

A STUDY ON SUICIDAL IDEATION IN SCHIZOPHRENIA

Dissertation submitted to

**THE TAMIL NADU Dr.M.G.R. MEDICAL
UNIVERSITY**

in partial fulfillment of the requirements of

**M.D. DEGREE EXAMINATION
BRANCH – XVIII – PSYCHIATRY
KILPAUK MEDICAL COLLEGE
CHENNAI– 600 010**



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TAMILNADU, INDIA
APRIL 2017**

CERTIFICATE

This to certify that the Dissertation entitled “**A STUDY ON SUICIDAL IDEATION IN SCHIZOPHRENIA**” is a bona-fide record of work done by **Dr. A.KUMARESAN** in the department of Psychiatry, Government Kilpauk Medical College, Chennai, during his Post Graduate Course from 2014 to 2017. This is submitted as partial 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 A.KUMARESAN solemnly declare that the dissertation titled **“A STUDY ON SUICIDAL IDEATION IN SCHIZOPHRENIA”** is a bona-fide work done by me in Government Kilpauk Medical College, Chennai, during January 2016 – June 2016 under the guidance and supervision of Professor and H.O.D **Dr.M.Malaiappan, MD (Psychiatry)**.

This dissertation is submitted to **“The Tamil Nadu Dr M.G.R. Medical University, Chennai”**, Tamil Nadu as a partial fulfilment for the requirement of **M.D. Degree examinations – Branch – XVIII (Psychiatry)** to be held in **April 2017**.

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ACKNOWLEDGEMENT

I express my gratitude to the Dean, **Dr.R.NARAYANA BABU, MD, DCH**, for allowing me to pursue this dissertation work in Government Kilpauk Medical College.

I thank my Professor and Head, Department of Psychiatry, Government Kilpauk Medical College, **Dr.M.MALAIAPPAN, MD., (Psychiatry)**, Professor **Dr.P.P.KANNAN**, Assistant Professor **Dr.S.J.DANIEL** for guiding me throughout this dissertation.

I am also thankful to all the patients who had consented to and co-operated for this study.

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INTRODUCTION

Schizophrenia is a psychiatric disorder with a mostly continuous course. The chronic phase in schizophrenia is characterized most of the time by multiple exacerbations. It is estimated that schizophrenia decreases the life expectancy of patients by approximately 10 years. A life time morbid risk of schizophrenia of 0.7% for all persons in birth cohort (Saha et al. 2005). Approximate hospital readmission rate has been observed to be about 40 to 60% in schizophrenia patients within 2 years after the first hospital admission.(Benjamin et al) In a systematic review of more than 100 epidemiological studies in 32 countries, the median incidence rate was 15.2 per 100,000 persons per year (McGrath et al. 2004). Suicide is a major cause for premature death in schizophrenia. Suicide is also the most unpredictable clinical outcome in schizophrenia, though it is also generally considered to be a preventable one. Suicide and suicidal ideations in schizophrenia have multiple etiological factors. Identification of the risk factors can help reduce the incidence of suicidal ideation and thereby suicides in schizophrenia, which in turn may lead to a better outcome in schizophrenia. About 10% of patients will have persistent, unremitting psychosis (Wiersma et al,1998).

In this study, we have attempted to analyse the prevalence and the associated factors of suicidal ideation in patients with schizophrenia, and to observe the differences between the group of patients with suicidal ideation and those without suicidal ideation, to recognition of risk factors.

REVIEW OF LITERATURE

Schizophrenia is considered a group of disorders or as a syndrome with a heterogeneous etiology. It affects the thought, perception, emotions, cognitive ability and behavioural pattern of the patients. The illness usually begins before the age of 25 years and run through one's entire life. It affects persons of all social classes. (Benjamin et al). Life time prevalence is 1% in general population. The word 'schizophrenia' was coined by Eugene Bleuler (1857-1939). The term of schizophrenia meaning was 'splitting of the mind'. Bleuler also described the primary symptoms of schizophrenia which are called the "4A symptoms".

4A Symptoms:

1. Association
2. Affect
3. Autism
4. Ambivalence

(Benjamin et al)

Kurt Schneider described certain symptoms which he grouped as first rank and second rank. Schneider's criteria for the diagnosis of schizophrenia had lasting impression in psychiatric practice. ICD-10 guidelines use Schneider's criteria heavily.

Not single, but multiple genetic factors and environmental factors may influence the occurring of schizophrenia. Long periods of hospitalization and more chronic course of illness associated with decreased intellectual functioning. Schizophrenia has higher association with other psychiatric illnesses like substance use disorder, depression, OCD, PTSD and others. Suicide risks are more in schizophrenic patients. 10% of schizophrenic patients die by suicide. (Harris et al). Most patients commit suicide in the early illness period. Schizophrenia patients mostly have only a partial insight or may have a total loss of insight. Treatment of schizophrenia can be challenging.

EPIDEMIOLOGY:

The life time prevalence of schizophrenia is almost 1 percent worldwide. Schizophrenia affects men and women almost equally. In men, the usual age of onset is about 10-25years. In women, onset is 25 to 35 years. It is very rare before the age of 10 years and after age of 60 years. (Benjamin et al) Women have been found to have better functioning before the onset of disease compared to male schizophrenia patients. Male patients suffered more from negative symptoms than women patients do. In general overall outcome is better for female than male schizophrenic patients. (Benjamin et al)

RISK FACTORS:

The following are the risk factors for schizophrenia:

Genetic loading – family history of schizophrenia

Being born in winter period

High level of expressed emotion in family

Being born to a father who is more than 60 years old

Disturbance in mother-child relationship has been observed to have a 6 times higher risk for schizophrenia.

Family conflicts and pathological family behaviour increase emotional stress. Increased emotional stress leads to increased risk for schizophrenia. Higher relapse rates are seen in schizophrenia patients who experience high levels of expressed emotions from others. Almost 50% of beds are occupied by schizophrenia patients in psychiatric homes.

Hypothyroidism - 3 times greater risk (Tasman et al)

Some reports of increased incidence among people born during influenza epidemics (Morgan et al 1997)

GENETIC FACTORS IN SCHIZOPHRENIA:

Genetics has a major role in the development of schizophrenia. There may be multiple genes, with varying levels of effects, interacting with each other and with other risk factors. (Cf. Mowry and nancarrow 2001, Maier et al, 2006).

First degree relatives like parents or siblings have chance increased risk of 10%. Monozygotic twin have the highest risk – the unaffected twins have a risk of 50%. Among second degree relatives the risk is 6 times higher and among third degree relatives the risk is two times higher (Tsuang et al 2001).

ADOPTION STUDIES:

Adoption studies done in Denmark, conducted in the 1960s - 70s providing compelling evidence that adoptees with schizophrenia had higher rates of schizophrenia in their biological relatives (5.6%) than adoptees without schizophrenia (0.9%) (Ingraham and Kety 2000).

IMMIGRANTS:

Epigenetic mechanism could explain the increased risk in immigrants (Dealberto 2010).

BIRTH COMPLICATIONS:

A higher rate of pregnancy and birth complication has been observed in schizophrenia. (Canon et al 2002)

SEX:

The onset of schizophrenia is on an average 3.5 to 6 years earlier in men than in women (Riecher- rossler and hafrer 2000)

No difference for males versus females. (MC Grath et al 2008)

INDUSTRIALIZATION:

Incidence rates for schizophrenia by urban city found that the risk for schizophrenia was 2.37 times greater in the urban compared to the rural population (vassos et al 2012).

NEUROTRANSMITTERS INVOLVED IN THE PATHOGENESIS OF SCHIZOPHRENIA:

Dopamine

Serotonin

Norepinephrine

Neuropeptides

Glutamate

Acetylcholine

Multi-neurotransmitter theory about schizophrenia has been explained by Carlsson and colleagues 2001.

Positive symptoms are described to be due to dysfunction in the Anterior cingulate region, basal ganglia and the thalamo cortical circuit.

Negative symptoms are considered to be due to dysfunction in the Dorsolateral prefrontal cortex.

No definite findings have been observed. No definite laboratory investigation or findings have been observed.

SUBSTANCE USE IN SCHIZOPHRENIA:

Substance abuse is more common in schizophrenia patients than in general population. Life time prevalence rate of alcohol abuse in schizophrenia patients is almost 40percent. About 90% of schizophrenia patients are misused nicotine. Nicotine may improve illness symptoms and also act as time filler for those patients. In schizophrenic patients associated co-morbid with substance misuse in life time prevalence almost 50%.

Schizophrenia patients are most commonly misused nicotine. (Benjamin et al)

Smoking rates among individuals diagnosed with schizophrenia are much higher than those in the general population (De Leon and Diaz 2005)

Auditory sensory gating systems are decreased by alpha 7 nicotinic receptors in schizophrenic population. Than the nicotine systems may be involved in the pathology of schizophrenia suggests possible biological underpinnings to the high smoking rates. (Leonard et al, 2007)

Psychologically, studies have suggested that individuals with schizophrenia may smoke to self-medicate illness symptoms. (Lucksted et al, 2004)

Greater severity of substance abuse was associated with greater impairment. (Kerfoot et al, 2011)

LATE ONSET SCHIZOPHRENIA:

And if schizophrenia occurs after the age of 45 years, it is referred to as late onset of schizophrenia, and is thought to be associated with formal thought disorder and negative symptoms are considered to be very rare. (Howard et al 2000). Late onset schizophrenia is more common in women (Howard et al 2000).

DEPRESSION IN SCHIZOPHRENIA:

Depression is common in schizophrenia – almost 25%, and this condition leads to poor treatment outcome, reducing functioning level, high relapse rate, re-hospitalization and suicide (siris 2000). Eugene bleuler described depression to be one of the core symptoms of schizophrenia.

Females have higher risk. Depressed females mostly associated with negative symptoms and depressed male patients are mostly associated with positive symptoms of schizophrenia.

Early parental loss is more common (Roy et al 1983)

Depressive symptoms are equally common in male and female patients (Addington et al 1996)

Association between depressive symptoms and attention impairment - frontal lobe dysfunction(Kohler et al 1998 a)

Increased bilateral temporal lobe volumes and decreased laterality (Kohler et al 1998b)

Neuroimaging of depression with schizophrenia and depression almost same features.

Depression in schizophrenia can be detected using standard diagnostic check list (Mulrow et al 1995).

DEPRESSION AND HOPELESSNESS:

Persistent depressed mood, particularly feelings of hopelessness and psycho-motor disturbance, were significantly associated with suicide in a prospective us study of 104 schizophrenic patients, 15 of whom subsequently committed suicide. (Drake, R.E. et al).

Schizophrenia patients do not voluntarily express their suicidal ideas, so clinician should ask directly about patient's suicidal ideas. Negative symptoms of schizophrenia may be confused with depression. Sadness is also an inconsistent feature in depression with schizophrenic individuals or patients.

Schizophrenia directly producing negative symptoms are called primary negative symptoms, drugs and environmental factors producing negative symptoms are called secondary negative symptoms. About 15% of first episodic schizophrenia may have depression. 25 to 30% of chronic condition of schizophrenia may have depression. A global assessment

scale score of less than 51 (serious symptoms) was found in 34 - 70% in schizophrenia patients (Lang et al 2013).

There is no difference in a depressive features due to bereavement and that due to other significant life problems (Wake field et al 2007, Kendler et al 2008).

People who have recurrent brief episodes and also episodes of typical duration have been found to be at heightened risk for suicide attempts (Pezawas et al., 2003).

Distinguishing between depression and negative symptoms is important because depression is a risk factor for suicide, whereas negative symptoms are relatively protective (Siris 2000).

DEPRESSION AND SUICIDE

In a psychological autopsy study of a series of 100 suicide victims, 64 could be diagnosed post-mortem with uncomplicated major depression (Barraclough et al., 1974)

Suicide risk is particularly acute early in the course of antidepressant treatment, and has thus fueled a raging controversy about the safety of antidepressant therapy for depression (Healy & Whitaker, 2003).

However, an analysis of over 370 antidepressant drug trials found no excess suicide deaths and a modest elevation in suicidal behaviour (Stone et al., 2009).

Globally schizophrenia is the fifth leading cause of years lost to disability for men and the sixth leading cause for women (World Health Organization 2008).

About 10 % of patients will have persistent, unremitting psychosis (Wiersma et al 1998)

PERSONALITY FACTORS:

Greater neuroticism may also predispose to depression (Kindler et al, Costa et al 2005). Elevated neuroticism – strong predictor of depression during six years of follow up (Shea et al 1996)

Depression can occur in those not on antipsychotic drugs. (Johnson 1981a). Still, the prevalence of significant depression reduces with treatment. (Hirsch et al 1989). General functioning after treatment for depression still may never return to normalcy. (Kennedy and Foy 2005).

DEPRESSION AS A PRODROMAL SYNDROME:

Depression was common in the pro-dromal stage of schizophrenia (Herz and Melville et al). Symptoms most frequently observed are reduced food intake, poor cognition, insomnia, depression and loneliness.

DEPRESSION IN CHRONIC SCHIZOPHRENIA:

Chronic stage - less chance for depressive episode.

Positive symptoms in chronic stage may cause distress and depression.

