (Stuss& Benson, 1986; McGlynn and Schacter, 1989; Miller, 1991). Smaller dorsolateral prefrontal cortex (DLPFC) volume as well as poor score on the Wisconsin Cord Sorting Test (WCST) in patients with first episode psychosis is associated with impaired insight and also found relationship between larger right medial orbitofrontal volumes and misattribution of symptoms (Shad et al., 2004, 2006).

Sarpara et al., (2007) observed associations between reduced volume of prefrontal grey matter and impaired insight by using the scale of Schedule for the Assessment of Insight- Expanded (SAI-E) in chronic schizophrenic patients.

A recent study using voxel based morphometry (VBM) found that reduced volume of grey matter in the temporal and parietal regions that have been implicated in self monitoring, working memory and access to internal mental states were associated with impaired insight.

Relationship of insight to compliance and outcome:-

Insight is frequently linked to the treatment adherence. Bartko et al., (1988); Van Putten et al., (1976) concluded that there is a strong association between poor insight and treatment adherence. In 2007, Tania et al., had done fifteen cross sectional studies to find out a relationship among insight and drug compliance. Many authors found an association between insight and drug compliance (Cuffel et al., 1996; Macpherson et al., 1997; Smith et al., 1999;

Coldham et al., 2002; Kozuki and Froelicher et al., 2003; Yen et al., 2005; Watson et al., 2006; Donohoe et al., 2001), and following five studies got mixed results (Smith et al., 1997; Moore et al., 2000; Kamali et al., 2001; Agarwal et al., 2004; Garavan et al., 1998), and one study was done by Day et al., 2005 haven't found any connection between insight and treatment adherence.

Lin et al., (1979), studied 100 schizophrenia patients and he found that over half of the patients with good level of insight did not take their medicine regularly and 17% of those who do not have insight were drug compliant.

Heinrich et al., (1985), presence of insight i.e., ability to recognize a relapse in the early stages of decomposition, was associated with better successful resolution of the relapse. Thus, majority of the studies found a well known association between insight and drug compliance. While it seems plausible that lack of insight leads to poor drug adherence, and it is also possible that impaired drug compliance results in impaired insight either directly (symptoms are denied or mitigated for fear of medication or further consequences).

A recent study done by Rusch et al., (2009), identified that implicit positive attitude predicted improved insight and perceived need for management. Another study was done by Wittorf et al., (2009), in Germany found that higher the level of insight at baseline significantly predicted higher

patient ratings of the medication adherence in the management of schizophrenia spectrum disorders.

In conclusion one can accept that insight is strongly associated with drug adherence and good treatment outcome. Impaired insight is one of the important reasons why individuals with schizophrenia and bipolar disorder do not take their medications properly. Without drugs, the person's symptoms become worsen. This often makes the patients more vulnerable to being victimised and committing suicide. It is also often leads to rehospitalisation, homelessness, wandering, being incarcerated in prison and being violent against others because of the persistent psychotic and behavioural disturbances (Lacro et al., 2002).

Insight and Delusion:-

Delusions are false judgements held with extraordinary convictions. Conviction is a part of delusion according to Jasper, Kraepelin and DSM-IV's operational definition. This has been challenged by several authors who do not accept that delusions are unitary concepts (junginger and Frame, 1985) . In addition Kendler et al., 1983; Garety., 1985; Brett-Jones et al., 1987, contest the notion of absolute conviction. They said that as conviction diminishes, insight increases. The degree of conviction in the deluded persons may vary considerably. Sacks et al., (1974), called this as "double awareness phase" in the recovery from delusions, similar kind states also occurs during the onset time

(Maher and Ross et al., 1984). This phase might be due to rapid oscillation between belief and disbelief or because of an individual becomes amenable to testing his belief held against reality.

Amador et al., (1993), agreed the multi dimensional concept of delusion. He said that many of his patients who had fixed false beliefs who still have partial awareness of the delusion.

Insight and Illness severity:-

Lack of insight is correlated to the illness severity in schizophrenia (Sevy et al., 2004; Smith et al., 2000; De Hert et al., 2009). Smith et al., (1998), found that insight fluctuates based on the phase of the illness. Strong association between poor insight and severe psychotic symptoms and improvement in insight occurs when they were hospitalized and reduction of their psychotic symptoms (Weilier et al., 2000). Many studies in midlife adults with schizophrenia have reported an association between poor insight and severity of illness (Schres J et al., 2013).

Insight and violence:-

Impaired insight has established itself both as an important element of models of risk of violence and as a clinical item in structured approaches to measure risk of violence (Bjorkly S et al., 2006). Many studies have demonstrated that the presence of unawareness of illness increases the incidence of violent behaviour, because it is, associated with poor treatment adherence or

because it directly increases the violent behaviour. (Buckley PF, Hrouda DR, Friedman L et al., 2004).

Compared with non violent patients, violent patients were highly symptomatic and had poor level of functioning in daily activities and had a prominent impairment in their level of insight (Frieberga and peter R, 2015).

Insight and Social skills:-

Lack of awareness into mental illness may interfere with one's social and interpersonal relationships because of discrepancy between how persons with mental illness see themselves and how others view them and how they views others (Lysaker et al., 1998). He also found that persons with poor insight had significant level of low scores on interpersonal relatedness and basic interpersonal skills.

Many authors found relationships between poor insight and more social isolation, poor engagement in social activities, poor social functioning (Amador et al., 1994; Dickerson et al., 1997; Smith et al., 1999; White et al., 2000).

Higher the level of insight is associated with better social skill, improved self disclosure of one's mental illness and less observed strangeness (J L Francis et al., 2001).

Insight and functional outcome:-

Many studies on insight and functional outcome in schizophrenia have focused on their general level of functioning whereas some studies are focused on some specific areas like job and social functioning.

An association between poor insight and poorer overall level of psychosocial functioning in schizophrenia as measured by Global Assessment Scale (GAS) was shown by Amador et al., (1994).

Tirupati et al., (2007) in Chennai, 183 treated schizophrenia patients were compared with 143 not treated patients. Different variables correlated with insight in these two groups and concluded that treated patients with refractory symptoms and untreated patients having lesser insight would have a poor functional outcome.

Yoshizumi et al., (2008) stated that, insight among patients with schizophrenia about their disturbances in social skills was affected by their mental capacity and this applies not only to the current disturbances but also to their past behavioural disturbances in social domain. Review on this studies found that, out of 13 studies 8 studies were found significant or at least partially significant correlation between insight and functioning while rest of the studies did not find any correlation between insight and functioning (Tania et al., 2007).

A recent article from Spain, assessed insight, drug adherence, and functioning level longitudinally, concluded that lack of insight correlates with

severity of psychotic symptoms and decreased level of functioning and also found that some trait value for schizophrenia, which is apparent once acute psychotic symptomatology is not prominent (Parellada et al., 2009).

Insight and quality of life

Sim et al., (2006), identified that more subjective sense of well-being was related to higher level of insight. Increasing the hope of patients with schizophrenia may directly and positively relate to their increased life quality (Hasson-Ohayon et al., 2009).

Insight changes during hospitalization:-

Amador and Strauss (1994) , reported a significant correlation between insight and course of illness and number of hospitalizations. Aga et al., (1995) found correlation between insight and number of episodes and prior treatment.

Studies also suggested that approximately one third of schizophrenia patients showed improvement in gaining insight when they take anti psychotic medications properly. Studies also suggested that a larger percentage of bipolar disorder patients showed improvement on medications (Jorgensen et al., 1995).

Weilerwt et al., (2000), found that many patients showed improvement in awareness of illness once their acute symptoms were improved. Insight improved during hospitalization and found significant relationships between symptoms improvement and improvement in insight level seen in both bipolar disorder and schizophrenia. He concluded that some aspects of insight were

state related, during acute exacerbation of illness in both patients with Schizophrenia and Bipolar disorder showed poorer insight.

In the first meta analysis of studies assessing the insight in mania, Ghaemi et al., (2004), concluded that insight improved in bipolar disorder patients with resolution of acute manic episode during hospitalization and suggesting that insight is state dependent in Bipolar affective disorder.

Increase in the awareness of illness in patients on regular psychotropic medications during hospitalization in both schizophrenia and bipolar disorder patients (Saravanan A, 2016).

Insight in Bipolar disorder – Mania:-

When bipolar affective disorder patients was investigated by ITAQ, stated that unawareness of illness was severe in mania when compared with depression (Michalakeas et al., 1994).

Manic patients had greater level of insight impairment than depression at the time of admission (Parelta and Cuesta et al., 1998).

Ghaemi et al., (1995), assessed the impairment of insight in patients with bipolar disorder and concluded that poor insight is a prominent characteristic in both schizophrenia and bipolar mania with psychosis. He also reported that mean insight scores was improved slightly from admission to discharge despite the marked improvement in other psychiatric symptoms.

In 2004, Ghaemi et al reported that insight is state dependent in patients with bipolar affective disorder mania, insight improvement occurs with the resolution of acute manic episode and their psychotic symptoms.

Ghaemi et al., (2000), had done a study to find out the relationship between an unawareness and long term outcome in bipolar affective and anxiety disorders in 101 treated patients. Outcome was assessed with Clinical Global Impression (CGI) and Global Assessment of Functioning (GAF) rating scales. The mean follow-up period was 3.9 months, they identified that initial lack of insight did not correlate with poor outcome. However, insight improvement correlated with better outcome, particularly in bipolar affective disorder type I. Insight impairment was similar in both bipolar and unipolar depressive disorders and more so than in anxiety disorders. An association between a lack of improvement in insight and poor functional and disease outcome, most significantly in type 1 bipolar disorder was observed in this sample. They found a greater level of impairment of insight in mood versus anxiety disorders.

Lam D, et al., (1997), done a cross sectional study in 40 bipolar affective disorder patients who were not in acute manic episode and found that their functioning level was related to their insight level, and how well they coped with the prodromal phase of mania and whether they could detect prodromes phase of depression. Patients with mania showed significantly more impairment

in insight than mixed mania, bipolar and unipolar depression (DellOsso and Pini et al., 2002).

Yen C F, (2003), done a study on 33 manic patients during the manic state and subsequently during recovery and found that insight may improve or it may remain unchanged or may decline during recovery from acute manic symptoms. He also reported that adequate management of manic symptoms was the first step toward impaired insight management.

Pallanti et al., (1999), studied the insight level and subjective cognitive complaints on 57 patients with either type I bipolar disorder or type II bipolar disorder during a phase of clinical stabilization. He identified that patients with bipolar II disorder had significantly lesser level of insight and more number of subjective complaints. He also suggested that further research were required to determine if there were any associated neuropsychological dysfunctions.

Insight and Depression and suicidality:-

" .. the correlation between the truth and happiness is not invariably positive …" (Sackeim et al., 1998).

Majority of studies stated that improved insight in patients with psychosis serves to improve their overall functioning. Suicide is one of the important areas of research, in which increased awareness of one's own illness is correlated with heightened mortality and morbidity. In specific patient's awareness of

asociality, delusions, anhedonia, and apathy may significantly increase the suicidal risk (Amador et al., 1996).

A recent study done by Tania et al., (2007) identified that insight was associated with suicidal ideation or suicidal actions (Schwartz and Smith et al., 2004; Schwartz and Peterson et al., 1999; Kim et al., 2003). Patients who achieve the awareness about their illness and its consequences manifest a substantially greater risk of suicide (Drake et al., 1986). When Patients awareness of the importance of their psychiatric treatment is increased, overall severity of current suicidality is also increased (Schwartz and Peterson et al., 1999). In contrast, one study stated that after controlling for hopelessness insight did not predict either current or life time Suicidality (Mintz et al., 2003).

A study by Iqbal et al., (2000) identified that patients who had post psychotic depression reported more negative attitudes towards their illness and they might see themselves in a lower societal status in future than the patients who did not had post psychotic depression. Eventhough the better awareness into illness is associated with good treatment adherence and better social functioning; it also leads to depression, low self esteem and increased suicidality. These paradoxical detrimental effects of insight might pose a threat for treatment adherence (Lysaker et al., 2009; Mohamed et al., 2009). Staring et al., (2009) provided a new perspective in this “insight paradox”.

Schwartz et al., (2001) said that depression is directly proportionate with patients self awareness of one's own illness. The relationship between insight and depressive features in schizophrenia patients may be modulated by a social rank appraisal, in which when the participants compared themselves with general population; greater level of insight was associated with lower social rank appraisal (McLeod et al., 2009).

Schwartz et al., (2001) proposed the linear insight – demoralization – depression – suicidality syndrome in schizophrenia patients. These findings point a need to assess, monitor and intervene in patients with schizophrenia with insight for depressive symptomatology and any suicidal ideation or actions.

Insight comparison in Schizophrenia and Mania with psychosis:-

Various studies on the prevalence of poor insight in schizophrenia show ranging from 40% to 85% (Cuesta MJ, 1994; David AS, 1990; Markova IS 1992). Yen et al., concluded 39.09% of schizophrenic, 36.36% of psychotic bipolar, and 9.37% of nonpsychotic bipolar were found to have impaired insight even during remission.

Studies done by Amador et al., (1994), reported that insight impairment have been found to be more common and more severe in schizophrenia patients than in patients with schizoaffective disorder and depression with or without psychotic features, but not severe than in bipolar disorder patients.

Studies done by Pini et al., (2001) replicated the above findings, that they had evaluated inpatients of 29 schizophrenia, 24 schizoaffective disorder patients, and 183 mood disorder patients with psychotic features (153 with bipolar disorder and 30 with unipolar depression). They found that insight deficits did not differ between schizophrenia and bipolar disorder with psychotic features.

Braw Y et al., (2011), stated that schizophrenia patients were having lesser level of awareness of having a mental illness and of the social consequences of having mental illness than the patients with bipolar disorder.

Patients with schizophrenia have poorer level of insight than other psychotic disorders including mania (Chen et al., 2001).

Subjects with schizophrenia were much more compromised on insight dimension than psychotic mania (Pini et al., 2004).

Yen C F et al., (2005), studied 64 bipolar patients and 74 schizophrenic patients considered to be in remission, he found that the relationship between admission insight scores correlated with treatment adherence at 1 year follow-up for bipolar patients not for schizophrenia patients and concluded that building insight is an important step for establishing drug compliance in bipolar patients.

According to Paul A. Vohringer et al., (2013), bipolar disorder patients exhibit neuro cognitive impairment qualitatively similar to but quantitatively less pronounced than patients with schizophrenia.

R. Fekil. Feki N et al., (2015), concluded that bipolar disorder patients have better insight compared to schizophrenia patients.

In 2016, Arul saravanan ramachandiran et al., had done a study on insight correlates in schizophrenia and bipolar mood disorder patients in remission, he concluded that about 40% of schizophrenia patients were unaware of their mental illness and 30% were aware and 30% were somewhat aware of their mental illness in current period. In bipolar group 67.5%were aware, and 32.5% were somewhat aware of their mental illness, with none reporting the unawareness of their mental illness.

Attempts at improving the Insight:-

There are very few reports in psychiatric literature examining directly the connection between specific interventions and insight improvement. Attempts were made in neurological disorders to treat problems of awareness of self serves as a useful model.

McGlynn and Schacter, (1989), stated that in severe forms of anosognosia, repeated attempts to demonstrate their deficits to them are ineffective. Gilsky and Schacter, (1987), said that extreme level of repetition is needed in training the brain damaged patients with memory disturbances.

Prigatano and Fordyce, (1986), found that we can improve self perception in frontal lobe dysfunction, whereas therapies were ineffective in temporal lobe and deep brain damaged patients. These findings provided important guidelines for schizophrenia patients in which both frontal and temporal lesions are demonstrated.

Seltzer et al., (1980), observed that psychoeducated patients had better treatment compliance compared to those who were not.

Recently, Cognitive Behavioural Therapy (CBT) has shown potential role in treating some specific aspects of schizophrenia. Some authors (Rickelman, 2004; Lele and Joglekar, 1988) have shown that CBT improves WCST performance in patients with schizophrenia. An improvement in WCST scores correlated with improvement in frontal lobe function and improved insight.

AIM

1. To measure the prevalence of insight in schizophrenia and mania with psychosis
2. To find the relationship between severity of psychosis and insight.
3. To find the relationship between insight and overall functioning.
4. To study the change that occurs in insight during hospitalization and treatment.
5. To analyse insight deficits between schizophrenia and mania with psychosis.

HYPOTHESIS

1. There is no difference in insight between schizophrenia and mania with psychosis.
2. More severe psychotic symptoms, poorer the insight in both schizophrenia and mania.
3. Poorer the insight, poorer the psychosocial functioning in both schizophrenia and mania with psychosis.
4. Insight improves during hospitalization and treatment in both schizophrenia and mania with psychosis.
5. Longer the duration of illness in schizophrenia, better the insight.
6. Greater the number of episodes in mania with psychosis, better the insight.
7. Schizophrenia and mania with psychosis patients with prior treatment have better insight as compared to those who were never treated.

MATERIALS AND METHODS

Source of data:

This is a cross sectional, descriptive study was done in patients admitted in psychiatry ward in Thanjavur Medical College Hospital. It is a tertiary level and referral hospital. 30 Schizophrenic and 30 Mania with psychosis patients were included in this study.

Method of collection of data:

Patients admitted in psychiatry ward at Thanjavur Medical College Hospital with the diagnosis of schizophrenia and mania with Psychosis were selected by purposive non probability sampling technique and they were included in the study, after obtaining a written informed consent.

Study Period: February 2016 – July 2016.

Inclusion criteria:-

1. Patients who satisfied ICD-10 criteria for Schizophrenia.
2. Patients who satisfied ICD-10 criteria for Mania with psychotic symptoms.

Exclusion criteria:

1. Schizoaffective disorder
2. Bipolar disorder –Depressive phase.
3. Severe Medical illness.
4. Patients who are not communicating.
5. Patients with severe cognitive dysfunction.
6. Disturbances are due to the effect of a substance.

The instruments namely semi structured proforma for sociodemographic and clinical variables, the brief psychiatric rating scale, young mania rating scale, global assessment of functioning and schedule for the assessment of insight-expanded were administered twice, first at the time of admission and again at the time of discharge.

During their stay in hospital, patients were treated mainly by the biological methods (Pharmaco therapy – anti psychotics for schizophrenic subjects, mood stabilizers and antipsychotics for manic subjects and benzodiazepines for both). Parenteral injections of haloperidol, lorazepam and promethazine were also used whenever needed. Based on the collected information both groups were compared and analysed.

Instruments used:-

1. A Semi structured Proforma for social demographic variables.
2. Brief Psychiatric Rating Scale (BPRS).
3. Young Mania Rating Scale (YMRS).
4. Global Assessment of Functioning scale (GAF).
5. Schedule for the Assessment of Insight-Expanded (SAI-E).

1. **Semi structured proforma for sociodemographic and relevant clinical data:-**

The proforma was used to collect the data such as name, age, sex, marital status, employment status, details of occupation, religion, education, socioeconomic status, type of family and handedness. Clinical data that were recorded include the duration of illness and number of episodes, prior treatment details and the details of current treatment.

(For scale Refer to ANNEXURE B).

2. **The Brief Psychiatric Rating Scale:-**

The BPRS was developed by J.E. Overall and D.R. Gorham. This scale is relatively brief and widely used to measures major psychotic and non-psychotic symptoms in individuals with a major psychiatric disorder particularly schizophrenia. This 18 item scale was very well researched in psychiatry. Eighteen symptom constructs are listed for rating on a seven points scale

0 - Not assessed,

1 – Not present,

2 – Very mild

3 – Mild

4 – Moderate

5 – Moderately severe

6 – Severe

7 – Extremely severe.

This rating is based upon the observation made by the clinician / rater during a 15 to 30 minutes interview.

The items measure tension, emotional withdrawal, mannerism and posturing, motor retardation and uncooperativeness, and subject's verbal reports like conceptual disorganisation, unusual thought content, anxiety, guilt, grandiosity, depressive mood, hostility, somatic concern, hallucinatory behaviour, suspiciousness, and blunted affect, excitement and disorientation.

The limitations include some of the items with potentials for overlap that are broadly defined. Strengths of the scale include its brevity, ease of administration, wide range of use and well researched status.

The BPRS is appropriate for evaluating baseline psychopathology, clinical outcome and response to treatment with the frequency of repeat administrations at the discretion of clinical investigator.

A reliability co efficient of 0.56 to 0.67 has been reported by Overall and Gorham et al., 1962.

(For scale Refer to ANNEXURE C).

3. **Young Mania Rating Scale:-**

The Young Mania Rating Scale (YMRS) is one of the most widely used rating scales to assess the manic symptoms. Developed by Vincent E Ziegler and popularised by Robert Young.

The scale has 11 items and is based on the patient's subjective report of his / her clinical condition over the past 48 hours. Additional information is based upon the clinical observations made during the course of the clinical interview.

The items are selected based upon the published descriptions of the core symptoms of mania. The YMRS follows the style of the Hamilton Rating Scale for Depression (HAM-D) with each item given a severity rating. There are four

items that are graded on 0 to 8 (irritability, speech, thought content, disruptive / aggressive behaviour), while the remaining seven items are graded on 0 to 4. These four items are given twice the weight of the others to compensate for poor cooperation from severely ill patients.

The authors encourage the use of whole or half point ratings once experience with the scale is acquired. Typical YMRS baseline scores can vary a lot. They depend on the patients clinical features such as mania (YMRS= 12), depression (YMRS= 3) or euthymia (YMRS= 2). Sometimes a clinical study entry requirement of YMRS > 20 generates a mean YMRS baseline of about 30.

Higher the scores indicating a greater severity of symptoms.

Strengths of the YMRS include its brevity, wide range of use, and ease of administration. The usefulness of the scale is limited in patients with diagnoses other than mania.

The scale is generally used by a trained rater with expertise in treating manic patients and takes 15 to 30 minutes to complete.

(For scale Refer to ANNEXURE D).

4. **Global Assessment of Functioning Scale:-**

This one is the fifth axis in DSM-IV. It has its origin in Health Sickness Rating done by Lucborsky in 1962 and considered to be the first effort to evaluate psychological health and illness, utilizing a 100 – point scale. Later the scale was divided into groups called levels in the global assessment scale and in 1987, after some modifications, became the global assessment of functioning scale and Axis-V of the DSM-IIIR and DSM-IV.

The GAF is used to assess the psychiatric patients at the time of admission to an inpatient or outpatient program as a part of multiaxial evaluation as recommended by the American Psychiatric Association-DSM classifications.

The GAF is a 100-point single item scale with values ranging from 1 - 100, representing the hypothetically sickest person to healthiest. The scale is divided into equal point intervals with 81-90 and 90-100 for individuals who exhibit superior functioning. Most outpatients will receive ratings between 31-70 and most inpatients falls between 1- 40.

The information needed to assign a numeric value to the health of a patient comes from the clinical evaluation and other sources. The reliability of the GAF ranges from 0.62 to 0.82 (Endicott and Flies et al., 1976).

(For scale Refer to ANNEXURE E).

5. **Schedule for the Assessment of Insight – Expanded version:-**

It is a 12-item semi structured interview, designed by Kemp R and David AS, including three items addressing the treatment adherence. SAI-E builds upon its predecessor, the Schedule for the Assessment of Insight , a seven-item assessment based on the same three factors:

- Recognition of having a mental illness (items 1-5);
- Ability of relabel symptoms as abnormal (items 7 and 8);
- Compliance with treatment (items 6, A and B).

As well as this, there is an item assessing 'hypothetical contradiction' (item 9), which denotes a patient's reaction if someone were to deny their symptoms of psychosis and is usually included with the items of relabel. It also includes a 7-point overall compliance item (the later not included in the total insight score). These factors can be analysed independently or summed to make a total score (0-28). For administering this scale does not require any special training, it is better to use with a clinical interview or PANSS or BPRS.