Depression is a risk factor for suicide in schizophrenic patients. (Prasad 1986)

Depression can be the main reason for 40% of admissions (Falloon et al 1978). Patients with post psychotic depression are at higher risk for relapse.

SUICIDE:

Suicide is a Latin word meaning 'self murder'. The severity can range from suicidal ideation to acting out the ideation. Attempted and committed patients many times have had plans for days, weeks, months or even years before the attempt. Many studies have documented an elevated suicide rate in schizophrenia. These rates have been reported to the as low as 2% (Black et al, 1985; Stephens et al, 1999) but more often quoted to be between 4% and 13% with frequently accepted modal rate being approximately 10% (Miles 1977; Tsuang et al 1978; Drake et al, 1985; Nyman and johnsson 1986; Roy 1986; Caldwell and gottesman 1990; Meltzer and okayli 1995; Fenton et al 1997; Stephens et al 1997; Inskip et al 1998; Wiersma et al, 1998)

Studies of adults and adolescents who commit suicide in general reveal that more than 90 percent of them suffered from at least one

psychiatric disorder, and as many as 80percent of them had consulted a physician in the event. (Moscicki, 2000; Luoma et al 2002)

Suicide is an emergency condition in the psychiatric field. Psychiatrists devote more care to such patients. It is not possible to predict suicide accurately or all the time before it is acted out. What is done is providing standard care by avoiding or reducing high risk factors for suicide.

Suicide is not an individual problem, it is a social problem. Imitation suicide mostly influence select the method of suicide. Suicide threatens not only to the individual with his family and also to the society. It has a major impact on the survivors. Males are had higher suicidal rate than females in worldwide. Despite problem in the recording of suicide, reports on suicide rates among different cultures or people suggest a true variation in suicide mortality. (Lonnqvist, J, Sainsbury, p et al) Successful suicide prevention calls for sensitive understanding of suicidal intent and active early intervention. (Isometsa, E.T. et al)

Suicide attempts are much less reliably quantified, but have been reported among 20-40%, of patients diagnosed with schizophrenia by modern criteria. (Drake et al, 1985; Fenton et al, 1997; Radomsky et al, 1999)

As in other major psychiatric disorder suicide is the leading cause of premature death among patients with schizophrenia and other chronic

psychotic disorders (Black and Fisher 1992, Simpson and Tusang 1996, de Hert et al 2001; Siris 2001, Potkia et al, Pinikanana et al 2003)

WHO survey report was total global mortality rate of suicide in worldwide around 2 percent. In young individual unemployment has a higher risk or role for suicide. Religion was a one of protective factor for suicide. Rapid changes in suicidal behaviour may be protected by cultural factors also. Among females, life events as psychosocial stress are less strongly connected with suicide. Depression and adverse interpersonal life events are more frequent contributors to female than male suicides. (Heikkinen, M.E et al)

Generally recent life stressors are more risk in male suicidal victims than female suicidal victims. Depression of suicide victims differ qualitatively from that of living controls; it seems to be more severe and accompanied more often by insomnia weight or appetite loss, feelings of worthless, inappropriate guilt and thoughts of death or suicidal ideation. (McGirr, A. Renaud, J. et al)

The mortality risk for suicide in major depression is 20 times that expected and 15 to 20 fold in all affective disorders. Every sixth death among depressive people treated as psychiatric patients is by suicide. (Wulsin et al) The risk is highest for depressive in patients even during the post discharge period, and much lower among psychiatric out patients, although clearly lowest for those treated for depression in primary care. (Simon, G.E. et al)

Impulsive and aggressive behaviour, alcohol and drug abuse and dependence and cluster B personality disorders increase the risk suicide individual with major depression. (Dumais, A. Leasage et al)

Suicidal behaviours are linked with mental illnesses especially in depressive condition and psychosis with partial insight and co-morbid with substance abuse.

Suicide attempts: completed suicide ratio is approximately 25:1. Suicide rate is higher in adolescents compared to elder population.

French sociologist Emile durkheim described three types of suicide:

1. Egoistic
2. Altruistic
3. Anomic

RISK FACTORS:

Kaplan and harrow have provided prospective evidence that the construct of poor overall function, a summation of the factors justed noted with emphasis on poor social and work function and poor quality of life, is predictive of later suicide.(Kaplan, K.J. et al)

GENDER:**Committed suicide :**

Male gender

Male: Female ratio is 4:1

Attempted suicide:

Female gender

Female: Male ratio is 3:1

Also, males are more likely to use lethal options than females do.

AGE:

Younger or teen age is considered to be associated with higher risk.

Age greater than 45 years

RACE:

White people have higher risk.

RELIGION:

Low risk has been found in Muslim population.

Higher risk rate has been in protestants.

MARITAL STATUS:

Marriage reduce the suicidal risk

Divorce increase the suicidal risk

SEXUAL ORIENTATION:

Homosexuals have been found to have high risk.

OCCUPATION:

Joblessness - predisposes to suicidal behaviour.

SOCIAL ECONOMIC STATUS:

High socio economic status peoples have higher risk for suicide.

GENETIC FACTORS

Family H/O attempt or completed suicide.

PHYSICAL ILLNESS:

The Physical illness, especially those which are chronic, are important contributing factor for suicide.

MENTAL ILLNESS:

Almost all mental illness should contribute increased suicide risk.

Psychiatric patients have 3 to 12 times higher risk of suicide compare to non-psychotic patients.

Schizophrenia contributes about 10% risk. Depression contributes about 80% risk.

In schizophrenic patients have 10 times higher risk of suicide than general population. Higher risk of suicide in first 1 to 2 weeks after discharge from the hospital.

Out patients are having 3times higher risk of suicide than general population

Personality disorder: ASPD

Previous impulsive act or violent act.

Previous history of hospitalization in psychiatric hospital- higher risk is observed.

3 Months period after first suicide attempt is more risky period.

PRISONERS:

Suicide 3 times more common in prisoners comparative to general population. More than 1/3 had a previous history of psychiatric management and suicide attempts.

CHILDHOOD FACTORS:

These childhood factors are an increase the risk of later suicidal behaviour.

Physical abuse

Emotional abuse

Sexual abuse

Verbal abuse

RISK FACTORS IN PEOPLE LESS THAN 30 YEARS OF AGE:

Separation

Family or peer rejection

Joblessness

Medico- legal problem

RISK FACTORS IN PEOPLE MORE THAN 30 YEARS:

Physical illness

RISK FACTORS FOR HIGHER SUICIDE INTENT:

RISK FACTORS:

To be male

Elder peoples

To be single or separated

Tryptophan hydroxylase gene, Serotonin transporter gene these two genes are mainly involved in the pathogenesis of suicidal behaviour.

Alcohol and drugs cause misjudgement or impairment and decrease the threshold to suicide. Alcohol is detected in about every third case at the moment of suicide. (Ohberg, A, vuori et al) The suicide rate in heavy drinking is 3.5 times and in alcohol use disorders 10 times higher than that in the general population. (Wilcox et al)

SUICIDE IN SCHIZOPHRENIA:

The risk in schizophrenia appears to be almost 10 times higher than general population. (Harris, E.C et al) The life time risk of suicide in schizophrenia is estimated to be 5 percent. (Inskip, H.M.et al, Palmer, B.A et al) Usually suicide not associated with any one of single cause. In alcoholic males mostly suicidal behaviour associated with problems with wife family conflicts, separated from wife, problems in the working place or loss of job and financial issues. Suicidal behaviours mainly influenced by environmental factors like social and cultural factors, current situational factors and biological and psychological factors and genetic factors.

Risk of suicide in Psychosis is about 10 to 15 fold. Compared to other substance abusers alcohol, cannabis and nicotine abusers are having lower risk of suicidal behaviour.

RISK FACTORS:

Teen age

Male

Separation or single after married.

History of past suicide attempt

Few weeks after discharge from hospital

Single or unmarried

Jobless

Social isolation

Living lonely

Alcohol misuse

Other substance abuse

DISEASE RELATED RISK FACTORS:

Persecutory delusions

Commend hallucination

SUICIDAL IDEATION IN SCHIZOPHRENIA:

RISK FACTORS:

Difficulty in participating with other human interactions, inferiority complex associated with suicidal ideation.

Disturbance in self awareness

Altered judgement capacity.

Specific feature of suicidality in schizophrenic patients are still not fully understood.

Generally Schizophrenic patients had higher risk of suicide. In schizophrenic individuals mostly death caused by suicide almost around 5%, suicide attempts are associated with almost around 20%. In whole life time risk of suicide in schizophrenic patient is around almost 10 to 15%.

Suicide risk is increased near illness onset and remains elevated for many years after initial treatment, but declines somewhat over time (Nielsen et al. 2012)

As in the general population, male general, unmarried status living alone, unemployment and access to lethal means are risk factors for suicide among individuals with schizophrenia (Siris 2001).

RISK FACTORS:

Respond to command hallucination

Higher suicide intent

Past H/O suicide attempt.

Risk strongly associated with number of previous attempts, especially in females.

First 3 months period of after the last attempt – critical.

Age <25 yrs at first attempt.

Another one study reported schizophrenic individuals mean age of death was 33.4 years. Schizophrenic individual with increasing age was decreased chance for suicidal act.

GENDER:

In general population, commit suicide in male: female ratio 4:1. In schizophrenic population this rate was altered. Men : women ratio of suicide in schizophrenic patients were 3:2

Depression

Current suicidal ideation

PREMORBID FUNCTIONING:

Good pre-morbid level of functioning - higher risk in females

Poor pre-morbid level of functioning – higher risk in males

Negative symptoms - significantly lower risk (Fenton et al, 1991).

But, the loss of social drive, the decreased capacity to feel the affect and diminished self awareness may be associated with suicide.

MARITAL STATUS:

Among women with schizophrenia - ten-fold risk if

Unmarried, divorced or widowed.

At the same time, Radomsky et al found that - being separated or divorced had no increased risk.

Lack of regular contact with a significant other - higher risk

At the same time, female schizophrenic patients are more likely to have intact marriages.

SUBSTANCE USE:

Alcohol has higher risk of suicide in general.

But, presence of alcoholism may distinguish suicide completers from schizophrenic controls in some studies (Allebeck et al, 1986).

Another study (Bartels et al) did not support a relationship between alcohol use and suicidal behaviour in schizophrenia. For other drugs, mixed results have been reported.

SOCIAL FACTORS

Male suicide victims are more violent than female suicide victims. Alcohol abused male schizophrenic patients had two times higher suicidal risks.

In schizophrenic male patients mean age of death was 10 to 12 years younger than female patients.

INSIGHT:

Awareness of the illness process, negative expectations, low self-esteem, awareness of restricted ability, dissatisfaction with treatment - increases risk (Virkkunen et al). Awareness of delusions, flat mood, anhedonia may be especially risky. General awareness – may not increase risk. At the same time, poor awareness may lead to poor compliance. (Amador et al, 1993)

COURSE OF ILLNESS:

More than 80% of first suicide attempts - within the first 5 years, - the risk is high during the initial years (Jill Harkavy, 1999). But, others have found that suicide may occur after many years.

Multiple psychiatric hospitalizations – increases risk.

A gradual onset of illness.

First month after discharge.

Suicide risk is more in acute phase. 83% schizophrenia patients may die by suicide before 30 years of age.

STRESSFUL LIFE-EVENTS:

Unmarried

Separated or divorced

abandonment by parents

problem in interpersonal relationship

multi hospitalization

loss of job

Recent loss of loved one.

NEURO-BIOLOGICAL FACTORS:

Impulsivity, violent activities, aggressive and suicidal behaviour - lower CSF 5 -HIAA levels.

EEG abnormalities during sleep - Decreased REM Latency, increased REM duration; sleep EEG changes may predict suicide.

PREVENTION AND MANAGEMENT:

There are 2 ways to reduce risk:

Intensive therapeutic measures during the initial phases.

In chronic patients, surveillance should be increased in times of crises.

Suicidal behaviour needs multi-determined approach - pharmacotherapy and other interventions, hospitalization, crisis service, enhancement of family environment and social support. (Vyas N Ahuja).

Psychological support mainly consists of supportive therapy, family therapy, group therapy and individual therapy.

Family support may also influence better treatment outcome. And eliminate or prevent social withdrawal and isolation and help to get a stable acceptable environment as main components of psychosocial aspects of treatment.

Emotional or empathic support reduces suicide risk explained by Drake and colleagues.

Supportive and rehabilitative measures must be established. Depressive features, guilty, workless feelings and anxiety should be closely monitored. In any emergency situation or suicidal crises readmission must be considered. If patients unwillingness to hospitalization the family members should monitor closely 24 hours a day. Therapist must be available to the patient throughout a day.

PHARMACOLOGICAL APPROACH:

Chronically suicidal patients are difficult to treat comparative acute suicidal patients. Acute suicidal treatment outcome is mostly favourable.

Effective anti-depressant or anti-psychotic drugs should be started. The drug risperidone has anti-psychotic and anti-depressant effect and it is used if patients have both depressive and psychotic features. Suicide may occur in even hospitalized patients. Recovering from depressive stage also risk for suicide so closely monitor this particular period.