SanZ et al., found correlation coefficients rating between 0.85-0.91 for several widely used insight scales. High correlation has also been identified between the SUMD and the SAI-E.

SAI-E is the best one used for measuring change and explores correlations with clinical, biological, or psychosocial variables, either as a single continuous measure or as separate dimensional measures. It does not have a ‘cut-off’ value, although scores strongly related to notions of capacity and a score of less than 15 indicates incapacity.

Intra-class correlation coefficients for the total SAI-E scores between the raters ranged from 0.92to0.98 ($P<0.001$).

SAI-E is designed to assess the awareness into the current psychotic symptoms but for assessing the retrospective insight, while possible, requires modification. Using this scale for a wider range of symptoms can be problematic.

(For scale Refer to ANNEXURE F).

STATISTICAL ANALYSIS AND RESULTS

The results were analysed by using SPSS package.

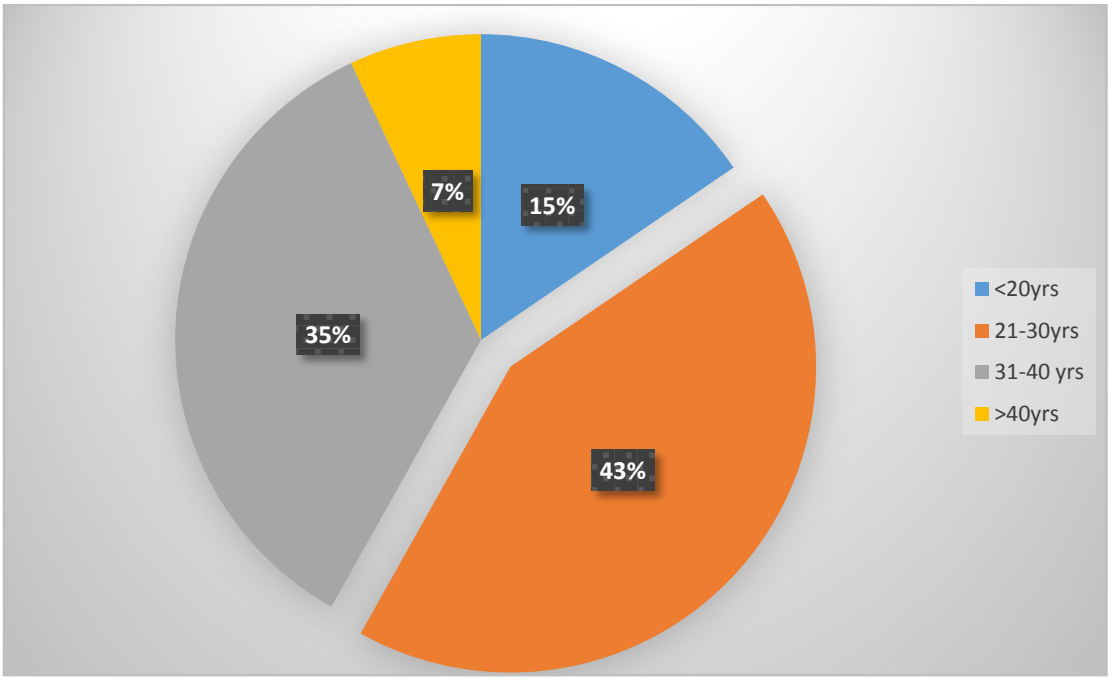
The t-test was used to compare the continuous variables and chi-square test was used to compare the categorical variables.

Pearson's Correlation Coefficient was used to compare the mean insight scores between the 3 groups (regularly treated, irregularly treated, and not treated).

Statistical significance was assumed at a p value <0.05.

FIGURE NO:1

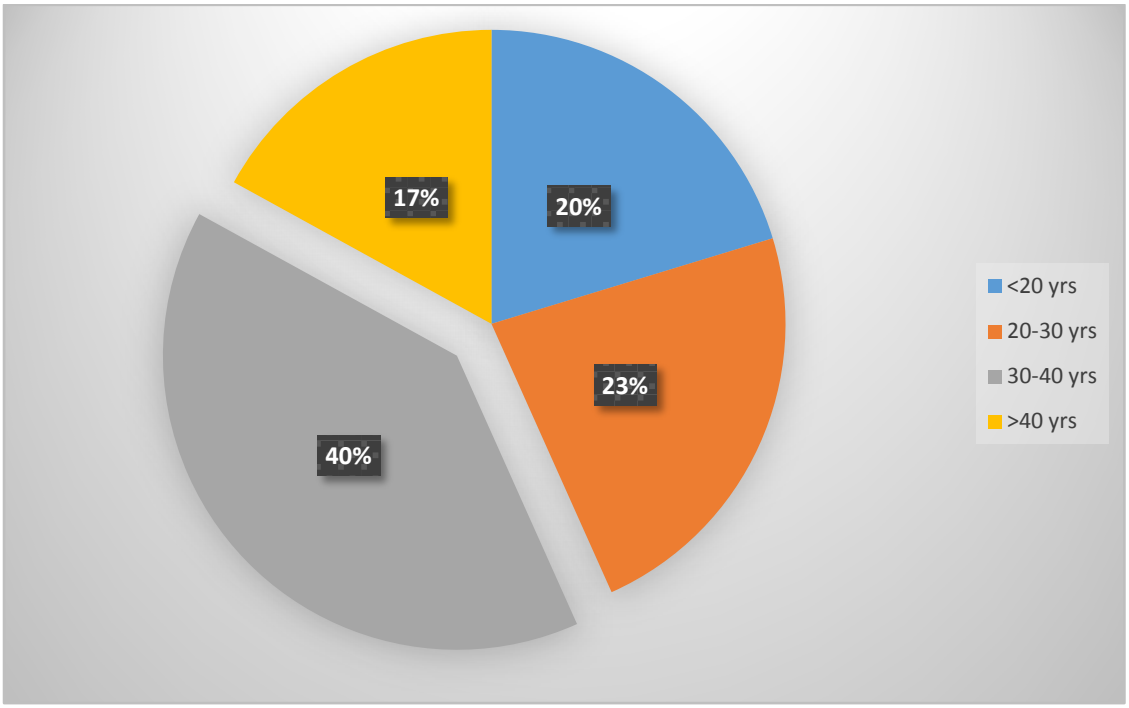
Distribution of schizophrenia according to age:



On analysing the test results, distribution of schizophrenia based on age groups is <20 years has got 15% of distribution, 21 – 30 years has got 43% of distribution, 31 – 40 years has got 35% of distribution and >40years has got <7% distribution. This shows that prevalence of schizophrenia is more common in 21 – 30 years of age group.

FIGURE NO:2

Distribution of Mania With Psychosis According To Age



On analysing the test results, distribution of mania with psychosis based on age groups is <20 years has got 20% of distribution, 20 – 30 years has got 23% of distribution, 31 – 40 years has got 40% of distribution and >40years has got 17% distribution. This shows that prevalence of mania with psychosis is more common in 30-40 years of age group.

Table 1: Comparison Of Sociodemographic Variables Of Schizophrenia And Mania With Psychosis

Sociodemographic variables		**Schizophrenia**	**Mania**	**p value**
Age – mean		28.6	33	0.078
Sex	Males	15(50.0%)	15(50.0%)	1.00
	Females	15(50.0%)	15(50.0%)	1.00
Marital status-Married		8(26.7%)	12(40.0%)	0.39
Religion – Hindu		27(90.0%)	25(83.3%)	0.08
Handedness- Right		27(90.0%)	30(100%)	0.08
Family type-joint		16(15.3%)	10(33.3%)	0.12
Prior treatment-Nil		9(30.0%)	9(30.0%)	1.00

The mean age of the schizophrenia patients was found to be 28.6 and for the mania with psychosis patients it was found to be 33 years.

In both the groups 50.0% were males and 50.0% were females.

Of the 30 schizophrenia patients 8(26.7%) were married, and of the 30 mania with psychosis patients 12(40%) were married.

Of the 30 schizophrenia patients, 27 were Hindu and 2 were Muslims, and 1 was Christian. Of the 30 mania with psychosis patients, 25 were Hindus, 2 were Muslims and 3 were Christians.

Of the 30 schizophrenia patients 3 had left handedness and of the 30 mania with psychosis patients all were right handed.

Of the 30 schizophrenia patients, 53.0% were from a joint family setup, whereas it is about 33.3% in people affected with mania with psychosis. In both the groups 30.0% have not been any prior treatment.

The differences in these sociodemographic variables were not statistically significant between these two groups.

Table 2: Comparison Of Employment Status Of Schizophrenia And Mania With Psychosis

Employment	**Schizophrenia**	**Mania**	**Total**
	Count (%)	**Count(%)**	**Count(%)**
Unemployed	22(73.3%)	17(56.7%)	39(65.0%)
Employed	8(26.7%)	13(43.3%)	21(35.0%)

*P<0.001

Among the schizophrenia group, 22 (73.3%) were unemployed and whereas in mania with psychosis group only 17 (56.7%) were unemployed. This difference was statistically significant with a p value <0.001, when analysed by using the chi-square test.

Insight in Schizophrenia Vs Mania with psychosis at admission

Table3. Comparison of Insight score at the time of admission in schizophrenia and mania with psychosis (SAI-E item 1 to 5)

SAI-E items	Schizophrenia(n=30)		Mania (n=30)		Statistical significance
	Mean	S.D	Mean	S.D	
1.	0.57	0.504	0.73	0.450	T=1.351 Df=58 .182>0.05 Not significant
2.	0.33	0.547	0.27	0.450	T=0.516 Df=58 .680>0.05 Not significant
3.	0.13	0.346	0.10	0.305	T=.396 Df=58 .694>0.05 Not significant
4.	0.37	0.615	0.13	0.346	T=1.812 Df=58 .075>0.05 Not significant
5.	0.47	0.629	0.23	0.430	T=1.677 Df=58 .099>0.05 Not significant

SAI-E- Schedule for the Assessment of Insight-Expanded version; 1-any emotional or psychological changes, 2- there is something wrong with you?, 3-mental illness, 4-how do you explain your condition, 5-led to any adverse consequences or problems in your life.

The first five items of SAI-E is used to assess the recognition of having a mental illness. Both the groups were compared and analysed for the awareness

of having a mental illness. These differences were not statistically significant with a p value of >0.05, when analysed by using the chi-square test.

Table 4. Comparison of insight score at the time of admission in schizophrenia and mania with psychosis (SAI-E items 7 and 8):

SAI-E items	Schizophrenia(n=30)		Mania (n=30)		Statistical significance
	Mean	S.D	Mean	S.D	
7.	1.267	0.8062	1.107	0.7474	T=-.797 Df=58 .429>0.05 Not significant
8.	0.80	0.761	0.90	0.548	T=.584 Df=58 .561>0.05 Not significant

The SAI-E items 7 and 8 were used to assess the ability to relabel symptoms as abnormal. When both the groups were compared, there was no statistically significant difference between these two groups at admission (p>0.05).

Table 5. Comparison of insight score at the time of admission in schizophrenia and mania with psychosis (SAI-E items 6, A and B).

SAI-E items	Schizophrenia(n=30)		Mania (n=30)		Statistical significance
	Mean	S.D	Mean	S.D	
6.	0.53	0.507	0.30	0.466	T=-1.855 Df=58 .182>0.05 Not significant
A.	0.67	0.615	0.67	0.479	T=0.234 Df=58 .816>0.05 Not significant
B.	0.10	0.305	0.10	0.305	T=.000 Df=58 1.000>0.05 Not significant

SAI-E item 6- condition needs treatment?; A- treatment acceptance (passive); B- ask for treatment unprompted.

SAI-E items 6, A and B were used to assess the compliance with treatment. On comparing these two groups scores did not show any statistically significant differences at admission ($p>0.05$).

Table 6. Comparison of insight scores in schizophrenia Vs mania with psychosis at the time of discharge for SAI-E items (1 to 5).