Early and effective diagnosis and treatments are more useful. Psychiatrist should initiate anti-depressants and anti-psychotics treatment without hesitation or focus of side effect of anti-psychotic medication. First generation anti-psychotics may be associated with increase suicidal behaviour. Anti-psychotics alter dopamine and serotonin ratio in the CSF. Positive symptoms and acute stage may have high risk. Though negative symptoms and the deficit syndrome have reduced risk of suicide, it may mask a clinically significant depressive syndrome. (Fenton et al)

In suicidal risk individuals had 5-hydroxy-indole-acetic acid level low in CSF, and high in plasma and urine.

Clozapine used in treatment resistant schizophrenia, and also used to reduce suicidal behaviour.

CLOZAPINE ROLE WITH SUICIDE:

Clozapine may have a role or effect of reduce the suicidal behaviour. Clozapine more effectively act in treatment resistant schizophrenia condition. When clozapine used in treatment resistant condition it reduce suicide attempt rate almost around 2.5% to 3.5%.

Psychotic symptoms were better controlled, clozapine may have antidepressant properties, or patients taking clozapine are seen more frequently (due to blood draws) and the clinical contact is protective (Siris 2001).

Clozapine's additional anti-psychotic effects also had decreased craving property in cocaine abusers, and decreased craving in alcohol abusers, reduced almost overall substance abuse and increased abstinence period.

HOSPITALIZATION:

If patients have

- any suicidal plan of action
- highly impulsivity behaviour
- lack in strong social support

BEHAVIORAL AND PSYCHOSOCIAL TREATMENT:

- Empathetic support.
- Acknowledge hopelessness.
- Help establish new tasks.
- To families - support, prevent isolation.

Cognitive approach help to recognize suicidal urges, seek help from friend or therapist.

- Rehabilitative measures
- close monitoring
- Re-admission during crisis. (Drake and others)

AIMS AND OBJECTIVES

- The following were the aims and objectives of our study:
- To study the frequency of suicidal ideation in schizophrenia.
- To compare the clinical and socio-demographic profile of patients suffering from schizophrenia with and without suicidal ideation.
- To study the various risk factors of suicidal ideation in patients suffering from schizophrenia.
- To study the relationship of severity, type and duration of schizophrenic illness in patients with and without suicidal ideation.

MATERIALS AND METHODS

The study was carried out in the Government Kilpauk Medical College, Chennai.

STUDY DESIGN:

Cross sectional study

SAMPLE

64 consecutive patients suffering from schizophrenia based on ICD-10 diagnostic criteria attending the outpatient and inpatient department for treatment.

STUDY:

A Study on suicidal ideation in schizophrenia.

INCLUSION CRITERIA

Patients diagnosed as suffering from schizophrenia based on the ICD – 10 diagnostic criteria.

The age of patients 18 and more than 18 yrs.

EXCLUSION CRITERIA

Alcohol use disorder, cannabis use disorder.

Organic condition.

Patients who could not be evaluated by meaningful conversation due to severe psychosis.

MATERIALS USED:

Semi-structured pro-forma.

SAPS (Scale for the assessment of positive symptoms)

SANS (Scale for the assessment of negative symptoms)

CDSS (Calgary Depression rating scale for schizophrenia)

Beck's Suicide intent scale.

Scale of suicidal ideation.

ICD-10

A Semi-structured Pro-forma to include the socio-demographic data, family history, duration & type of disorder, treatment history and details of suicide attempt if present.

Clinical interview used for diagnosis of schizophrenia using based on ICD 10 criteria.

SAPS (Scale for the Assessment of Positive Symptoms) and SANS (Scale for the Assessment of Negative symptoms) were used. These scales were sourced from the University of Iowa Press, 1983. These scales are used for assessment of positive and negative symptoms, principally those occurring in schizophrenia. Both the instruments are

used in a way complimentary to each other. They have been widely used in many studies and well tested for reliability and validity. The SAPS contains 35 items divided into 5 domains i.e. Hallucinations, Delusions, Bizarre behaviour, Positive formal thought disorder and Inappropriate affect. The SANS contains 24 items divided into 5 domains i.e. Affective flattening or blunting, alogia, avolition-apathy, anhedonia-asociality and Attention. Items in both the scales are score between 0 (none) and 5 (Severe).

CDSS:

CDSS (The Calgary Depression rating Scale for Schizophrenia) was used. The CDSS had been developed by Drs. D. and J. Addington, belongs to the University of Calgary. This scale was used to assess the level of depression in schizophrenic patients differentiate from positive symptoms, negative symptoms and extra pyramidal symptoms. It has been evaluated in relapsed and remitted patients. It is an semi-structured observer scale. It has 9 items rated from 0 to 3. The CDSS depression score was obtained by adding each of the item scores. A score above 6 has 82% specificity and 85% sensitivity. The scale had good construct validity.

Beck's Suicide intent scale was applied to measure the score for suicide intent in the suicide victims. This scale was developed by Beck et al in 1974. This is a scale which assesses the objective circumstances related to suicide as well as self report. There are 20 items in the self-

report questionnaire. Each item is scored between 0 and 3 with a total score ranging from 0 to 60.

15-19 -Low intent,

20-28 -Medium intent,

29 - plus- High intent.

SCALE OF SUICIDAL IDEATION:

This scale had 19 items. It is used to assess patient suicidal intentions. This scale was also be used to monitor treatment response. Each item rated from 0 to 2. Score ranging from 0 to 38.

Minimum score - 0.

Maximum score - 38.

High score indicate greater suicidal ideation.

It has a reliability coefficient of 0.89. The interrater reliability coefficient was 0.83 ($p < .001$).

Consecutive patients fulfilling ICD 10 criteria for schizophrenia were evaluated in the review OPD department of the Kilpauk Medical College Chennai-10 in April 2016. 64 consecutive patients fulfil the inclusion and exclusion criteria. The diagnosis confirmed by checked from case records and re-confirmed by 2 psychiatrists, one of them a senior one.

Informed consent in a written form was obtained for participation in the study from the patients as well as the relatives.

The patients were administered the Semi-structured pro-forma, Scale for the Assessment of Positive Symptoms (SAPS), Scale for the Assessment of Negative Symptoms (SANS), The Calgary Depression rating Scale for Schizophrenia (CDSS), Beck suicide scale and Scale for suicidal ideation for patients suffering from schizophrenia. The scales were applied during the time of study.

The collected data were discussed with reference to the aims and objectives of the study. Statistical analysis was done using the chi-square test and the unpaired t-test.

Approval was obtained from the Ethics committee of the Kilpauk Medical college Chennai-10.

HYPOTHESIS:

We assumed the following hypotheses:

Null Hypothesis : H0	With Suicide Ideation group equal in effect compared to without Suicide Ideation group
Alternate Hypothesis : H1	With Suicide Ideation group hazardous in effect compared to without Suicide Ideation group

DATA ANALYSIS:

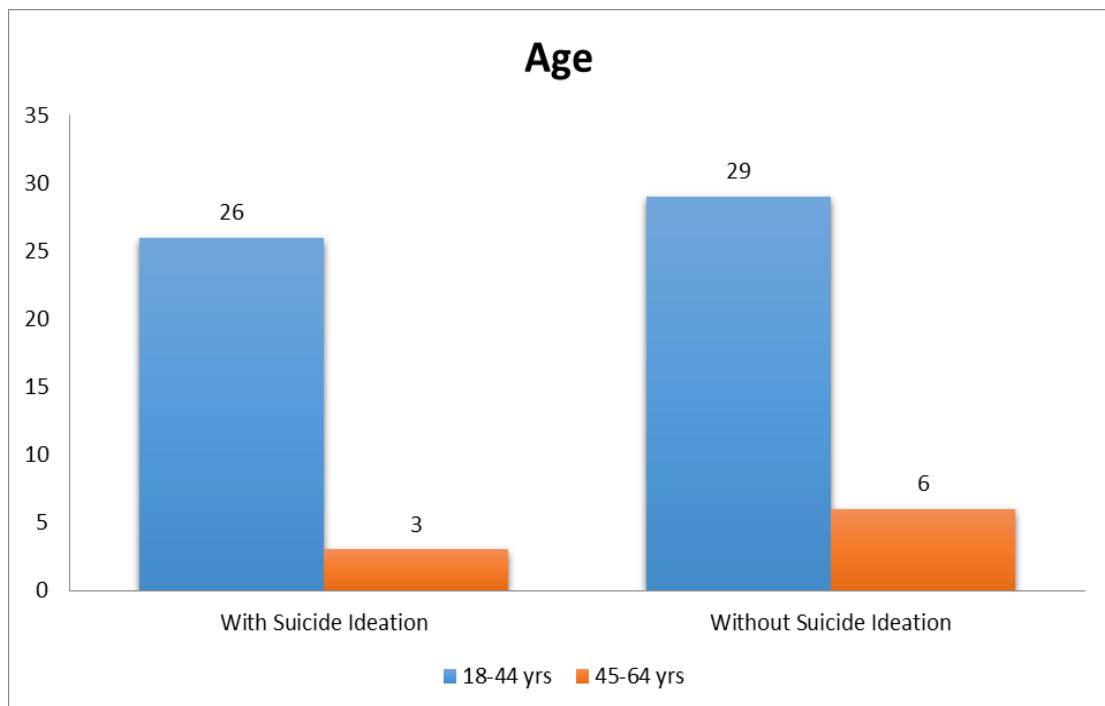
Descriptive statistics was done for all data and were reported in terms of mean values and percentages. Suitable statistical tests of comparison were done. Continuous variables were analysed with the unpaired t test.. Categorical variables were analysed with the Chi-Square Test and Fisher Exact Test. Statistical significance was taken as $P < 0.05$. The data was analysed using SPSS version 16 and Microsoft Excel 2007.

RESULTS

A total of 64 patients were interviewed. There are two main groups in our study – those with suicide ideation and those without ideation. The prevalence of suicide ideation in our study was 45.31% (n=29).

Groups	Number
With Suicide Ideation	29
Without Suicide Ideation	35

ANALYSIS WITH RESPECT TO AGE:

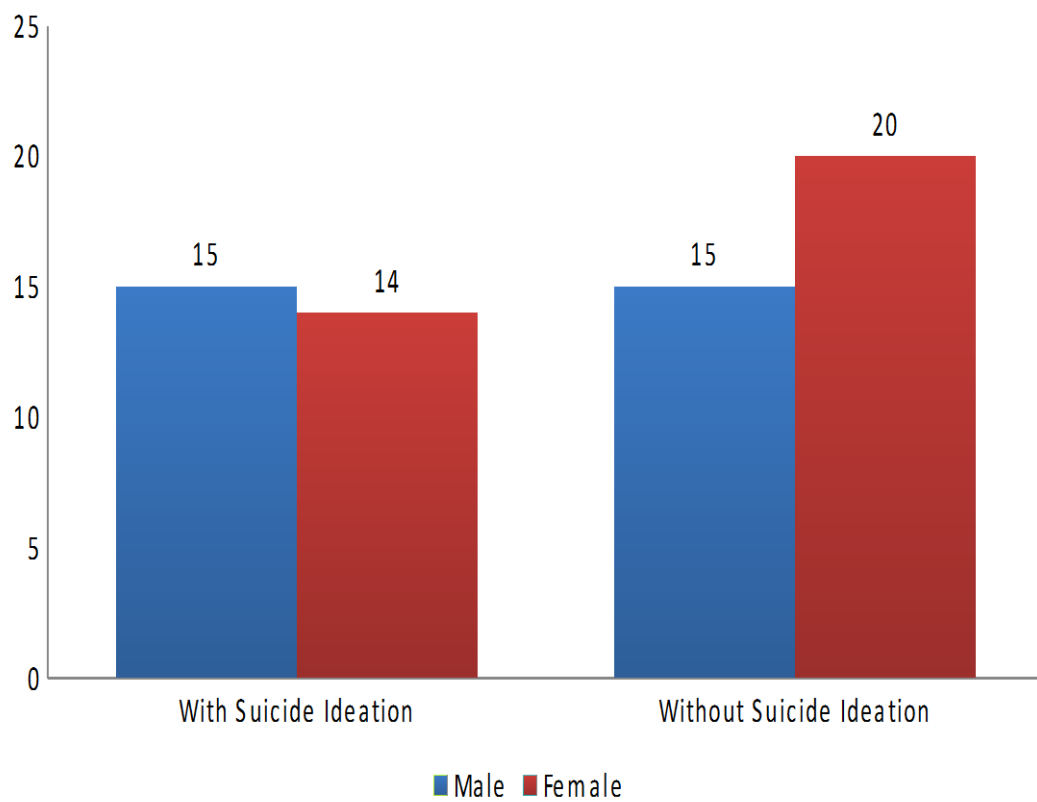


Age	With Suicide Ideation	Without Suicide Ideation	With Suicide Ideation %	Without Suicide Ideation %
18-44 yrs	26	29	89.66	82.86
45-64 yrs	3	6	10.34	17.14
65 or more	0	0	0.00	0.00
Total	29	35	100	100
P value Fishers Exact Test			0.4441	

Among the study patients, there was no statistically significant difference in relation to age distribution between with suicide ideation group (majority belonged to 18-44 years age class interval =89.66%) and without suicide ideation group (majority belonged to 18-44 years age class interval =82.86%) with a p value of <0.05 as per fishers exact test. Therefore we fail to reject the null hypothesis that there is no difference in age distribution between the study groups.