SAI-E items	Schizophrenia(n=30)		Mania (n=30)		Statistical significance
	Mean	S.D	Mean	S.D	
1.	1.30	0.702	1.63	0.556	T=2.038 Df=58 .046<0.05 **Significant**
2.	1.37	0.615	1.70	0.466	T=2.366 Df=58 .021<0.05 **Significant**
3.	0.83	0.531	1.17	0.592	T=2.296 Df=58 .025<0.05 **Significant**
4.	1.20	0.664	1.43	0.558	T=1.462 Df=58 .149>0.05 Not significant
5.	1.37	0.765	1.63	0.556	T=1.545 Df=58 .128>0.05 Not significant

On analysing the item 1 of SAI-E, using the t-test, it was found that schizophrenia patients had poor insight regarding the awareness of experiencing emotional or psychological changes (higher the score, higher the insight) in comparison with mania with psychosis patients.

On analysing the item 2 of SAI-E at discharge by using the t-test, it was found that schizophrenia patients had poor insight regarding the awareness of that something wrong with them; in compare with mania with psychosis patients while discharge.

On analysing the item 3 of SAI-E by using t-test, found that the schizophrenia patients had poor insight regarding the awareness of their mental illness, in compare with mania with psychosis patients while discharge.

The comparison of rest of the items of 4 and 5 of SAI-E did not show any statistically significant difference.

Table 7. Comparison of insight scores in schizophrenia Vs mania with psychosis at the time of discharge for the items of 7 and 8:

SAI-E items	Schizophrenia(n=30)		Mania (n=30)		Statistical significance
	Mean	S.D	Mean	S.D	
7.	2.250	1.0064	2.867	0.6557	T=-2.812 Df=58 .007<0.05 **Significant**
8.	2.47	1.224	2.60	.968	T=.468Df=58 .642>0.05 Not significant

On analysing the item 7 of SAI-E, by using t-test, found that schizophrenia patients had poor insight regarding the awareness of their prominent symptoms, in comparison with mania with psychosis patients while discharge ($p<0.05$).

On analysing the item 8 of SAI-E by using t-test did not found any statistically significant difference between these two groups while discharge ($p>0.05$).

Table 8. Comparison of insight score at the time of discharge in schizophrenia and mania with psychosis (SAI-E items 6, A and B).

SAI-E items	Schizophrenia(n=30)		Mania (n=30)		Statistical significance
	Mean	**S.D**	**Mean**	**S.D**	
6.	1.47	0.507	1.67	0.479	T=2.812 Df=58 .007>0.05 Not significant
A.	1.47	0.571	1.87	0.346	T=3.281 Df=58 .002<0.05 **Significant**
B.	1.00	0.830	1.20	0.610	T=1.063 Df=58 .292>0.05 Not significant

On analysing the item A of SAI-E by using t-test, found that passive acceptance of treatment was less in schizophrenic patients in comparison with mania with psychosis patients at the time of discharge (i.e, schizophrenia had poor acceptance of treatment)

The comparison of rest of the items of 6 and B of SAI-E did not show any statistically significant difference between these two groups ($p>0.05$).

Table 9. Comparison of total score of SAI-E at admission and discharge of both groups:-

	Schizophrenia		**Mania**		**Statistical significance**
	Mean	**S.D**	**Mean**	**S.D**	
Admission	6.2000	4.6177	5.4400	3.23202	T=-.739 Df=58 .463>0.05 Not significant
Discharge	17.050	7.604	20.400	5.321	T=1.977 Df=58 .053>0.05 Not significant

On analysing and comparing the total score of SAI-E of both groups, during the time of admission and at the time of discharge did not show any statistically significant differences between these two groups (p>0.05 = not significant).

Table 10. Comparison of Insight in schizophrenia at admission Vs discharge for total scores of SAI-E:

	Mean	**S.D**	**Mean**	**S.D**	**T**	**df**	**p value**
Admission	6.2000	4.61773	-10.850	7.25984	-8.816	29	**.000<0.01 significant**
Discharge	17.0500	7.60484					

On comparing and analysing the total scores of SAI-E of patients with schizophrenia at the time of admission and discharge showed that, there was a statistically significant improvement in insight at the time of discharge ($p<0.01$).

Table 11. Comparison of Insight in Mania with psychosis at admission Vs discharge for total scores of SAI-E:-

	Mean	**S.D**	**Mean**	**S.D**	**T**	**df**	**p value**
Admission	5.4400	3.23202	-14.9600	5.04836	-16.231	29	**.000<0.01 significant**
Discharge	20.4000	5.32139					

On comparing and analysing the total scores of SAI-E of patients with mania with psychosis at the time of admission and at the time of discharge showed that, there was a statistically significant improvement in insight at the time of discharge ($p < 0.01$).

Table 12. Comparison of Changes in BPRS and GAF during hospitalisation in Schizophrenia:

Schizophrenia	Admission N=30		Discharge N=30		t	df	p value
	Mean	S.D	Mean	S.D			
BPRS	70.53	6.872	42.23	10.605	-14.294	29	**.000<0.01 Significant**
GAF	27.17	8.433	60.87	17.098	-11.141	29	**.000<0.01 Significant**

BPRS- Brief Psychiatric Rating Scale;

GAF- Global Assessment of Functioning.

On comparing and analysing the total scores of BPRS and GAF scored at the time admission and discharge showed that there was a significant reduction in BPRS and improvement in GAF at the time of discharge by using the t-test ($p<0.01$)

Table 13. Comparison of Changes in YMRS and GAF during hospitalisation in Mania with psychosis:-

	Admission N=30		**Discharge N=30**		**t**	**Df**	**p value**
	mean	**S.D**	**Mean**	**S.D**			
YMRS	50.10	7.581	13.27	7.007	28.890	29	**.000<0.01 Significant**
GAF	25.87	4.897	75.47	12.068	-28.243	29	**.000<0.01 Significant**

YMRS- Young Mania Rating Scale;

GAF- Global Assessment of Functioning.

On comparing and analysing the total scores of YMRS and GAF, scored at the time of admission and discharge, it shows that there was a significant reduction in YMRS and improvement in GAF at discharge by using the t-test ($p<0.01$).

Table 14. Correlation between Severity of psychotic symptoms and Insight in Schizophrenia patients at Admission:-

Item	**Mean**	**S.D**	**Correlation**	**Mean**	**S.D**	**t**	**df**	**p value**
BPRS total score	70.53	6.872	-.135	-64.333	8.7797	-40.134	29	**.000 <0.05 Significant**
SAI-E total score	6.2000	4.61773						

*significant at p<0.05

On analysing the correlation between the total BPRS score and total SAI-E score of schizophrenia patients scored at admission a negative correlation was observed i.e, more severe the psychotic symptoms, lesser the insight level.

Table 15. Correlation between Global functioning and Unawareness at Admission in Schizophrenia:-

Item	**Mean**	**S.D**	**Correlation**	**Mean**	**S.D**	**T**	**df**	**p value**
GAF Total score	27.17	8.433	.627	20.9667	6.60080	17.398	29	**.000 <0.05 Significant**
SAI-E total score	6.2000	4.617						

On analysing the correlation between the total GAF score and total SAI-E score of schizophrenia patients scored at admission a positive correlation was observed i.e., lesser the insight level, lesser the level of functioning.

Table 16. Correlation between Severity of psychotic symptoms and Insight at Admission in Mania with psychosis:-

Item	Mean	S.D	Correlation	Mean	S.D	t	df	p value
YMRS Total score	50.10	7.581	-.439	-44.660	9.457	-25.864	29	**.015 <0.05 Significant**
SAI-E total score	5.4400	3.23202						

On analysing the correlation between the total YMRS score and total SAI-E score of mania with psychosis patients scored at admission a negative correlation was observed i.e, more severe the psychotic symptoms, lesser the insight level.

Table 17. Correlation between Global functioning and Unawareness at Admission in Mania with psychosis:-

Item	Mean	S.D	Correlation	Mean	S.D	T	df	p value
GAF Total score	25.87	4.897	.788	20.467	3.07873	36.340	29	**.000<0.05 Significant**
SAI-E total score	5.44	3.23202						

On analysing the correlation between the total GAF score and total SAI-E score of mania with psychosis patients scored at admission a positive correlation was observed i.e., lesser the insight level, lesser the level of functioning.

Table 18. Correlation between Severity of psychotic symptoms and Insight in Schizophrenia patients at Discharge:-

Item	**Mean**	**S.D**	**Correlation**	**Mean**	**S.D**	**t**	**df**	**p value**
BPRS Total score	43.23	10.605	-.744**	-25.1833	17.17982	-8.029	29	**.000<0.05 Significant**
SAI-E total score	17.0500	7.60484						

*significant at p<0.05

On analysing the correlation between the total BPRS score and total SAI-E score of schizophrenia patients scored at discharge a negative correlation was observed i.e., less severe the psychotic symptoms, more the insight level (p value<0.05).

Table 19. Correlation between Global functioning and Unawareness at Discharge in Schizophrenia:-

Item	Mean	S.D	Correlation	Mean	S.D	T	df	p value
GAF Total score	60.87	17.098	.772	43.8167	12.22524	19.631	29	**.000<0.05 Significant**
SAI-E total score	17.0500	7.60484						

On analysing the correlation between the total GAF score and total SAI-E score of schizophrenia patients scored at discharge a positive correlation was observed i.e., more the insight level, more the level of functioning.

Table 20. Correlation between Severity of psychotic symptoms and Insight at Discharge in Mania with psychosis:-

Item	Mean	S.D	Correlation	Mean	S.D	T	df	p value
YMRS Total score	13.27	7.007	-.716	-7.1333	11.43568	3.417	29	**.002 <0.05 Significant**
SAI-E total score	20.400	5.32139						

On analysing the correlation between the total YMRS score and total SAI-E score of mania with psychosis patients scored at discharge a negative correlation was observed i.e, lesser the psychotic symptoms, more the insight level.

Table 21. Correlation between Global functioning and Unawareness at Discharge in Mania with psychosis:-

Item	Mean	S.D	Correlation	Mean	S.D	T	df	p value
GAF Total score	75.47	12.068	.827	55.0667	8.22919	36.652	29	**.000 <0.05 Significant**
SAI-E total score	20.4000	5.32139						

On analysing the correlation between the total GAF score and total SAI-E score of mania with psychosis patients scored at discharge a positive correlation was observed i.e., more the insight level, more the level of functioning.

Table 22. The association between Insight and Number of episodes in mania with psychosis at admission:

SAI-E items (item 1-5)	Episode Number				t	Df	p value
	<2 (n=15)		>2 (n=15)				
	Mean	S.D	mean	S.D			
Emotional changes	5.00	0.00	3.93	1.67	2.48	28	**0.020**
Something wrong	4.33	1.45	2.87	1.92	2.36	28	**0.025**
Mental illness	4.07	1.67	2.60	1.88	2.26	28	**0.032**
Explanation	4.20	1.66	2.47	1.77	2.77	28	**0.010**
Consequences	3.93	1.67	3.40	2.03	0.79	28	**0.438**

The group of mania with psychosis patients was divided into those who have less than 2 episodes and those who have greater than 2 episodes. The differences in insight between these two groups were compared.

It was found that mania with psychosis patients with more than 2 episodes had a better insight, compared to those with less than 2 episodes at the admission time in the items of SAI-E (1-5), with a statistical significance of p value <0.05 (t-test).

Table 23. The association between Insight and Number of episodes in mania with psychosis at discharge:

SAI-E items (item 7 &8)	**Episode number**				**T**	**Df**	**p value**
	<2 (n=15)		**>2 (n=15)**				
	Mean	**SD**	**mean**	**SD**			
Awareness of symptoms	4.33	1.23	3.00	1.85	2.32	28	**0.028**
Explanation of each symptoms	3.67	1.80	2.20	1.66	2.32	28	**0.028**

SAI-E= Schedule for the Assessment of Insight-Expanded version

On analysing the scores of SAI-E item 7 & 8 (ability to relabel the abnormality) of mania with psychosis patients who have less than 2 episodes and who have more than 2 episodes, it showed that mania with psychosis patients with more than 2 episodes had a better insight, compared to those with less than 2 episodes at the time of discharge with a statistical significance of p value <0.05 (t-test).