ANALYSIS WITH RESPECT TO GENDER

Gender

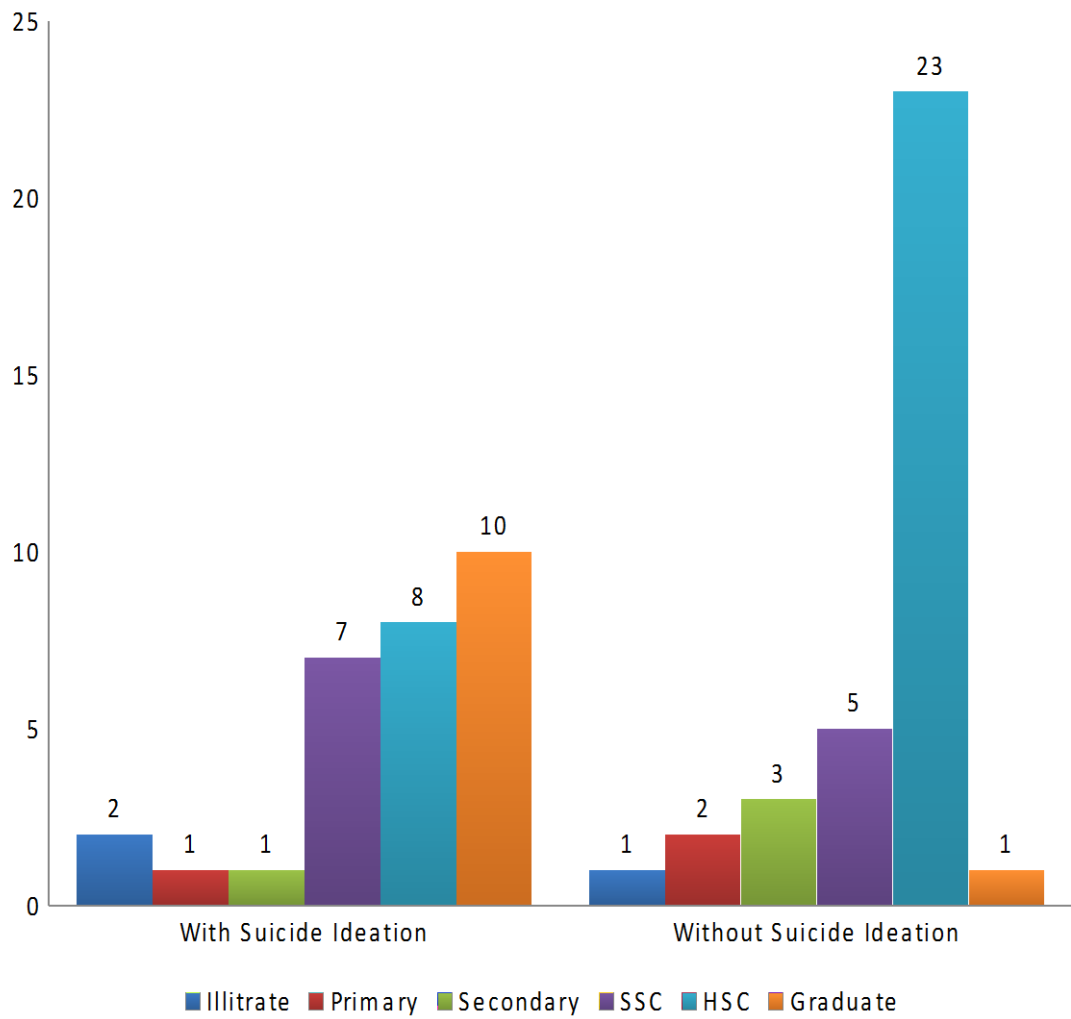


Gender	With Suicide Ideation	Without Suicide Ideation	With Suicide Ideation %	Without Suicide Ideation %
Male	15	15	51.72	42.86
Female	14	20	48.28	57.14
Total	29	35	100	100
P value			0.6156	
Chi Squared Test				

Among the study patients, there was no statistically significant difference in relation to gender status between with suicide ideation group (majority belonged to male gender =51.72%) and without suicide ideation group (majority belonged to female gender =57.14%) with a p value of <0.05 as per chi squared test. Therefore we fail to reject the null hypothesis that there is no difference in gender status between the study groups.

EDUCATIONAL STATUS

Educational Status

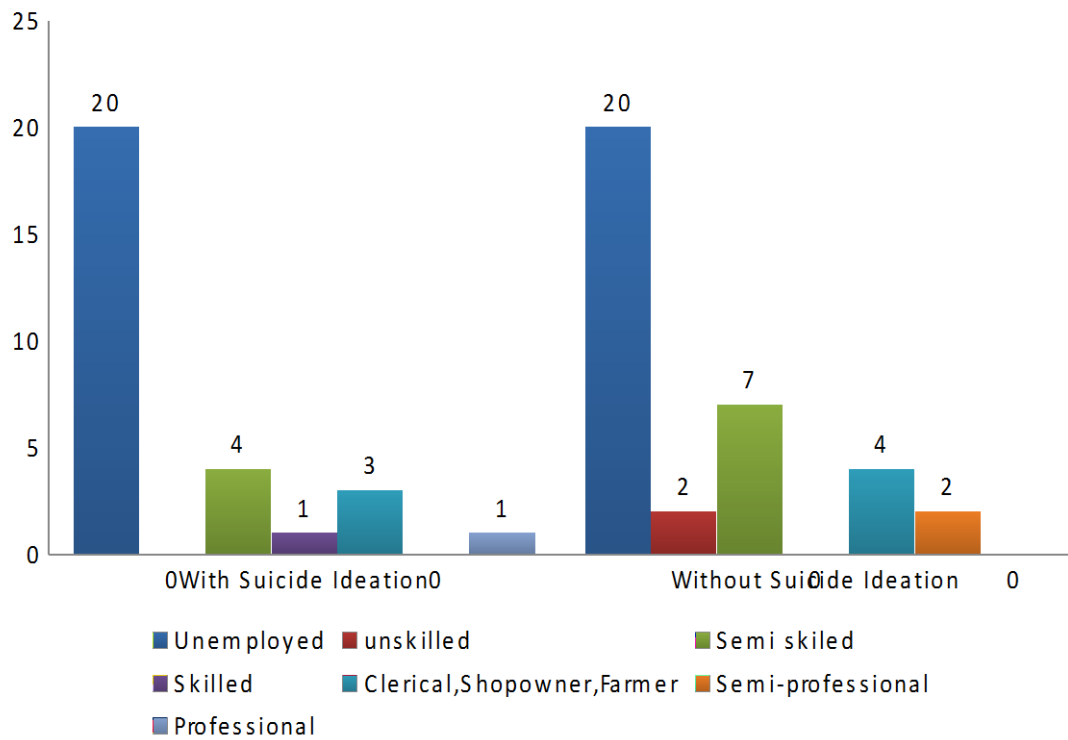


Education al Status	With Suicide Ideation	Without Suicide Ideation	With Suicide Ideation %	Without Suicide Ideation %	P value Fishers Exact Test
Illiterate	2	1	6.90	2.86	0.8589
Primary	1	2	3.45	5.71	.09999
Secondary	1	3	3.45	8.57	0.6198
SSC	7	5	24.14	14.29	0.3519
HSC	8	23	27.59	65.71	0.0029*
Graduate	10	1	34.48	2.86	0.0016*
Total	29	35	100	100	

Among the study patients, there was a statistically significant difference in relation to educational status (HSC and Graduates) between with suicide ideation group (majority were graduates = 34.48%) and without suicide ideation group (majority were HSC passed =65.71%) with a p value of <0.05 as per fishers exact test. Therefore we reject the null hypothesis that there is no difference in educational status (HSC and Graduates) between the study groups.

OCCUPATIONAL STATUS

Occupational Status

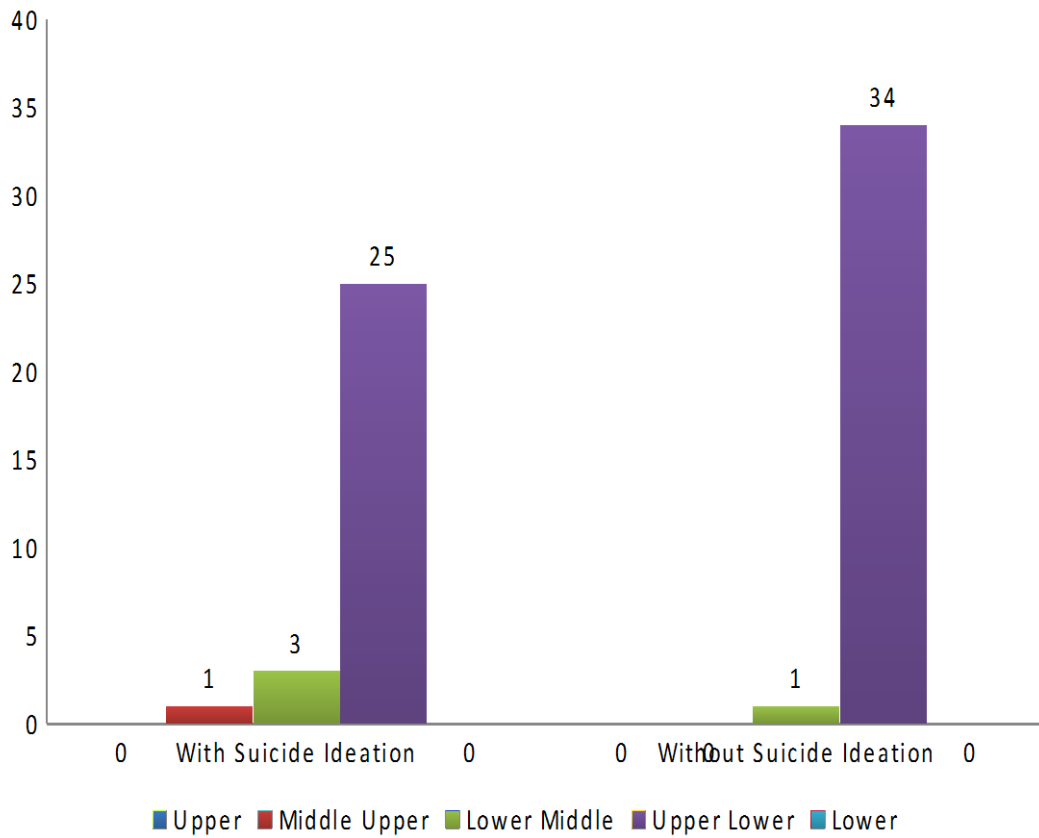


Occupational Status	With Suicide Ideation	Without Suicide Ideation	With Suicide Ideation %	Without Suicide Ideation %
Unemployed	20	20	68.97	57.14
Unskilled	0	2	0.00	5.71
Semiskilled	4	7	13.79	20.00
Skilled	1	0	3.45	0.00
Clerical, Shop owner, Farmer	3	4	10.34	11.43
Semi-professional	0	2	0.00	5.71
Professional	1	0	3.45	0.00
Total	29	35	100	100
P value Chi Squared Test			0.4582	

Among the study patients, there was no statistically significant difference in relation to occupational status between with suicide ideation group (majority were unemployed =69.87%) and without suicide ideation group (majority were unemployed =57.14%) with a p value of <0.05 as per chi squared test. Therefore we fail to reject the null hypothesis that there is no difference in occupational status between the study groups.

SOCIOECONOMIC STATUS

Socioeconomic Status



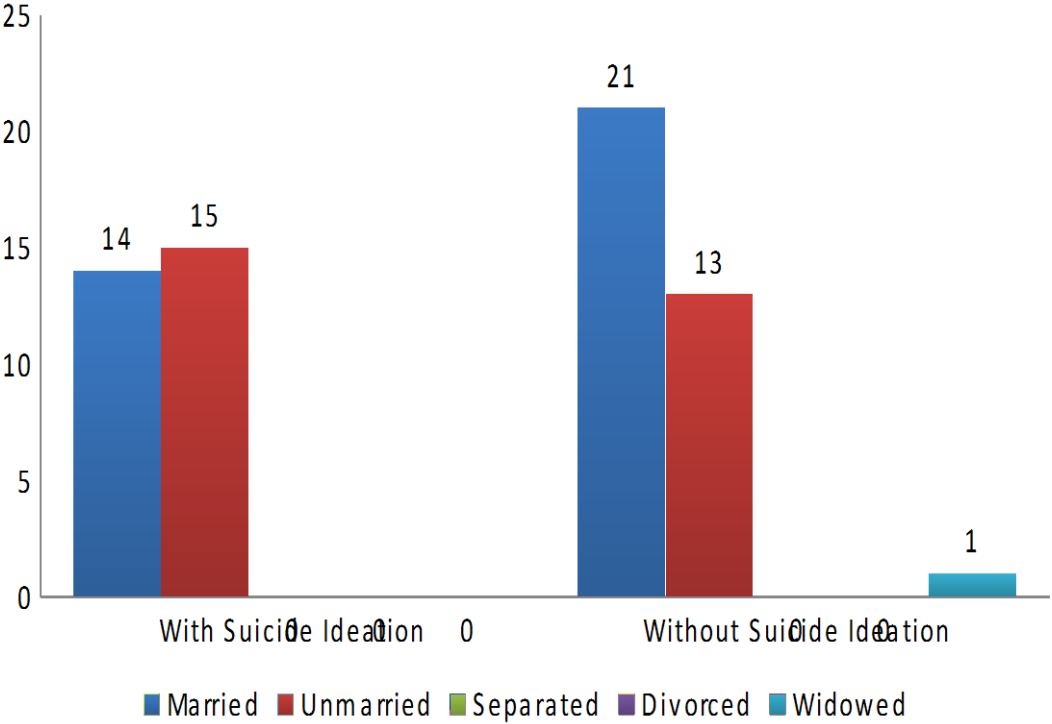
Socioeconomic	With	Without	With	Without
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Status	Suicide Ideation	Suicide Ideation	Suicide Ideation %	Suicide Ideation %
Upper	0	0	0.00	0.00
Middle Upper	1	0	3.45	0.00
Lower Middle	3	1	10.34	2.86
Upper Lower	25	34	86.21	97.14
Lower	0	0	0.00	0.00
Total	29	35	100	100
P value			0.2070	
Chi Squared Test				

Among the study patients, there was no statistically significant difference in relation to socioeconomic status between with suicide ideation group (majority were upper lower class =86.21%) and without suicide ideation group (majority were upper lower class =97.14%) with a p value of <0.05 as per chi squared test. Therefore we fail to reject the null hypothesis that there is no difference in socioeconomic status between the study groups.