Table 24. The association between Insight and Duration of schizophrenia at admission:

SAI-E items (item 1-5)	Duration				T	df	p value
	<2years (n=13)		>2years (n=17)				
	mean	S.D	mean	S.D			
Emotional changes	3.9	1.8	3.8	1.9	0.15	28	**0.883**
Something wrong	3.5	2.0	3.6	2.0	-0.17	28	**0.864**
Mental illness	3.2	1.9	2.5	1.9	0.88	28	**0.387**
Explanation	3.2	1.9	2.5	1.9	0.88	28	**0.387**
Consequences	3.5	2.0	3.2	2.0	0.31	28	**0.761**

SAI-E= Schedule for the Assessment of Insight-Expanded version

The schizophrenia patients were divided into two groups, based on their duration of illness. Those patients with less than 2 years duration and those with greater than 2 years duration. Insight did not vary significantly between these two groups with respect to the first 5 items in SAI-E by using t-test ($p>0.05$).

Table 25. The association between Insight and Prior treatment in schizophrenia at admission:

SAI-E items	Nil treatment (n=13)		Regular treatment (n=10)		Irregular treatment (n=7)		p value
	mean	SD	mean	SD	Mean	SD	
Emotional changes	4.38	1.50	3.40	2.07	3.57	1.90	**0.391**
Something wrong	4.38	1.50	3.00	2.11	2.71	2.14	**0.108**
Mental illness	3.15	2.08	2.80	1.99	2.14	1.57	**0.548**
Explanation	3.46	2.03	2.40	1.90	2.14	1.57	**0.254**
Consequences	3.77	1.92	3.00	2.11	3.00	2.00	**0.587**

Among the 30 schizophrenia patients, 13 patients never received any treatment, 10 patients took regular treatment and 7 patients were on irregular treatment. The comparison of insight between these three groups did not show any statistically significant difference in the first 5 items of SAI-E (ability to recognition of having mental illness) both at admission and at discharge. (ANOVA, $p>0.05$)

Table 26. The association between Insight and Prior treatment in mania with psychosis at admission:

SAI-E items	**Nil treatment (n=13)**		**Regular treatment (n=13)**		**Irregular treatment (n=4)**		**p value**
	mean	**SD**	**Mean**	**SD**	**Mean**	**SD**	
Emotional changes	**4.38**	**1.26**	**2.23**	**1.92**	**3.50**	**1.91**	**0.010**
Something wrong	**4.85**	**0.55**	**2.08**	**1.75**	**4.50**	**1.00**	**0.001**
Mental illness	3.77	1.92	2.69	1.97	4.00	1.15	0.273
Explanation	4.69	1.11	4.23	1.54	4.50	1.00	0.670
Consequences	3.62	1.74	3.00	2.00	5.00	0.00	0.146

Among the 30 manic patients, 13 patients never received any treatment, 13 had regular treatment, and 4 had not received treatment regularly. On using ANOVA (Analysis of Variance) and comparing the insight between these three groups, for the first 5 items of SAI-E it was found that, those patients who had prior regular treatment had better awareness of their emotional changes and recognition of something wrong with them when compared with those patients who had never received treatment and who had received irregular treatment.

Discussion

1. On comparing the **sociodemographic variables** it was found that both schizophrenia and mania with psychosis patient groups were similar in most variables except employment.
2. It was found that **employment status** was significantly better in patients of mania with psychosis group (43.3%) when compared to the schizophrenia group (26.7%). This is similar to that of study done by Nandaniyakiritkumar L (2015), employment status of mania is better than schizophrenia patients.
3. **Prevalence of unawareness:**

   It was found that 75% of schizophrenia patients and 72.4%of mania with psychosis patients were unaware of their mental illness at that time of admission (SAI-E item 3). The literature data of the prevalence of unawareness of mental illness ranges from 50% to 80% in various studies. The prevalence of unawareness in this study also falls within this range.

4. **The mean insight score** at admission was compared and no significant differences were noted between the patients with schizophrenia and mania with psychosis in the first 5 items of SAI-E.

   This study finding are consistent with findings of Amador et al., (1990), pini S et al., (2001) and David & kemp et al., (1991), who did not find any substantial difference in insight between schizophrenia and bipolar affective

disorder. The current study does not lend support to evidence from other studies, which showed schizophrenia patients have a poorer insight when compared with mania e.g., a study done by pini S et al., 2004 stated that schizophrenics were much more compromised in insight dimensions than psychotic mania.

Study done by Fenning et al., (1996) also showed that lack of insight was more prevalent in schizophrenia.

5. **Insight in schizophrenia and mania with psychosis at admission versus discharge**

Comparison of insight scores at admission with insight scores at discharge showed that insight at discharge was significantly better compared to insight at admission in both schizophrenia and mania with psychosis patients. In other words there was an improvement in insight during hospital stay and treatment.

Studies suggest that approximately one third of individuals with schizophrenia showed improvement in insight when they take regular antipsychotic medications. Studies also suggest that a greater percentage of individuals with bipolar affective disorder improve on medication.

David (1995), showed that 46% of the hospitalised psychotic patients showed improvement in insight during hospital stay and regular treatment. In

this study also, patients had better insight at discharge as compared to that at admission.

The study findings are consistent with a meta analysis done by Ghaemi et al., (2004), which found insight in mania showed 20% improvement after recovering from acute mania. In other words insight improvement occurs in bipolar affective disorder patients with the resolution of the acute manic and psychotic symptoms. This suggests that insight in mania is state dependent.

The current study findings are also consistent with the studies done by Weiler et al., (2000), which showed that insight improves, across diagnoses (schizophrenia, mania and depression). They also concluded that some aspects of insight are state dependent during exacerbation of illness in both the condition of schizophrenia and mania with psychosis.

This study results lends evidence to support the theory that insight in psychotic illness like schizophrenia and mania are state dependent.

6. **Correlation between insight and psychotic severity at admission in schizophrenia**

When correlation was analysed between insight at admission and total BPRS score, observed a negative correlation between Total BPRS score and Insight level, i.e., more severe the psychotic symptoms, lesser the insight level. In other words higher the psychotic symptoms more the unawareness.

This study finding are consistent with the study done by Francis et al., 2001 & Williams et al., 2002 stated that better insight associated with less severe psychotic symptoms.

7. **Correlation between insight and severity of psychotic symptoms at admission and at discharge in mania with psychosis**

In mania with psychosis patients, both at admission and at discharge, found a significant negative correlation between psychotic severity and insight level, i.e., more severe the psychotic symptoms lesser the insight level.

This findings is consistent with previous studies done by Francis et al., (2001) and Williams et al., (2002) that patients with better insight had less severe psychotic symptoms.

8. **Correlation between insight and severity of psychotic symptoms at discharge in schizophrenia**

Significant positive correlation was seen between unawareness and severity of psychotic symptoms in schizophrenia at the time of discharge. i.e., lesser the psychotic symptoms more the insight level.

9. **Correlation between insight and global functioning at admission in schizophrenia**

When correlation was analysed between global functioning and unawareness, identified a significant positive correlation between the level of

insight and global functioning i.e., more the Insight level, greater the global functioning. In other words a patient with more unawareness has poor global functioning. This findings is consistent with the study done by Amador et al.,(1994) and Pini S et al.,(2001)

10. Correlation between insight and global functioning at discharge in schizophrenia

Significant correlation between insight and global functioning was found at the time of discharge in schizophrenia patients.

11. Correlation between insight and global functioning in mania with psychosis

Significant positive correlation was seen between Insight and global functioning both at admission and discharge in mania with psychosis, i.e., higher the insight, greater the level of functioning

12. Insight and Education

In this study, was not able to find any association between insight and education. In other words better educated people did not have a better insight as compared to the less educated.

This is unlike with the previous studies done by, Cernovsky& Landmark (2004), which showed that people with poor insight had usually less educated.

MacPherson et al., (1996), also concluded that number of years spent in education explained proportion of insight.

13. Insight and number of episodes in mania with psychosis

It was found that patients with greater than 2 episodes had better insight, when compared with patients who have less than 2 episodes, both during admission and at discharge. It is interesting to note that studies done by Yen C F et al., (2004), also found that shorter duration of illness was associated with poorer insight. This study also finds evidence for a similar conclusion.

14. Insight and duration of schizophrenia

It was found that schizophrenia patients with illness duration more than 2 years did not have better insight from schizophrenia patients with illness of less than 2 years of duration.

15. Insight and prior treatment

There was no difference in insight between prior treated and untreated patients in schizophrenia group, whereas in mania with psychosis group those who had regular prior treatment had better insight when compared to those who had received irregular treatment.

SUMMARY AND CONCLUSIONS

A group of 30 patients who fulfilled the ICD-10 criteria for Schizophrenia and 30 patients who fulfilled the ICD-10 criteria of Mania with psychotic symptoms were hospitalised, and both groups were compared and analysed on sociodemographic and clinical variables. I found that both groups were similar in most sociodemographic variables. Validated scales were used to assess insight, psychotic severity and overall functioning at admission and at discharge. It was found that insight in schizophrenia and mania with psychosis did not have substantial differences. The study found that insight improves during hospitalization and treatment in both the groups. The study also concluded that some aspects of insight may be state dependent in both these groups. It was also observed that better insight is associated with lower psychotic symptoms in mania and schizophrenia. The study found that better the insight, better the psychosocial functioning in schizophrenia and mania with psychosis. The study did not find any association between level of education and insight. The study did not find any association between insight and duration of illness in schizophrenia. In mania with psychosis, I found that patients with greater number of episodes had better insight when compared those with less number of episodes. In schizophrenia patients, the study did not find any association between prior treatment and insight. In mania with psychosis

patients, the study found that patients with prior treatment had better insight as compared to those who had no treatment.

LIMITATIONS

1. Sample size was small in number.
2. Single investigator had done all the administration of scales.
3. Study being of a naturalistic design did not control the treatment variables.
4. The study was done in a tertiary hospital, in an inpatient setting and hence the result cannot be generalised.

STRENGTHS

1. Being of a naturalistic design, the study throws light on the real world evolution of symptoms like, psychotic severity, global functioning and insight.
2. Most of the studies of insight have been done at a single point of time. This study has been done at two points of time i.e., at admission and discharge.

FUTURE DIRECTIONS

1. Comparison of insight in schizophrenia with other groups like depression and schizoaffective disorder.
2. Correlation of lack of insight with neuropsychological deficits.
3. More research is needed to determine the specific correlation between CBT, WCST, and insight in schizophrenia.

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ANNEXURE

ANNEXURE-A

INFORMED CONSENT

ஆராய்ச்சிஒப்புதல் படிவம்

மனச்சிதைவு மற்றும் மனஎழுச்சிநோயாளிகளின் நோய் உணரும் தன்மையை ஒப்பீடுசெய்யும் பரிசோதனையில் நான் பங்கேற்க சம்மதிக்கின்றேன். இந்த ஆராய்ச்சியின் விவரங்களும் அதன் நோக்கமும் எனக்கும், என் குடும்பநபர்களுக்கும் தெளிவாகவிளக்கப்பட்டது. எனக்கு விளக்கப்பட்ட விவரங்களை புரிந்துகொண்டு நான் எனது சம்மதத்தை தெரிவிக்கிறேன். இந்த ஆராய்ச்சியில் பிறரின் நிர்பந்தமின்றி என் சொந்த விருப்பத்தின் பேரில் நான் பங்குபெறுகிறேன் மற்றும் இந்த ஆராய்ச்சியிலிருந்து எந்நேரமும் பின்வாங்கலாம் என்பதையும் அதனால் பாதிப்பு ஏற்படாது என்பதையும் நான் புரிந்துகொண்டேன். இந்த ஆராய்ச்சியினால் ஏற்படும் நன்மைகள் பற்றிதெளிவாக மருத்துவர் மூலம் தெரிந்துகொண்டேன். இதற்கான சம்மதம் என் குடும்பத்தாரிடமும் பெறப்பட்டது.