MARITAL STATUS

Marital Status



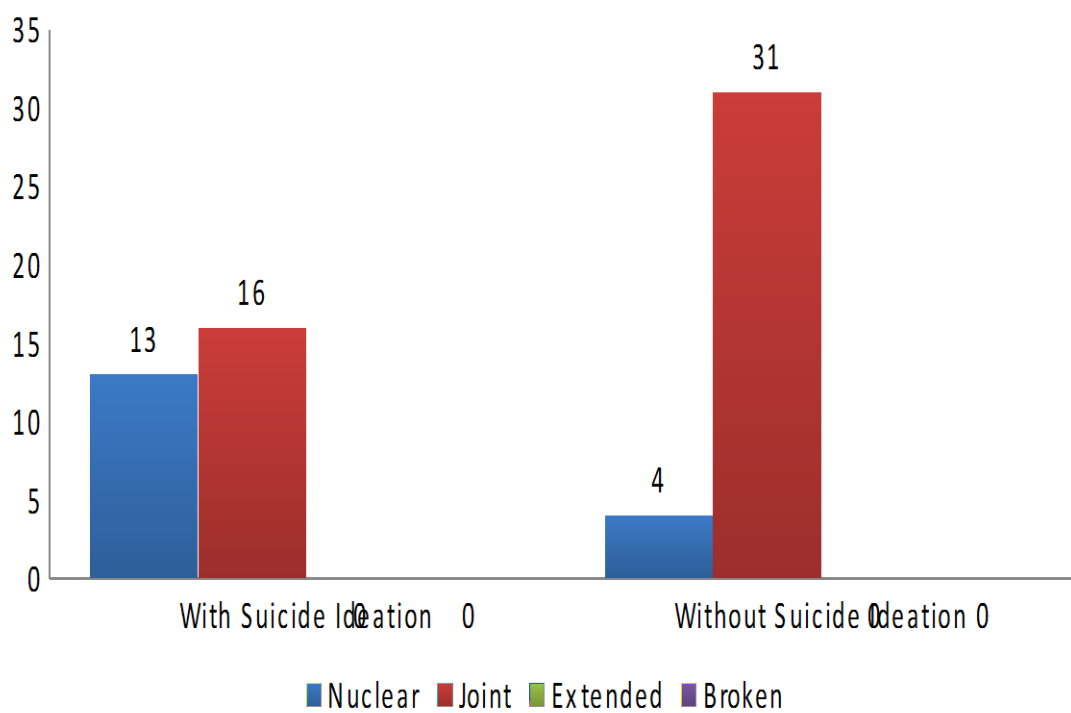
Marital	With	Without	With	Without
---------	------	---------	------	---------

Status	Suicide Ideation	Suicide Ideation	Suicide Ideation %	Suicide Ideation %
Married	14	21	48.28	60.00
Unmarried	15	13	51.72	37.14
Separated	0	0	0.00	0.00
Divorced	0	0	0.00	0.00
Widowed	0	1	0.00	2.86
Total	29	35	100	100
P value			0.3135	
Chi Squared Test				

Among the study patients, there was no statistically significant difference in relation to marital status between with suicide ideation group (majority were unmarried =51.72%) and without suicide ideation group (majority were married = 60.00%) with a p value of >0.05 as per chi squared test. Therefore we fail to reject the null hypothesis that there is no difference in marital status between the study groups.

TYPE OF FAMILY

Type of Family

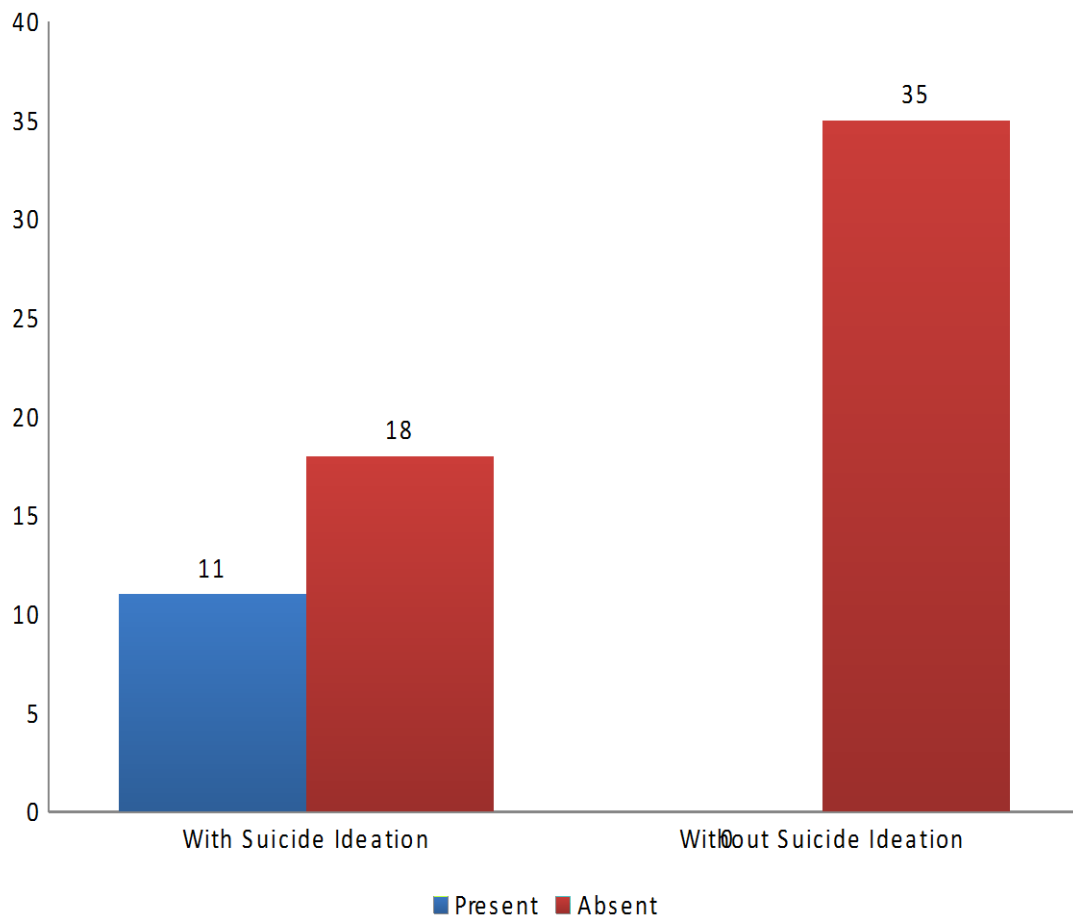


Type of Family	With Suicide Ideation	Without Suicide Ideation	With Suicide Ideation %	Without Suicide Ideation %	P value Fishers Exact Test
Nuclear	13	4	44.83	11.43	0.0041*
Joint	16	31	55.17	88.57	0.0043*
Extended	0	0	0.00	0.00	NA
Broken	0	0	0.00	0.00	NA
Total	29	35	100	100	

Among the study patients, there was a statistically significant difference in relation to type of family status (nuclear and joint) between with suicide ideation group (majority belonged to nuclear family = 44.83%) and without suicide ideation group (majority belonged to joint family = 88.57%) with a p value of <0.05 as per fishers exact test. Therefore we reject the null hypothesis that there is no difference in type of family status (nuclear and joint) between the study groups.

FAMILY HISTORY OF MENTAL ILLNESS

Family History of Mental Illness

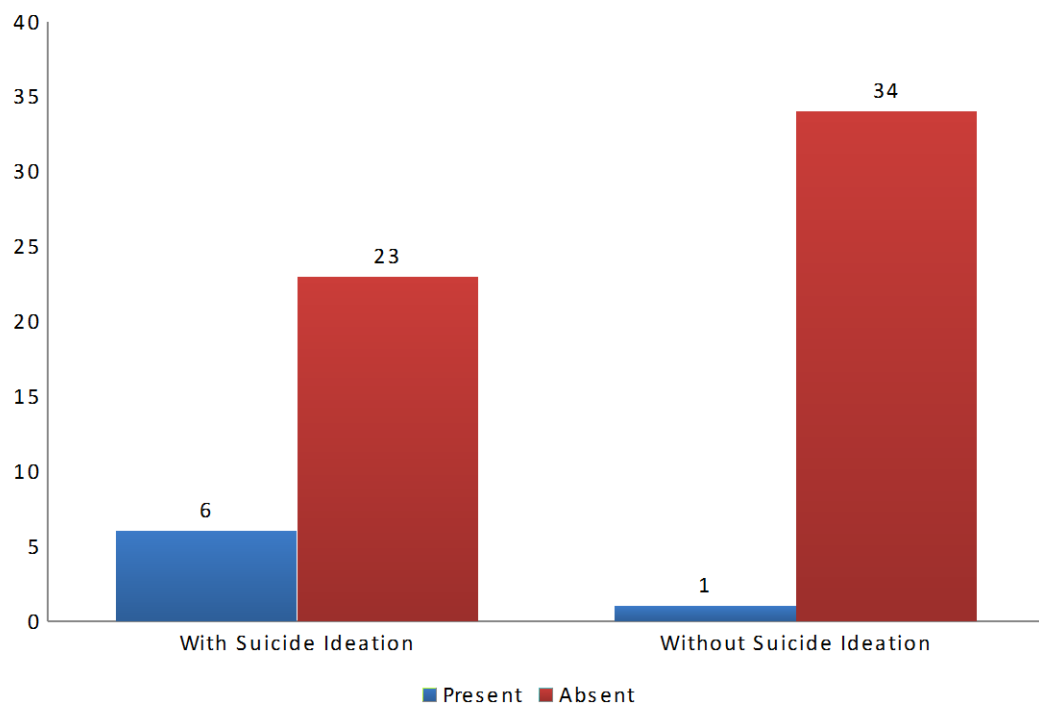


Family History of Mental Illness	With Suicide Ideation	Without Suicide Ideation	With Suicide Ideation %	Without Suicide Ideation %
Present	11	0	37.93	0.00
Absent	18	35	62.07	100.00
Total	29	35	100	100
P value Fishers Exact Test			<0.0001*	

Among the study patients, there was a statistically significant difference in relation to family history of mental illness status between with suicide ideation group (majority had negative history = 62.07%) and without suicide ideation group (majority had negative history = 100.00%) with a p value of <0.05 as per fishers exact test. Therefore we reject the null hypothesis that there is no difference in family history of mental illness status between the study groups.