முடிவுகளை அல்லது கருத்துகனை வெளியிடும்போதோ அல்லது ஆராய்ச்சியின்போதோ தங்களது பெயரையோ அல்லது அடையாளங்களையோ வெளிவிடமாட்டோம் என்பதையும் தெரிவித்துக்கொள்கிறோம்.

ஆராய்ச்சியாளர் கையொப்பம் பங்கேற்பாளர் கையொப்பம்

நாள் :

இடம் :

ANNEXURE-B

Sociodemographic and clinical profile

Name:

Age

Sex

O.P No. **I.P. No.**

Marital status : 1) Unmarried 2)Married 3)Divorced 4)Separated

Religion : 1**)** Hindu 2) Muslim 3) Christians 4) Others.

Employment : 1) Employed 2) Unemployed .

Education : 1) Primary (1-5), 2) Elementary (6-8), 3) High (9-10),
4) Higher Sec (11, 12), 5) Graduate, 6) postgraduate

Family : Nuclear / Joint

Socioeconomic class: 1) less than 900. 2)900-3000, 3)30000-9999,
4) 10000-20000, 5) above 20,000

Diagnosis:

Duration of illness:

Continuous/episodic:

Number of Episodes:

Previous treatment: Regular/Irregular

Current treatment:

ANNEXURE-C

BRIEF PSYCHIATRIC RATING SCALE (BPRS)

Patient Name _____

Please enter the score for the term that best describes the patient's condition.

0 = Not assessed, 1 = Not present, 2 = Very mild, 3 = Mild, 4 =

Moderate, 5 = Moderately severe, 6 = Severe, 7 = Extremely severe

1. SOMATIC CONCERN

Preoccupation with physical health, fear of physical illness, hypochondriasis.

2. ANXIETY

Worry, fear, over-concern for present or future, uneasiness.

3. EMOTIONAL WITHDRAWAL

Lack of spontaneous interaction, isolation deficiency in relating to others.

4. CONCEPTUAL DISORGANIZATION

Thought processes confused, disconnected, disorganized, and disrupted.

5. GUILT FEELINGS

Self-blame, shame, remorse for past behaviour.

6. TENSION

Physical and motor manifestations of nervousness, over-activation.

7. MANNERISMS AND POSTURING

Peculiar, bizarre, unnatural motor behaviour (not including tic).

8. GRANDIOSITY

Exaggerated self-opinion, arrogance, conviction of unusual power.

9. DEPRESSIVE MOOD

Sorrow, sadness, despondency, pessimism.

10. HOSTILITY

Animosity, contempt, belligerence, disdain for others.

11. SUSPICIOUSNESS

Mistrust, belief others harbour malicious or discriminatory intent.

12. HALLUCINATORY BEHAVIOR

Perceptions without normal external stimulus correspondence.

13. MOTOR RETARDATION

Slowed, weakened movements or speech, reduced body tone.

14. UNCOOPERATIVENESS

Resistance, guardedness, rejection of authority.

15. UNUSUAL THOUGHT CONTENT

Unusual, odd, strange, bizarre thought content.

16. BLUNTED AFFECT

Reduced emotional tone, reduction in formal intensity of feelings, flatness.

17. EXCITEMENT

Heightened emotional tone, agitation, increased reactivity.

18. DISORIENTATION

Confusion or lack of proper association for person, place or time.

ANNEXURE-D

Young Mania Rating Scale (YMRS)

The purpose of each item is to rate the severity of that abnormality in the patient. When several keys are given for a particular grade of severity, the presence of only one is required to qualify for that rating.

1. Elevated Mood
0 Absent
1 Mildly or possibly increased on questioning
2 Definite subjective elevation; optimistic, self-confident; cheerful; appropriate to content
3 Elevated; inappropriate to content; humorous
4 Euphoric; inappropriate laughter; singing

2. Increased Motor Activity-Energy
0 Absent
1 Subjectively increased
2 Animated; gestures increased
3 Excessive energy; hyperactive at times; restless (can be calmed)
4 Motor excitement; continuous hyperactivity (cannot be calmed)

3. Sexual Interest
0 Normal; not increased
1 Mildly or possibly increased
2 Definite subjective increase on questioning
3 Spontaneous sexual content; elaborates on sexual matters; hypersexual by self-report
4 Overt sexual acts (toward patients, staff, or interviewer)

4. Sleep
0 Reports no decrease in sleep
1 Sleeping less than normal amount by up to one hour
2 Sleeping less than normal by more than one hour
3 Reports decreased need for sleep
4 Denies need for sleep

5. Irritability
0 Absent
2 Subjectively increased
4 Irritable at times during interview; recent episodes of anger or annoyance on ward
6 Frequently irritable during interview; short, curt throughout
8 Hostile, uncooperative; interview impossible

6. Speech (Rate and Amount)
0 No increase
2 Feels talkative
4 Increased rate or amount at times, verbose at times
6 Push; consistently increased rate and amount; difficult to interrupt
8 Pressured; uninterruptible, continuous speech

7. Language-Thought Disorder
0 Absent
1 Circumstantial; mild distractibility; quick thoughts
2 Distractible, loses goal of thought; changes topics frequently; racing thoughts
3 Flight of ideas; tangentiality; difficult to follow; rhyming, echolalia
4 Incoherent; communication impossible

8. Content
0 Normal
2 Questionable plans, new interests
4 Special project(s); hyper-religious
6 Grandiose or paranoid ideas; ideas of reference
8 Delusions; hallucinations

9. Disruptive-Aggressive Behaviour
0 Absent, cooperative
2 Sarcastic; loud at times, guarded
4 Demanding; threats on ward
6 Threatens interviewer; shouting; interview difficult
8 Assaultive; destructive; interview impossible

10. Appearance

0 Appropriate dress and grooming
1 Minimally unkempt
2 Poorly groomed; moderately dishevelled; overdressed
3 Dishevelled; partly clothed; garish make-up
4 Completely unkempt; decorated; bizarre garb

11. Insight

0 Present; admits illness; agrees with need for treatment
1 Possibly ill
2 Admits behaviour change, but denies illness
3 Admits possible change in behaviour, but denies illness
4 Denies any behaviour change

ANNEXURE-E

GLOBAL ASSESSMENT OF FUNCTIONING (GAF) SCALE

Consider psychological, social, and occupational functioning on a hypothetical continuum of mental health-illness. Do not include impairment in functioning due to physical or environmental limitations

Code: (Note: Use intermediate codes when appropriate: eg. 45,68 ,72)

100-91: Superior functioning in a wide range of activities, life's problems never seem to get out of hand, is sought out by others because of his or her many positive qualities. No symptoms.

90-81: Absent or minimal symptoms (E.g., mild anxiety before an exam), good functioning in all areas, interested and involved in a wide range of activities, socially effective, generally satisfied with life, no more than everyday problems or concerns (e.g., an occasional argument with family members).

80-71: If symptoms are present, they are transient and expectable reactions to psychosocial stressors (e.g., difficulty concentrating after family argument): no more than slight impairment in social, occupational, or school functioning (e.g. temporarily falling behind in schoolwork).

70-61: Some mild symptoms (e.g., depressed mood and mild insomnia OR some difficulty in social, occupational, or school functioning (e.g., occasional truancy, or theft within the household), but generally functioning pretty well, has some meaningful interpersonal relationships.

60-51: Moderate symptoms (E.g., flat affect and circumstantial speech, occasional panic attacks) OR moderate difficulty in social, occupational, or school functioning (e.g., few friends, conflicts with peers or co-workers).

50-41: Serious symptoms (e.g., suicidal ideation, severe obsessional rituals, frequent shoplifting) OR any serious impairment in social, occupational, or school functioning (e.g., no friends, unable to keep a job).

40-31: Some impairment in reality testing or communication (e.g., speech is at times illogical, obscure, or irrelevant) OR major impairment in several areas such as work or school, family relations, judgment, thinking, or mood (e.g., depressed man avoids friends, neglects family, and is unable to work; child frequently beats up younger children, is defiant at home, and is failing at school.

30-21: Behaviour is considerably influenced by delusions or hallucinations OR serious impairment in communication or judgment (e.g., sometimes incoherent, acts grossly inappropriately, suicidal preoccupation) OR inability to function in almost all areas.(e.g., stays in bed all day; no job, home, or friends).

20-1: Some danger of hurting self or other (e.g, suicide attempts without clear expectation of death, frequently violent, manic excitement) OR occasionally fails to maintain minimal personal hygiene (e.g., smears faeces) OR gross impairment in communication (e.g., largely incoherent or mute).

10-1: Persistent danger of severely hurting self or others (e.g., recurrent violence) OR persistent inability to maintain minimal personal hygiene OR serious suicidal act with clear expectation of death.

0: Inadequate information.

ANNEXURE-F

Schedule for the Assessment of Insight – Expanded version

1. “Do you think you have been experiencing any emotional or psychological changes or difficulties?”
    - Often (thought present most of the day, most days) = 2
    - Sometimes (thought present occasionally) = 1
    - Never (ask why doctors/others think so) = 0

2. “Do you think this means there is something wrong with you?”(eg, a nervous condition). If previous answer was “never” or “no” ask: “If the doctors and others think you have been experiencing emotional or psychological changes or difficulties do you think there must be something wrong with you don’t feel it yourself?”
    - Often (thought present most of the day, most days) = 2
    - Sometimes (thought present occasionally) = 1
    - Never (ask why doctors/others think so) = 0

3. “Do you think your condition amounts to a mental illness or mental disorder?"
    - Often (thought present most of the day, most days) = 2
    - Sometimes (thought present occasionally) = 1
    - Never (ask why doctors/others think so) = 0

    If positive score on previous two items, proceed to 4, otherwise go to item 6.

4. “How do you explain your condition/disorder/illness?”
    - Reasonable account given based on plausible mechanisms(appropriate given social, cultural, educational background, eg., excess stress, chemical imbalance, family history, etc.,)=2
    - Confused account or overhead explanation without adequate understanding or “don’t know”=1
    - Delusional or bizarre explanation=0

    If positive score on items 1,2,3, proceed to 5,otherwise go to 6.

5. “Has your nervous/emotional/psychological/mental/psychiatric condition led to adverse consequences or problems in your life?”(eg, conflict with others, neglect, financial or accommodation difficulties, irrational, impulsive, or dangerous behaviour)
    - Yes=2
    - Unsure=1
    - No=0

6. “Do you think your…condition or the problem resulting from it warrants treatment?”
    - Yes=2
    - Unsure=1
    - No=0

7. Pick the most prominent symptoms up to a maximum of four. Then rate awareness of each symptom out of 4 as below.
   Examples:
    - ✓ “Do you think that the belief is not real/not really happening”
    - ✓ “Do you think that the voices you hear are actually real people talking, or is it something arising from your own mind?”
    - ✓ “Have you been able to think clearly, or do your thoughts seem mixed up/confused? Is your speech jumbled?”
    - ✓ “Would you say you have been more agitated/overactive/speeded/withdrawn than usual?”
    - ✓ “Are you aware of any problem with attention/concentration/memory?”
    - ✓ “Have you a problem with doing what you intend/getting going/finishing tasks/motivation?”

      Symptom-1 symptom-2 Symptom-3 Symptom-4
      Rating: Rating: Rating: Rating:

    - Definitely(full awareness)=4 **mean:**
    - Probably(moderate awareness)=3
    - Unsure(sometimes yes, sometimes no)=2
    - Possibly(slight awareness)=1Absolutely(no awareness)=0

8. For each symptom rated above (up to a maximum of four), ask patient…"How do you explain…(false belief, hearing voices, thoughts muddled, lack of drive etc.,)?"