FAMILY HISTORY OF SUICIDE ATTEMPT

Family History of Suicide Attempt

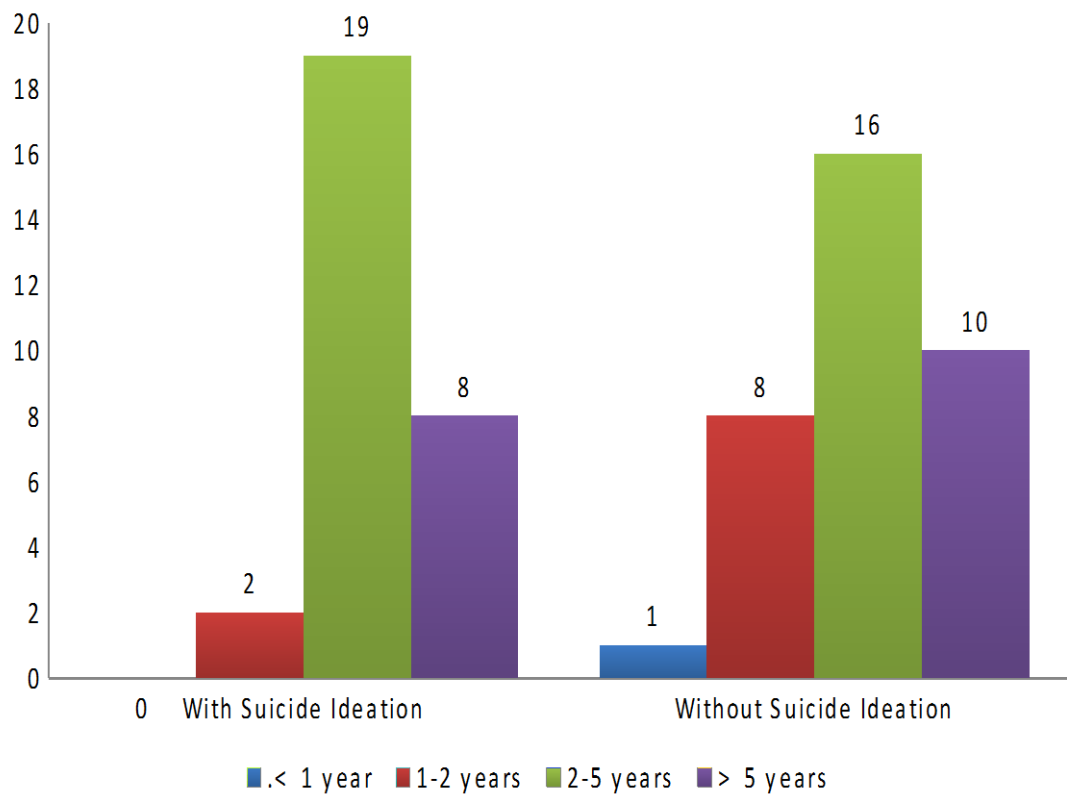


Family History of Suicide Attempt	With Suicide Ideation	Without Suicide Ideation	With Suicide Ideation %	Without Suicide Ideation %
Present	6	1	20.69	2.86
Absent	23	34	79.31	97.14
Total	29	35	100	100
P value Fishers Exact Test			0.0401*	

Among the study patients, there was a statistically significant difference in relation to family history of suicide attempt status between with suicide ideation group (majority had negative history = 79.31%) and without suicide ideation group (majority had negative history = 97.14%) with a p value of <0.05 as per fishers exact test. Therefore we reject the null hypothesis that there is no difference in family history of suicide attempt status between the study groups.

DURATION OF ILLNESS

Duration of Illness

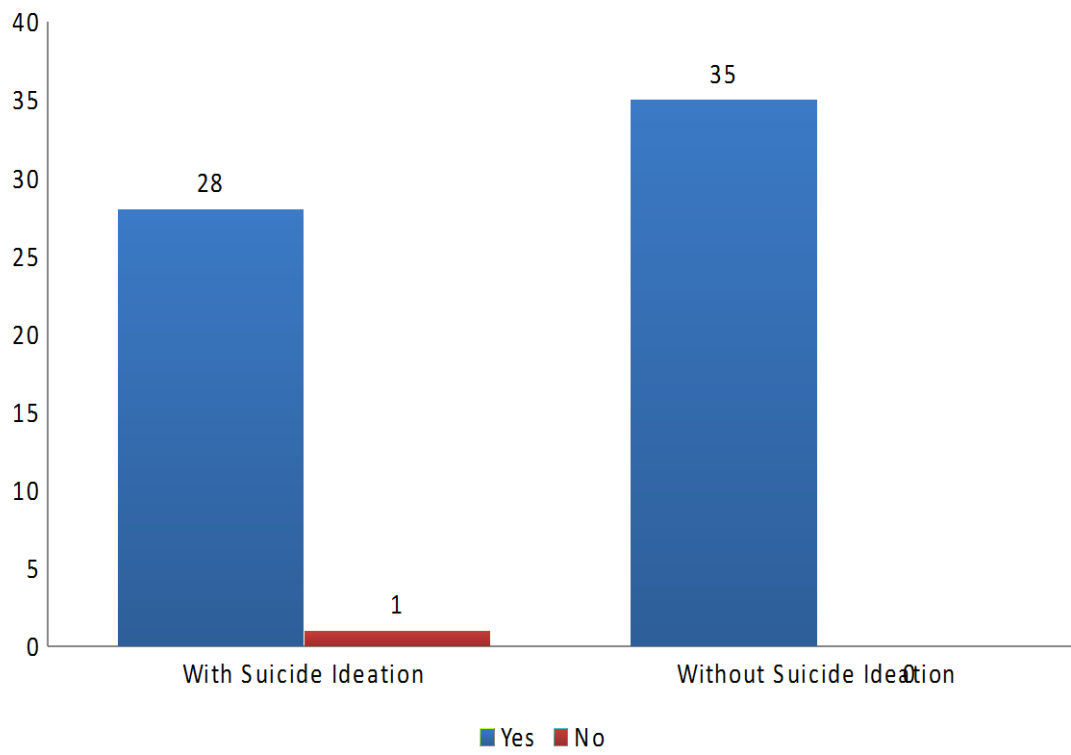


Duration of Illness	With Suicide – Ideation	Without Suicide Ideation	With Suicide Ideation %	Without Suicide Ideation %
< 1 year	0	1	0.00	2.86
1-2 years	2	8	6.90	22.86
2-5 years	19	16	65.52	45.71
> 5 years	8	10	27.59	28.57
Total	29	35	100	100
P value Fishers Exact Test			0.1683	

Among the study patients, there was no statistically significant difference in relation to duration of illness between with suicide ideation group (majority were 2-5 years =65.52%) and without suicide ideation group (majority were 2-5 years = 45.71%) with a p value of >0.05 as per fishers exact test. Therefore we fail to reject the null hypothesis that there is no difference in duration of illness between the study groups.

WHETHER ON TREATMENT

On Treatment

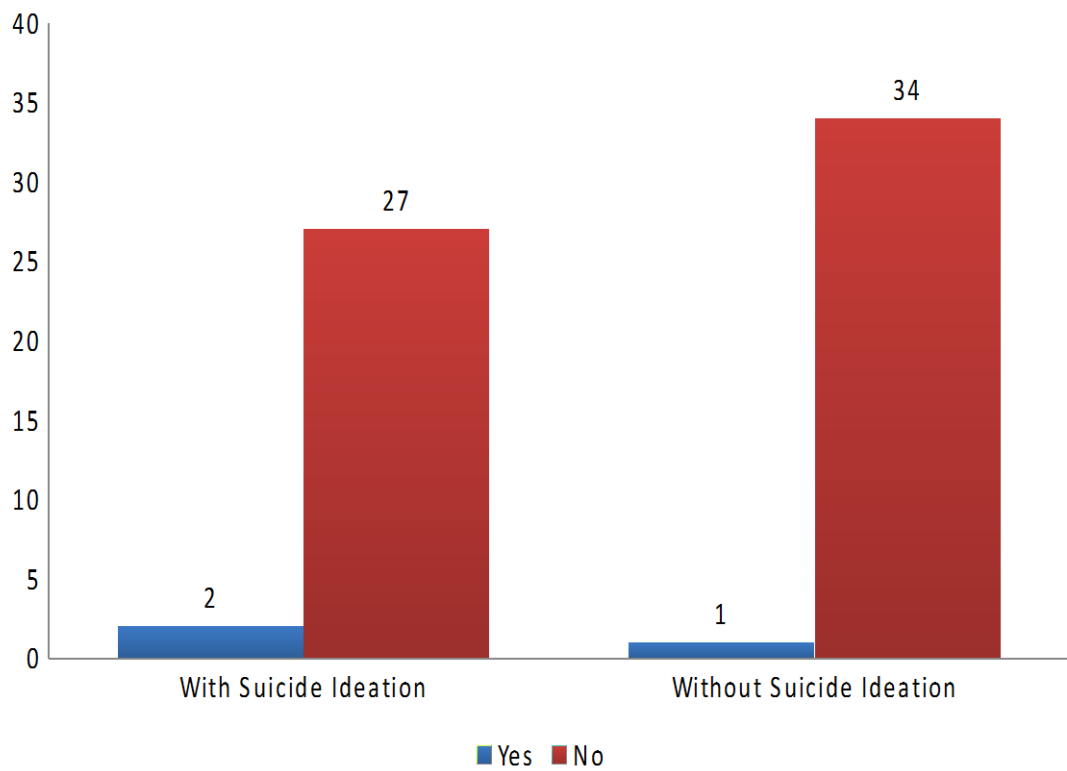


On Treatment	With Suicide Ideation	Without Suicide Ideation	With Suicide Ideation %	Without Suicide Ideation %
Yes	28	35	96.55	100.00
No	1	0	3.45	0.00
Total	29	35	100	100
P value			0.4531	
Fishers Exact Test				

Among the study patients, there was no statistically significant difference in relation to on treatment status between with suicide ideation group (majority were on treatment =96.55%) and without suicide ideation group (majority on treatment = 100.00%) with a p value of >0.05 as per fishers exact test. Therefore we fail to reject the null hypothesis that there is no difference in on treatment status between the study groups.

HISTORY OF SUICIDE ATTEMPTS

History of Suicide Attempts

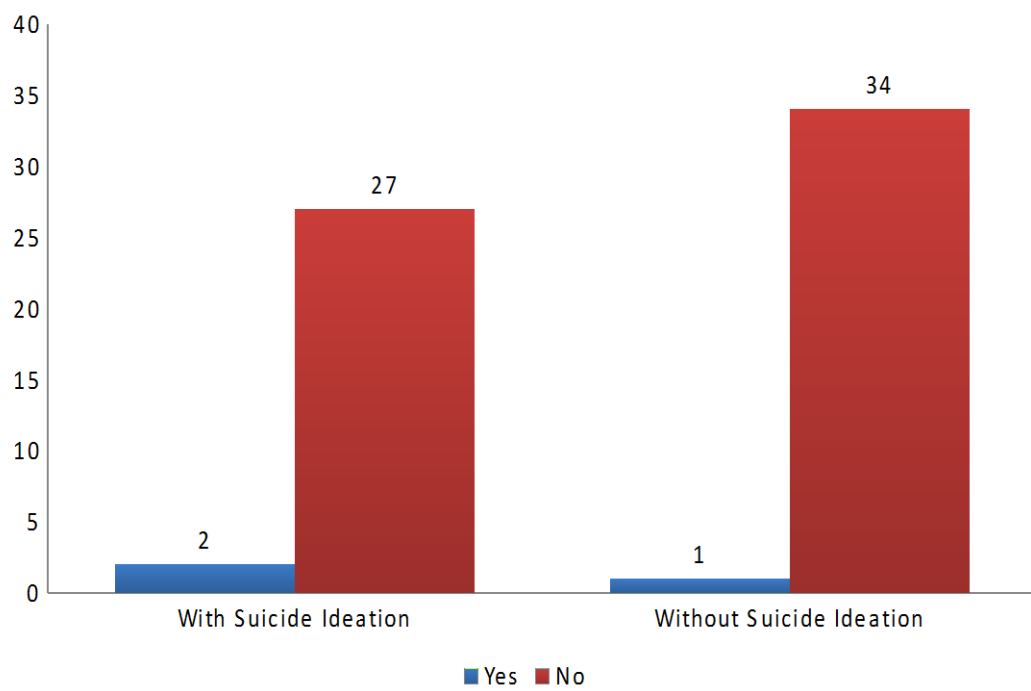


History of Suicide Attempts	With Suicide Ideation	Without Suicide Ideation	With Suicide Ideation %	Without Suicide Ideation %
Yes	2	1	6.90	2.86
No	27	34	93.10	97.14
Total	29	35	100	100
P value Fishers Exact Test			0.5859	

Among the study patients, there was no statistically significant difference in relation to history of suicide attempts between with suicide ideation group (majority had no history =93.10%) and without suicide ideation group (majority had no history = 97.14%) with a p value of >0.05 as per fishers exact test. Therefore we fail to reject the null hypothesis that there is no difference in history of suicide attempts between the study groups.