   Symptom-1 symptom-2 Symptom-3 Symptom-4

   Rating: Rating: Rating: Rating:

- Part of my illness = 4 **mean:**
- Due to nervous condition = 3
- Reaction to stress/fatigue = 2
- Unsure = 1
- Can't say or delusional/bizarre explanation = 0

9. "How do you feel when people do not believe you (when you talk about….delusion or hallucinations)?
   - That's when I know I'm sick = 4
   - I wonder when something's wrong with me = 3
   - I'm confused and I don't know what to think = 2
   - I'm still sure despite what others say = 1
   - They're lying = 0

After interview go to the end of this form and fill in grid as appropriate.

Compliance to treatment / therapy /medication-patient's primary nurse to rate following three items (A-C)

A. How does the patient accept treatment?
   - Often (may rarely question need for treatment) = 2 mean:
   - Sometimes (may occasionally question need for treatment) =1
   - Never (ask why) = 0

B. Does the patient ask for treatment unprompted?
   - Often (excludes inappropriate request for medication, etc.,) = 2
   - Sometimes (rare here if forgetfulness/disorganization leads to occasional requests only) = 1
   - Never (ask why doctors/others think so) = 0

C. Summary of compliance to treatment/therapy/medication

- Complete refusal = 1
- Partial refusal(refusing depot drugs or accepting only the minimum dose) = 2
- Reluctant acceptance(accepting only because treatment is compulsory or questioning the need for treatment often, eg., every 2 days) = 3
- Occasional reluctance about treatment(questioning the need for treatment once a week)=4
- Passive acceptance = 5
- Moderate participation (some knowledge of and interest in treatment and no prompting needed to take the drugs) = 6
- Active participation (ready acceptance, and taking some responsibility for treatment) = 7

Score summary

1.
2.
3.
4.
5.
6.
7. (mean)
8. (mean)
9.

Sub total:

A.
B.

Total: item C

(Item C is combined with other scores)

		Sociodemographic data								BPRS-admission																		BPRS - Discharge					
S.NO	Age	Sex	Marital	em	Edu	Socic	reli	diagnos	durati	epi	past	**somi**	Anxi	Emo	Coi	Guilt	Te	Ma	Gran	depr	Hosti	suspi	Hallu	mot	un co	uni	blur	exci	Disc	**TOTAL**	**somi**	Anxi	Emo	Conc	Gui
1	35	1	2	2	2	2	1	schiz	6 month	2	6	6	5	6	1	4	1	2	4	5	6	5	1	4	5	4	2	1	68	**3**	3	2	3	1
2	29	1	1	1	1	1	1	schiz	2 month	0	5	4	6	6	1	2	4	1	4	4	7	6	2	6	7	3	4	2	74	3	2	4	4	2
3	27	1	2	2	3	2	2	schiz	1 yr	2	6	6	4	6	0	5	1	1	4	4	6	5	2	3	5	4	1	1	64	3	3	2	1	1
4	38	1	2	1	4	3	1	schiz	4 yrs	2	1	1	6	5	1	1	6	1	5	3	6	6	5	6	5	6	1	1	66	1	1	4	5	4
5	19	1	1	2	4	2	1	schiz	3 month	0	1	1	7	0	0	0	7	0	6	0	5	5	7	7	0	7	0	0	53	2	2	3	2	0
6	26	1	2	1	2	2	2	schiz	1yr	2	2	2	2	6	0	4	1	6	3	6	6	6	1	6	6	4	6	4	71	4	3	4	3	0
7	46	1	4	1	1	2	2	schiz	8yrs	1	7	7	3	5	5	3	1	6	5	4	7	6	2	6	6	2	5	3	83	3	2	1	2	2
8	33	1	2	2	3	3	3	schiz	2 yrs	2	3	3	3	5	3	4	1	3	4	5	5	5	2	5	5	4	3	3	66	3	3	2	2	1
9	22	1	1	1	2	1	1	schiz	3 month	0	3	3	6	6	5	4	5	1	5	2	6	6	6	7	6	7	1	4	83	3	3	3	3	0
10	28	1	1	2	3	3	1	schiz	5 yrs	1	4	4	5	5	3	3	1	2	4	5	5	5	5	5	5	4	3	4	72	2	2	3	2	2
11	45	1	2	2	2	2	3	schiz	10yrs	2	4	3	6	6	1	4	3	1	3	5	6	6	4	5	5	6	4	2	74	3	3	4	3	1
12	15	1	1	2	2	3	3	schiz	3 month	0	4	5	6	5	4	5	1	1	5	4	6	5	4	4	4	4	3	2	72	2	2	3	3	2
13	34	1	2	2	5	3	1	schiz	4 yrs	2	2	1	1	7	1	1	6	7	3	6	7	6	1	7	7	2	6	5	76	1	3	2	4	1
14	55	1	3	2	1	1	1	schiz	12 yrs	2	5	5	4	5	5	4	1	1	4	3	6	5	5	4	5	4	2	5	73	4	4	4	3	3
15	42	1	2	2	2	2	1	schiz	6 years	2	3	3	5	6	2	4	4	3	3	5	6	6	4	5	6	5	4	4	78	3	2	4	4	1
16	28	2	1	2	2	1	1	schiz	12years	2	1	1	6	6	1	1	1	1	4	7	6	6	2	7	6	6	5	4	71	1	1	4	5	1
17	30	2	1	2	3	2	1	schiz	8years	2	1	2	7	7	1	1	7	1	1	5	5	7	1	7	6	5	4	5	73	1	2	5	5	1
18	34	2	2	2	2	2	1	schiz	4years	1	4	4	5	5	3	3	1	2	4	5	5	5	5	5	5	6	4	2	74	2	2	3	2	2
19	38	2	1	2	2	3	2	schiz	3years	0	5	5	5	6	1	4	1	1	3	4	6	7	2	6	7	5	3	5	76	4	4	4	5	1
20	32	2	1	1	3	2	1	schiz	2 month	1	4	4	5	5	3	3	1	2	4	5	5	5	5	5	5	4	3	2	70	2	2	3	3	2
21	34	2	4	2	1	1	2	schiz	2years	1	5	5	4	6	2	5	0	1	4	4	5	5	2	6	6	5	2	4	71	3	2	2	3	1
22	19	2	1	2	4	2	1	schiz	3 month	0	1	1	7	0	0	0	7	0	6	0	5	5	7	7	0	7	0	0	53	2	2	3	2	0
23	42	2	4	2	1	2	1	schiz	12 yers	2	5	6	6	1	3	1	4	1	4	1	5	6	4	1	6	4	1	2	61	4	3	4	4	1
24	29	2	2	1	2	2	1	schiz	2 years	1	5	5	5	6	4	4	1	1	6	3	5	4	4	4	5	6	1	3	72	4	3	3	3	1
25	20	2	1	2	1	1	1	schiz	1 year	0	4	5	6	5	4	5	1	1	5	4	6	5	4	4	4	4	3	2	72	2	2	3	3	2
26	33	2	2	2	2	2	1	schiz	1 1/2 yr	2	3	3	3	5	3	4	1	3	4	5	5	5	2	5	5	4	3	3	66	3	3	2	2	1
27	50	2	3	2	1	3	1	schiz	13 yers	2	4	3	6	6	1	4	3	1	3	5	6	6	4	5	5	6	4	2	74	3	3	4	3	1
28	21	2	1	2	3	3	2	schiz	3 month	0	4	4	5	5	3	3	1	2	4	5	5	5	5	5	5	4	3	4	72	2	2	3	2	2
29	27	2	1	1	4	2	1	schiz	1year	2	6	6	4	6	0	5	1	1	4	4	6	5	2	3	5	4	1	1	64	3	3	2	1	1
30	25	2	1	2	4	2	3	schiz	9 month	0	5	4	6	6	1	2	4	1	4	4	7	6	2	6	7	3	4	2	74	3	2	4	4	2

												YMRS ADMISSION													YMRS - DISCHARGE										
Name	Age		Sex	Marital	oc	Edu	Socio	reli	diagnos	durati	epi	past	**elev**	ener	sexu	sle	irrita	sp	lan	conte	aggr	appe	insigh	**TOTA**	**elev**	energ	sex	slee	irrit	spe	langua	cont	aggg	appe	insigh	**TOT**
1		29	1	2	2	3	2	1	mania	5days	2	2	3	4	3	4	8	8	3	8	8	3	4	56	1	2	0	0	2	2	0	2	0	0	0	9
2		42	1	4	1	2	2	3	mania	10da	5	2	3	3	3	3	6	6	2	8	6	3	4	47	1	0	0	0	2	0	0	2	0	0	0	5
3		21	1	1	2	5	2	1	mania	4days	1	0	4	4	3	4	8	8	4	8	8	4	4	59	1	2	0	0	4	4	1	2	2	0	1	17
4		45	1	2	1	1	3	2	mania	12da	4	1	3	3	2	3	6	6	2	6	4	3	3	41	1	0	0	1	2	2	0	0	2	0	0	8
5		25	1	1	1	3	2	1	mania	7 day	3	2	4	3	1	3	6	8	3	6	6	3	4	52	1	0	0	0	0	2	0	0	2	1	0	5
6		28	1	2	1	3	2	3	mania	8days	2	2	3	3	1	3	6	4	2	6	6	3	4	41	1	0	0	1	2	2	0	2	0	0	0	8
7		19	1	1	2	4	3	1	mania	5days	1	0	4	4	3	4	8	8	4	8	8	3	4	59	1	1	1	1	2	2	1	2	2	0	1	14
8		40	1	3	1	2	2	1	mania	6days	4	1	3	2	2	3	4	6	3	4	4	2	3	36	1	0	0	0	2	2	1	2	2	1	1	12
9		34	1	1	1	4	3	3	mania	12da	3	2	4	4	4	4	8	6	3	6	6	3	4	52	1	1	1	1	4	2	1	2	2	1	2	18
10		20	1	2	2	4	3	1	mania	6days	1	0	3	4	3	3	8	6	3	6	8	4	4	52	2	1	1	1	4	4	2	4	2	2	3	26
11		16	1	2	2	3	2	2	mania	5days	1	0	4	4	3	3	8	8	3	8	8	3	4	56	1	1	1	1	2	2	1	2	2	1	3	17
12		28	1	3	1	4	3	3	mania	9days	2	2	4	4	4	4	8	6	3	6	6	3	3	51	1	1	1	1	2	2	1	2	2	2	2	17
13		47	1	1	2	1	2	1	mania	10da	6	2	4	4	4	4	8	8	3	6	6	3	4	56	2	2	2	2	4	2	2	4	4	2	2	28
14		38	1	3	1	1	3	2	mania	12da	5	1	3	3	2	3	6	6	2	6	4	3	3	41	1	0	0	1	2	2	0	0	2	0	0	8
15		22	1	2	1	3	2	1	mania	5days	1	0	3	4	4	3	6	8	4	8	6	4	4	50	1	1	0	0	2	2	0	0	2	0	1	9
16		40	2	4	2	1	2	1	mania	7days	3	1	3	3	0	3	6	6	2	4	4	3	3	37	1	1	0	0	0	0	1	0	0	0	0	3
17		28	2	1	1	3	3	3	mania	10da	2	1	3	3	3	3	6	4	2	4	6	3	4	41	1	1	0	0	2	2	1	2	2	1	1	13
18		25	2	1	2	3	2	1	mania	7 day	2	2	4	3	1	3	6	6	3	6	6	3	4	50	1	0	0	0	0	2	0	0	2	1	1	6
19		36	2	3	2	2	3	1	mania	15da	3	2	4	4	2	4	8	8	4	8	8	3	4	57	2	2	1	2	4	4	2	2	4	2	2	27
20		18	2	1	2	4	3	2	mania	7days	1	0	4	4	3	4	8	8	4	8	8	3	4	59	1	1	1	1	2	2	1	2	2	0	1	14
21		42	2	2	2	1	3	2	mania	12da	5	1	3	3	2	3	6	6	2	6	4	3	3	41	1	0	0	1	2	2	0	0	2	0	0	8
22		30	2	3	2	3	2	1	mania	5days	2	2	3	4	3	4	8	8	3	8	8	3	4	56	1	2	0	0	2	2	0	2	0	0	0	9
23		27	2	2	1	3	2	1	mania	10da	2	2	3	3	1	3	6	4	2	6	6	3	4	41	1	0	0	1	2	2	0	2	0	0	0	8
24		45	2	4	2	1	2	1	mania	12da	6	2	4	4	4	4	8	8	3	6	6	3	4	56	2	2	2	2	4	2	2	4	4	2	2	28
25		35	2	4	1	4	3	3	mania	9days	3	2	4	4	4	4	8	6	3	6	6	3	4	52	1	1	1	1	4	2	1	2	2	1	2	18
26		17	2	1	2	4	3	1	mania	5days	1	0	4	4	3	4	8	8	3	8	8	3	4	58	1	1	1	1	2	2	0	2	2	0	1	13
27		15	2	1	2	5	2	2	mania	7days	1	0	4	4	3	4	8	8	4	8	8	3	4	58	1	2	0	0	4	4	1	2	2	1	1	18
28		28	2	2	1	3	2	3	mania	8days	2	2	3	3	1	3	6	4	2	6	6	3	4	41	1	0	0	1	2	2	0	2	0	0	0	8
29		19	2	1	2	4	3	1	mania	10da	1	0	4	4	3	4	8	8	4	8	8	4	4	60	1	1	1	1	2	2	1	2	2	0	1	14
30		56	2	2	2	1	1	1	mania	6days	4	1	4	3	2	4	6	6	3	6	6	3	4	47	1	1	0	1	2	2	1	2	0	0	0	10

															GAF		SAI-E admission											
Tensi	Manni	Grand	depre	Hostili	suspici	Hallu	motor	un cop	unusua	blunte	excitem	Disorien	**TOTAL**	admissi	dischar	**Emot**	wron	mental	expla	proble	need	prom	explain	Feel ab	accepta	unpr
3	0	1	2	2	2	2	2	1	2	2	1	1	**33**	45	64	1	0	0			1	2.2	1	1	0	0
2	2	1	3	3	4	3	1	3	4	4	2	1	48	26	58	0	0	0			0	1.2	0	1	0	0
1	1	2	1	3	2	2	1	1	2	2	1	1	30	38	78	1	1	0	1	1	0	2	2	0	1	0
4	2	1	7	1	4	3	3	3	4	3	1	1	52	42	67	0	0	0			0	2	1	1	1	0
3	2	0	4	1	3	2	3	1	2	3	1	1	34	19	84	1	0	0			1	0	1	2	0	0
2	1	2	2	2	4	4	2	3	3	1	3	0	43	24	34	1	0	0			1	1	0	0	0	0
1	1	2	3	2	4	3	1	1	3	1	1	1	34	34	58	1	1	1	1	2	1	2.4	2	3	1	1
2	1	2	4	2	3	4	2	2	3	2	1	1	40	30	76	1	1	1	2	1	1	1.5	3	1	1	0
1	1	1	4	3	3	3	2	2	2	3	2	1	40	22	75	0	0	0			0	1	1	1	0	0
2	1	1	2	3	3	3	2	3	2	1	2	2	38	20	58	1	0	0		1	0	1	1	1	1	0
3	3	1	3	3	4	3	3	2	3	4	2	2	50	21	54	0	0	0			1	0.5	0	0	1	0
0	1	3	1	2	1	1	1	2	2	1	1	1	29	15	84	0	0	0			1	1	0	0	0	0
2	1	5	4	5	5	4	2	4	5	3	5	2	58	18	34	0	0	0			0	0	0	1	1	0
2	3	1	1	3	1	3	1	2	1	2	3	1	42	31	56	1	2	1	1	2	1	2.5	1	1	2	1
3	4	1	3	4	4	4	3	4	4	2	4	2	56	26	46	1	0	0			0	1	0	1	0	0
2	1	1	4	5	5	5	3	5	5	6	5	3	62	16	27	0	0	0			0	0.5	1	1	1	0
6	1	2	4	4	5	6	4	4	4	4	3	3	66	16	26	0	0	0			0	0.5	0	1	1	0
2	1	1	2	3	3	3	2	3	2	1	4	2	36	32	65	0	0	0			1	2.5	1	1	0	0
3	1	1	4	4	5	5	1	4	5	3	1	2	57	22	36	0	0	0			0	0.5	0	1	0	0
0	1	3	1	2	1	1	1	2	2	1	1	0	28	40	78	1	1	1	2	1	1	1	1	3	1	0
2	1	1	3	1	2	2	1	2	3	4	1	1	35	34	68	1	1	0	1	1	1	2.5	1	1	1	0
3	2	0	4	1	3	2	3	1	2	3	1	1	34	19	84	1	0	0			1	0	1	2	0	0
3	1	1	5	1	3	3	4	1	4	5	1	2	50	34	52	1	1	0	1	1	1	2	1	2	1	1
2	2	1	1	3	1	3	3	1	3	3	1	1	39	35	74	1	1	0	1	1	1	2.5	1	2	2	0
0	1	3	1	2	1	1	1	2	2	1	1	1	29	18	80	0	0	0			1	1	0	0	0	0
2	1	1	2	3	3	3	2	3	2	1	2	2	38	24	52	1	0	0		1	0	1	1	1	1	0
3	3	1	3	3	4	3	3	2	3	4	2	2	50	26	62	0	0	0			1	0.5	0	1	1	0
2	1	1	2	3	3	3	2	3	2	1	2	2	38	24	60	1	0	0		1	0	1	1	1	0	0
1	1	2	1	3	2	2	1	1	2	2	1	1	30	38	78	1	1	0	1	1	0	2	2	0	1	0
2	2	1	3	3	4	3	1	3	4	4	2	1	48	26	58	0	0	0			0	1.2	0	1	0	0

GAF		SAI-E admission												SAI-E discharge											
admis	discha	**Emot**	wrong	menta	explain	probl	needs	I	promi	explain	Feel	a	accepta	unprom	**TOTAL**	**Emotio**	wrong	ment	expla	problen	neec	promi	expla	Feel	accepta	unpron	**TOTAL**
24	84	0	0	0			0	0	0	0	0	0	0	0	0	2	2	1	1	2	2	3	2	3	2	1	21
34	78	1	1	0	1	1	1	1.5	1	1	1	0	9.5	2	2	1	1	1	1	2	3	2	1	1	17		
18	72	0	0	0			0	0.5	1	0	1	0	2.5	2	2	1	2	2	2	3	4	3	2	1	24		
32	92	1	1	1		1	1	2.5	1	1	1	1	11.5	2	2	2	2	2	2	4	4	4	2	2	28		
28	84	1	1	0	1	1	0	1.5	1	1	1	0	7.5	2	2	1	2	2	2	3	2	2	2	1	21		
26	82	1	0	0			0	1	1	1	0	0	4	2	2	2	2	2	2	3	4	3	2	2	26		
24	76	1	0	0			0	1.5	1	1	1	0	6.5	1	1	1	1	1	1	3	2	2	2	1	16		
22	72	1	0	0			1	0.5	0	0	1	0	3.5	2	2	1	2	2	2	3	3	3	2	2	24		
24	66	1	0	0			1	1.5	1	1	1	0	5.5	2	2	1	1	2	2	3	2	2	2	1	20		
20	58	1	0	0			0	0	0	1	0	0	2	1	1	1	1	1	1	2.5	1	2	1	1	13.5		
24	74	1	0	0			0	0.5	1	1	0	0	3.5	1	2	1	2	2	2	3	2	2	2	1	20		
26	64	0	1	0			0	1.2	0	1	0	0	3.2	1	2	1	1	2	1	2.5	2	2	1	1	16.5		
18	58	0	0	0			0	0	2	1	1	0	4	1	1	0	1	1	1	1.5	2	2	2	0	12.5		
32	92	1	1	1		1	1	2.5	1	1	1	1	11.5	2	2	2	2	2	2	4	4	4	2	2	28		
24	72	1	0	0			1	1.5	1	1	1	0	6.5	2	1	1	2	2	2	3	3	3	2	1	22		
38	86	1	1	0	1	1	1	2	1	2	1	0	11	2	2	2	1	2	2	3	3	3	2	2	24		
26	78	1	0				0	1	1	1	0	0	4	2	2	1	1	1	2	3	2	3	2	1	20		
28	84	1	1	0	1	1	0	1.5	1	1	1	0	7.5	2	2	1	2	2	2	3	2	2	2	1	21		
22	36	0	0	0			0	0.5	0	1	0	0	1.5	0	1	0			1	1	1	1	1	0	6		
24	76	1	0	0			0	1.5	1	1	1	0	6.5	1	1	1	1	1	1	3	2	2	2	1	16		
34	90	1	1	1		1	1	2.5	1	1	1	1	11.5	2	2	2	2	2	2	4	4	4	2	2	28		
24	84	0	0	0			0	0	0	0	0	0	0	2	2	1	1	2	2	3	2	3	2	1	21		
28	84	1	0	0			0	1	1	1	0	0	4	2	2	2	2	2	2	3	4	3	2	2	26		
20	56	0	0	0			0	0	2	1	1	0	4	1	1	0	1	1	1	1.5	2	2	2	0	12.5		
24	70	1	0	0			1	1.5	1	1	1	0	5.5	2	2	1	1	2	2	3	2	2	2	1	20		
28	78	1	0	0			0	1.5	1	1	1	0	6.5	1	1	1	1	1	1	3	2	2	2	1	16		
20	76	0	0	0			0	0.5	1	0	1	0	2.5	2	2	1	2	2	2	3	4	3	2	1	24		
26	82	1	0	0			0	1	1	1	0	0	4	2	2	2	2	2	2	3	4	3	2	2	26		
26	78	1	0	0			0	1.5	1	1	1	0	6.5	1	1	1	1	1	1	3	2	3	2	1	17		
32	82	1	0	0	0	0	0	1	2	2	1	0	7	2	2	2	2	2	2	3	2	4	2	2	25		

SAI-E discharge

TOTAL	Emo	wrong	menta	expl	problen	needs	F	prom	explair	Feel at	acceptar	unprompt	R:	TOTAL
6.2	2	1	1	1	2	2	3	4	3	2	2			23
2.2	1	2	1	1	2	1	2.5	2	2	1	1			16.5
9	2	2	1	2	2	2	4	4	4	2	1			24
5	1	2	1	1	1	1	1	2	1	1	0			12
5	2	2	1	2	2	2	3	3	4	2	2			25
3	1	1	1	1	1	1	1	1	1	1	0			10
16.4	1	1	1	1	2	2	2	2	2	1	1			16
13.5	1	1	1	1	1	1	3	4	3	2	2			20
3	2	2	2	2	2	2	3	3	3	2	1			24
6	1	1	1	1	1	1	2	2	2	1	1			14
2.5	0	0	0			1	1.5	1	2	1	0			4.5
2	2	2	1	2	2	2	3	4	3	2	2			27
2	1	1	0	1	1	1	0	1	1	0	0			7
15.5	2	2	1	1	2	2	3	4	3	2	2			24
3	1	1	0	1	1	1	1	1	2	1	0			10
3.5	1	1	0	1	0	1	1.5	1	2	1	0			8.5
2.5	0	1	0			1	1	1	1	1	0			6
6.5	1	1	1	1	1	1	1	1	1	1	0			10
1.5	0	1	0			1	1	1	1	1	0			6
13	1	1	1	1	1	1	3	4	3	2	2			20
10.5	2	1	1	2	2	2	3	4	4	2	2			25
5	2	2	1	2	2	2	3	3	4	2	2			25
13	2	1	1	1	2	2	2	2	3	2	1			19
12.5	2	2	1	2	2	2	3	3	4	2	2			25
2	2	2	1	2	2	2	3	4	3	2	2			27
6	1	1	1	1	1	1	2	2	2	1	1			14
2.5	0	0	0			1	1.5	1	2	1	0			4.5
2	2	2	2	2	2	2	3	3	3	2	1			24
9	2	2	1	2	2	2	4	4	4	2	1			24
2.2	1	2	1	1	2	1	2.5	2	2	1	1			16.5