HISTORY OF HOSPITALISATION AFTER SUICIDE ATTEMPTS

History of hospitalisation After Suicide Attempt:

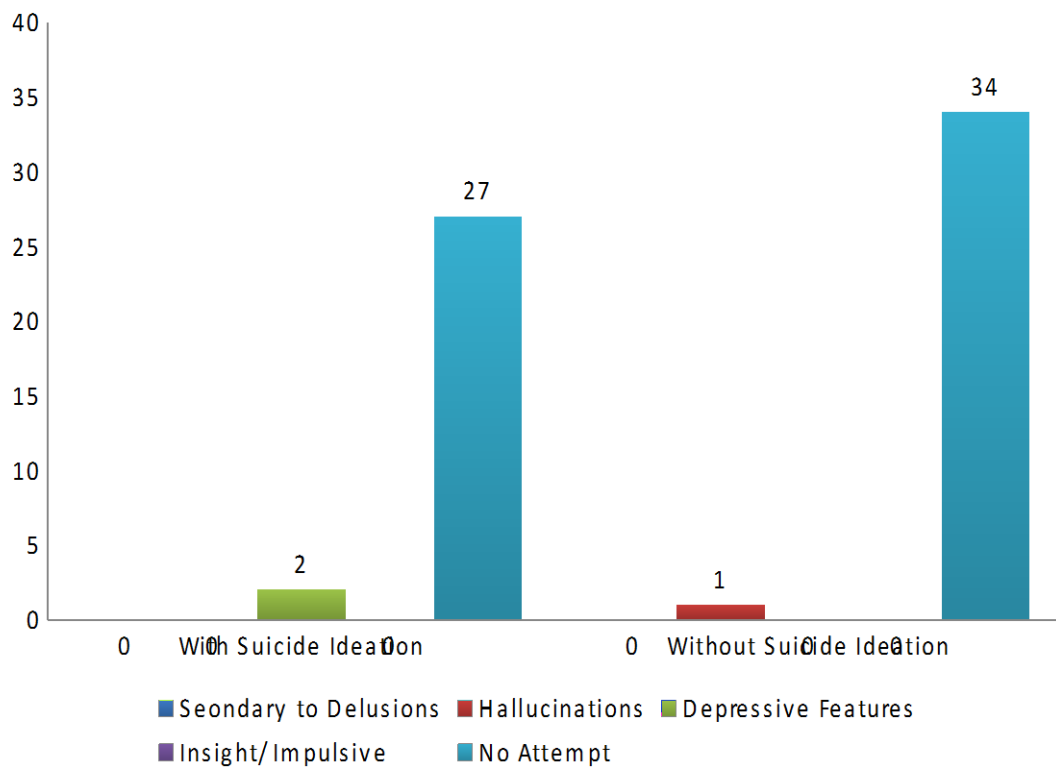


History of hospitalisation After Suicide Attempts	With Suicide Ideation	Without Suicide Ideation	With Suicide Ideation %	Without Suicide Ideation %
Yes	2	1	6.90	2.86
No	27	34	93.10	97.14
Total	29	35	100	100
P value Fishers Exact Test			0.5859	

Among the study patients, there was no statistically significant difference in relation to history hospitalization after suicide attempts between with suicide ideation group (majority had no history =93.10%) and without suicide ideation group (majority had no history = 97.14%) with a p value of >0.05 as per fishers exact test. Therefore we fail to reject the null hypothesis that there is no difference in history of hospitalization after suicide attempts between the study groups.

REASON FOR ATTEMPT

Reason for Attempt

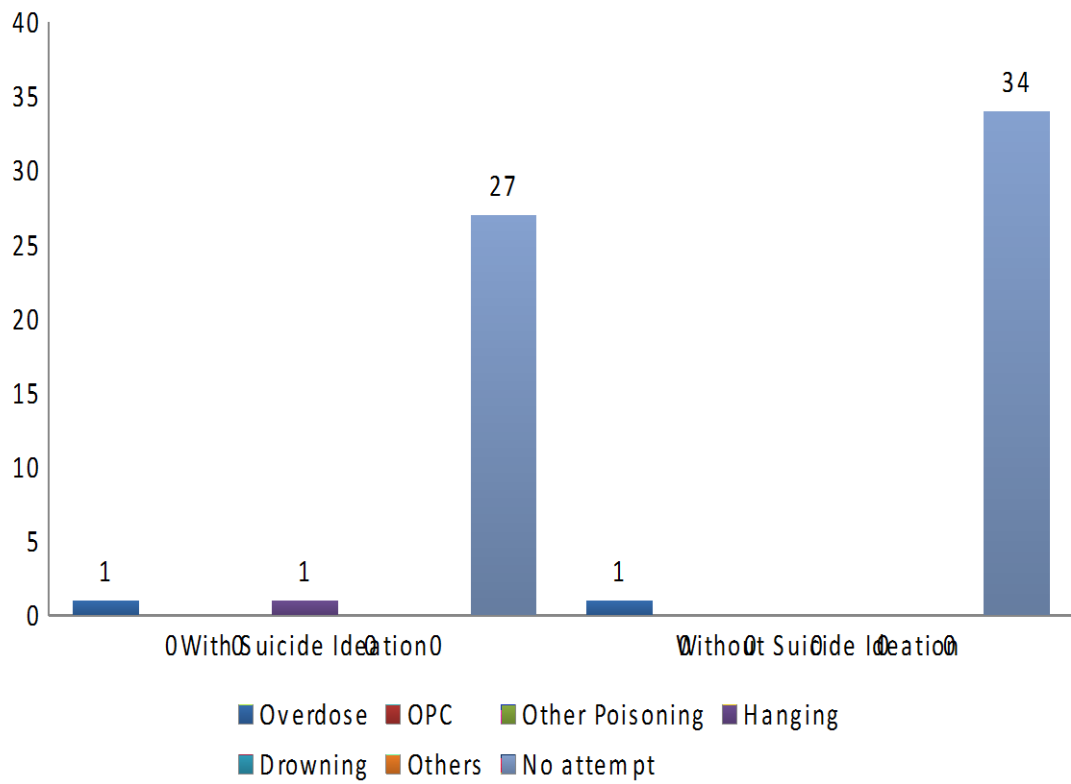


Reason for Attempt	With Suicide Ideation	Without Suicide Ideation	With Suicide Ideation %	Without Suicide Ideation %	P value Fishers Exact Test
Secondary to Delusions	0	0	0.00	0.00	NA
Hallucinations	0	1	0.00	2.86	0.4531
Depressive Features	2	0	6.90	0.00	0.2014
Insight/ Impulsive	0	0	0.00	0.00	NA
No Attempt	27	34	93.10	97.14	
Total	29	35	100	100	

Among the study patients, there was no statistically significant difference in relation to reason for attempt between with suicide ideation group (majority had depressive features =6.90%) and without suicide ideation group (majority had hallucinations = 2.86%) with a p value of >0.05 as per fishers exact test. Therefore we fail to reject the null hypothesis that there is no difference in reason for attempt between the study groups.

MODE OF ATTEMPT

Mode of Attempt

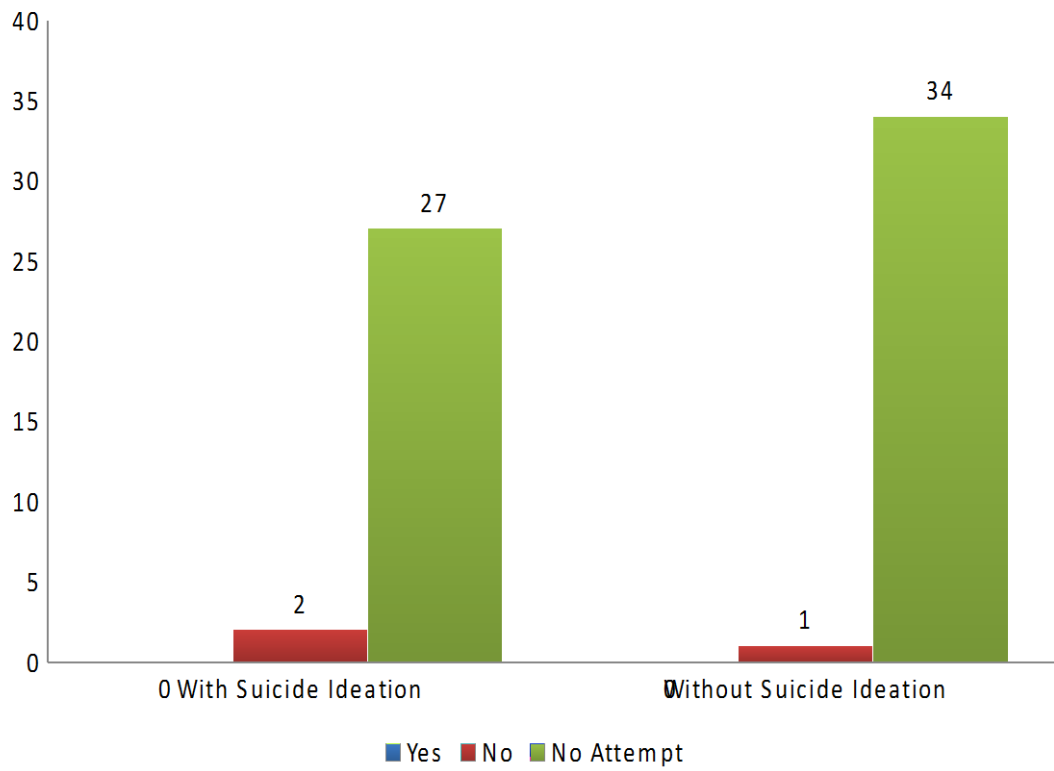


Mode of Attempt	With Suicide Ideation	Without Suicide Ideation	With Suicide Ideation %	Without Suicide Ideation %	P value Fishers Exact Test
Overdose	1	1	3.45	2.86	>0.9999
OPC	0	0	0.00	0.00	NA
Other Poisoning	0	0	0.00	0.00	NA
Hanging	1	0	3.45	0.00	0.4531
Drowning	0	0	0.00	0.00	NA
Others	0	0	0.00	0.00	NA
No attempt	27	34	93.10	97.14	
Total	29	35	100	100	

Among the study patients, there was no statistically significant difference in relation to mode of attempt between with suicide ideation group (majority had overdose and hanging =3.45%) and without suicide ideation group (majority had overdose= 2.86%) with a p value of >0.05 as per fishers exact test. Therefore we fail to reject the null hypothesis that there is no difference in mode of attempt between the study groups.

COMMUNICATION OF ATTEMPT

Communication of Attempt

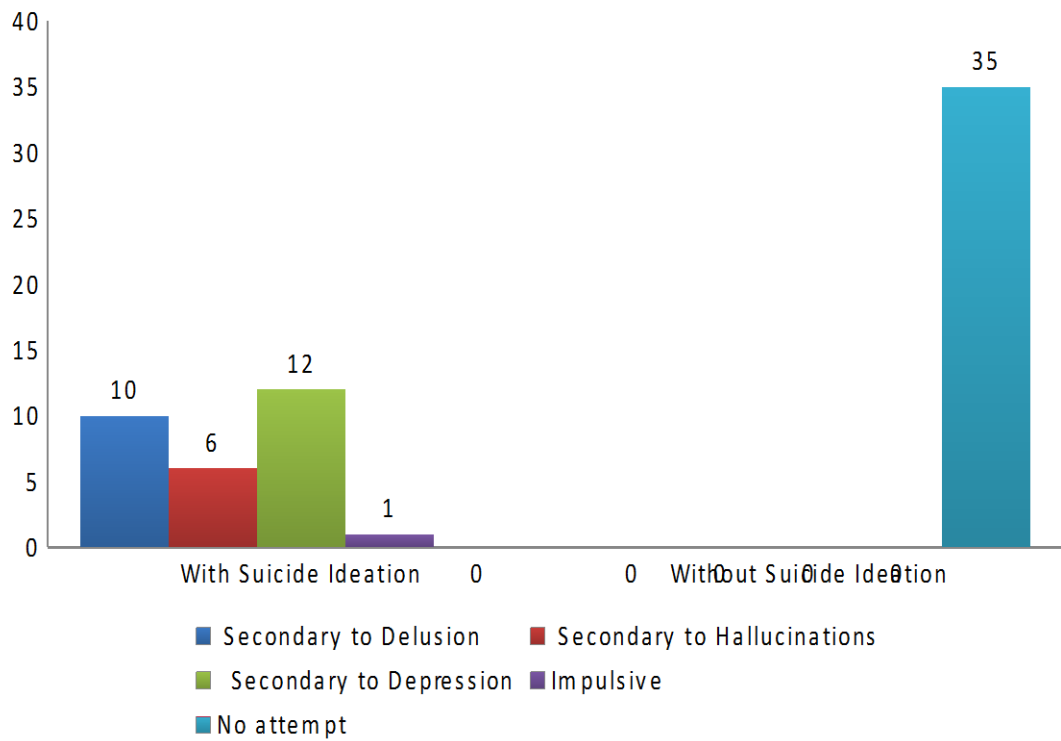


Communication of Attempt	With Suicide Ideation	Without Suicide Ideation	With Suicide Ideation %	Without Suicide Ideation %
Yes	0	0	0.00	0.00
No	2	1	6.90	2.86
No Attempt	27	34	93.10	97.14
Total	29	35	100	100
P value			0.5859	
Fishers Exact Test				

Among the study patients, there was no statistically significant difference in relation to communication of attempt between with suicide ideation group (majority had not communicated =6.90%) and without suicide ideation group (majority had not communicated= 2.86%) with a p value of >0.05 as per fishers exact test. Therefore we fail to reject the null hypothesis that there is no difference in communication of attempt between the study groups.

REASON FOR IDEATION

Reason For Ideation

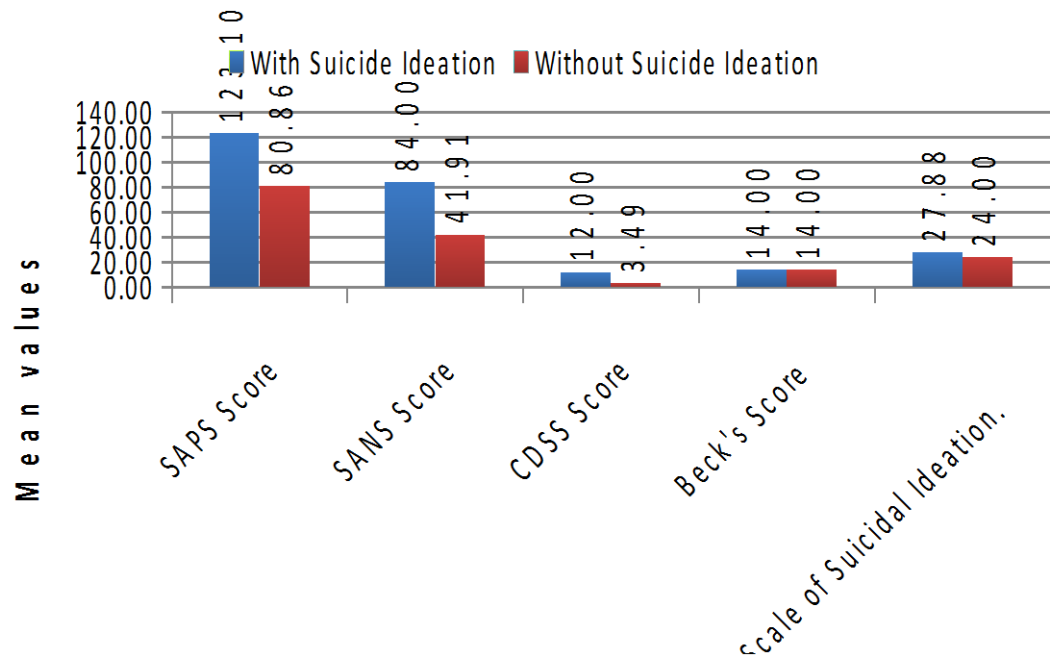


Reason For Ideation	With Suicide Ideation	Without Suicide Ideation	With Suicide Ideation %	Without Suicide Ideation %
Secondary to Delusion	10	0	34.48	0.00
Secondary to Hallucinations	6	0	20.69	0.00
Secondary to Depression	12	0	41.38	0.00
Secondary to Delusion	1	0	3.45	0.00
No attempt	0	35	0.00	100.00
Total	29	35	100	100
P value Chi Squared Test			>0.9999	

Among the study patients, there was no statistically significant difference in relation to reason for ideation between with suicide ideation group (majority was secondary to depression =41.38%) and without suicide ideation group (majority had no ideation= 100.00%) with a p value of >0.05 as per fishers exact test. Therefore we fail to reject the null hypothesis that there is no difference in reason for ideation between the study groups.

SCORING IN STUDY SUBJECTS

Scoring in Study Subjects



Scoring in Study Subjects		SAPS Score	SAN S Score	CDS S Score	Beck's Score	Scale of Suicidal Ideation.
With Suicide Ideation	N	29	29	29	2	26
	Mean	123.10	84.00	12.00	14.00	27.88
	SD	19.32	16.38	4.28	2.83	2.45
Without Suicide Ideation	N	35	35	35	1	1
	Mean	80.86	41.91	3.49	14.00	24.00
	SD	14.72	15.39	2.99	NA	NA
P value Unpaired t Test		<0.0001	<0.0001	<0.0001	NA	NA

SAPS

Among the study patients, there was a statistically significant difference in relation to SAPS scores between with suicide ideation group (mean = 123.10, SD = 19.32) and without suicide ideation (mean = 80.86, SD = 14.72) with a p value of <0.05 as per unpaired t test. Therefore we reject the null hypothesis that there is no difference in SAPS score distribution between the study groups.

SANS

Among the study patients, there was a statistically significant difference in relation to SANS scores between with suicide ideation group (mean = 84.00, SD = 16.38) and without suicide ideation (mean = 41.91, SD = 15.39) with a p value of <0.05 as per unpaired t test. Therefore we reject the null hypothesis that there is no difference in SANS score distribution between the study groups.

CDSS

Among the study patients, there was a statistically significant difference in relation to CDSS scores between with suicide ideation group (mean = 12.00, SD = 4.28) and without suicide ideation (mean = 3.49, SD = 2.99) with a p value of <0.05 as per unpaired t test. Therefore we reject the null hypothesis that there is no difference in CDSS score distribution between the study groups.

DISCUSSION

EDUCATIONAL STATUS:

Low educational status schizophrenic patients are having high risk of suicide.(Mitchael G Gelder et al)

The incidence of study subjects with HSC educational status was significantly less in with suicide ideation group compared to without suicide ideation group by a percentage difference of 31.13% (58% lower). This difference is significant with a p-value of 0.0029 as per fishers exact test.

The incidence of study subjects with graduate educational status was significantly more in with suicide ideation group compared to without suicide ideation group by a percentage difference of 31.63% (92% higher). This difference is significant with a p-value of 0.0016 as per fishers exact test.

TYPE OF FAMILY:

In living with nuclear type family schizophrenic patients are having high suicidal risk than living with joint type family schizophrenic patients.(Mitcheal G Geider et al)

The incidence of study subjects with nuclear family status was significantly more in with suicide ideation group compared to without suicide ideation group by a percentage difference of 33.40% (75% higher). This difference is significant with a p-value of 0.0041 as per fishers test.

The incidence of study subjects with joint family status was significantly less in with suicide ideation group compared to without suicide ideation group by a percentage difference of 33.40% (38% lower). This difference is significant with a p-value of 0.0043 as per fishers test.

FAMILY H/O MENTAL ILLNESS:

Family history of mental illness, associated schizophrenic patients are having higher risk of suicide. (Mitcheal G Geider et al)

The incidence of study subjects with family history of mental illness was significantly more in with suicide ideation group compared to without suicide ideation group by a percentage difference of 37.93% (62% higher). This difference is significant with a p-value of <0.0001 as per fishers test.

FAMILY HISTORY OF SUICIDE ATTEMPT:

Family history of suicide attempts, schizophrenic patients are having higher risk of suicide. (Mitchael G Geider et al)

The incidence of study subjects with family history of suicide attempt was significantly more in with suicide ideation group compared to without suicide ideation group by a percentage difference of 17.83% (86% higher). This difference is significant with a p-value of 0.0401 as per fishers exact test.

Scoring in Study Subjects

SAPS

Schizophrenic suicide victims differ from other schizophrenic patients by having suicidal thoughts and previous suicide attempts, being more depressive and having more positive symptoms. (Kelly et al)

The mean SAPS scores was significantly more with suicide ideation group compared to without suicide ideation group by a mean difference of 42.25 points (34% higher). This difference is significant with a p-value of <0.0001 as per unpaired t test.

SANS

The mean SANS scores was significantly more with suicide ideation group compared to without suicide ideation group by a mean difference of 42.09 points (50% higher). This difference is significant with a p-value of <0.0001 as per unpaired t test.

CDSS

Suicide risk is highest in depressive in patients even during the post discharge period and much lower among psychiatric outpatients, although clearly lowest for those treated for depression in primary care.(Simon, G.E. et al)

The mean CDSS scores was significantly more with suicide ideation group compared to without suicide ideation group by a mean difference of 8.51 points (71% higher). This difference is significant with a p-value of <0.0001 as per unpaired- t test.

CONCLUSION

In this study we can safely conclude that a significantly decreased HSC educational status and increased graduate educational status is associated with suicide ideation group compared to without suicide ideation group in patients with schizophrenia. In other words in patients with schizophrenia those with HSC education are 2.38 times more common to develop suicide ideation and those with graduate education are 12.07 times less common to develop suicide ideation. So in patients with schizophrenia nuclear school education is a significant risk factor and college education is a significant protective factor for suicides.

In this study we can safely conclude that a significantly increased nuclear family status and decreased joint family status is associated with suicide ideation group compared to without suicide ideation group in patients with schizophrenia. In other words in patients with schizophrenia those from nuclear families are 3.92 times more common to develop suicide ideation and those from joint families are 1.61 times less common to develop suicide ideation.

In this study we can safely conclude that a significantly increased family history of mental illness status is associated with suicide ideation group compared to without suicide ideation group in patients with schizophrenia. In other words in patients with schizophrenia those with family history of mental illness are 1.61 times more prone to develop

suicide ideation. So in patients with schizophrenia family history of mental illness is a significant risk factor for suicides.

In this study we can safely conclude that a significantly increased family history of suicide attempt status is associated with suicide ideation group compared to without suicide ideation group in patients with schizophrenia. In other words in patients with schizophrenia those with family history of suicide attempt are 7.24 times more prone to develop suicide ideation. So in patients with schizophrenia family history of suicide attempt is a significant risk factor for suicides.

In this study we can safely conclude that a significantly increased SAPS scores is associated with suicide ideation group compared to without suicide ideation group in patients with schizophrenia. In other words in patients with schizophrenia those with increased SAPS scores are 1.52 times more prone to develop suicide ideation. So in patients with schizophrenia increased SAPS score is a significant risk factor for suicides.

In this study we can safely conclude that a significantly increased SANS scores is associated with suicide ideation group compared to without suicide ideation group in patients with schizophrenia. In other words in patients with schizophrenia those with increased SANS scores are 2.00 times more prone to develop suicide ideation. So in patients with

schizophrenia increased SANS score is a significant risk factor for suicides.

In this study we can safely conclude that a significantly increased CDSS scores is associated with suicide ideation group compared to without suicide ideation group in patients with schizophrenia. In other words in patients with schizophrenia those with increased CDSS scores are 3.44 times more prone to develop suicide ideation. So in patients with schizophrenia increased CDSS score is a significant risk factor for suicides.

LIMITATIONS:

Low sample size. So little space for robust statistical analysis.

Study population restricted to patients referred to our psychiatric department.

Selection bias may have influenced the results.

This study not included less than 18 years old patients, less than 18 years old patients are not represented.

It is a cross sectional study, follow up study may provide more information regarding longitudinal course.

Poor financial support.

Inability to use research design like cohort study due to paucity of time and resources.

People from upper socio economic status have not been represented in this study. In our study most of the patients are belongs to lower and lower middle socio-economic status.

Alcohol and cannabis abuse not included. That may have bias in the result.

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PROFORMA

Name:

Age:

Sex:

Education: Illiterate/ Primary/ Secondary/ SSC/ HSC/ Graduate

Occupation: Unemployed/ Unskilled/ Skilled/ Housewife/ Student

Socio-economic status: Low/ Middle/ High

Marital status: Married/ Unmarried/ Separated/ Divorced

Type of family: Nuclear/ Joint

Family history: Mental illness/ Suicide/ Both

Diagnosis: Paranoid/ Catatonic/ Undifferentiated/ Disorganized/ Other

Duration of illness: < 1 year/ 1-2 years/ 2-5 years/ > 5 years. In months:

Medication details:

Past attempts of suicide: Yes/ No; If yes, details

History of hospitalization for the attempt: Yes/ No; If yes, details

Reason for attempting: Secondary to delusions/ Hallucinations/

Depressive features/

Insight/ Impulsive

Mode of attempt: Overdose/ OPC or other poisoning/ Hanging/

Drowning/ Others

Communication of attempt: Yes/ No; If yes details

INFORMED CONSENT FORM

STUDY: “A STUDY ON SUICIDAL IDEATION IN SCHIZOPHRENIA”

STUDY CENTRE: Department of Psychiatry, Govt. Kilpauk Medical College Hospital.

PATIENT’S NAME :

PATIENT’S AGE :

I.P NO. :

Patient may check () these boxes

I confirm that I understood the purpose of the procedure for the above study. ()

I had the opportunity to ask question and all my questions and doubts have been answered to my complete satisfaction. ()

I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving reason, without my legal rights being affected. ()

I understand that an ethical committee members and the regulatory authorities will not need my permission to look at my health records, both in respect of the current study and any further research that may be conducted in relation to it, even if I withdraw from the study I agree to this access. ()

However, I understand that my identity will not be revealed in any information released to third parties or published, unless as required under the law. ()

I agree not to restrict the use of any data or results that arise from the study. ()

PARTICIPANTS' INFORMATION SHEET

Investigator : Dr.A.KUMARESAN

Name of the participant :

Study title: “A Study on suicidal ideation in schizophrenia”

You are invited to take part in this research study. We have got approval from the IEC. You are asked to participate because you satisfy the eligibility criteria.

What is the purpose of this research?

In this study, we aim to assess the prevalence of suicidal ideation in people undergoing treatment for schizophrenia, the association between psychiatric co-morbidity and different socio-demographic factors (age, gender, education) and disease related factors. This will help in assessing the burden of suicidal ideation in people with schizophrenia and how it affects the outcome of schizophrenia, so that earlier detection and management may improve the outcome of schizophrenia.

Benefits:

This study will benefit all people who are undergoing treatment for schizophrenia and help improve the success rate of schizophrenic treatment, and also reduce the incidence of suicidal ideation in schizophrenia.

Discomforts and risks:

No interventional procedure is done in this study.

Confidentiality:

Patients who participate in the study and their details will be maintained confidentially and at any cost, those details will not be let out.

Right to withdraw:

Patients will not be forced to complete the study. At any cost, in such circumstances treatment will not be compromised.

Signature/Thumb impression of the participant:

Signature of the investigator:

Date :

Place:

சுய ஒப்புதல் படிவம்

ஆய்வு செய்யப்படும் தலைப்பு:

“காசநோய் உள்ளவர்களிடம் இருக்கும் மனநோய்களைக் குறித்த ஆராய்ச்சி.”

ஆராய்ச்சி நிலையம் : நெஞ்சகத் துறைப் பிரிவு , கீழ்ப்பாக்கம் மருத்துவக்கல்லூரி அரசு மருத்துவமனை, சென்னை.

பங்கு பெறுபவரின் பெயர்:

உறவு முறை:

பங்கு பெறுபவரின் எண்:

பங்கு பெறுபவர் இதனை () குறிக்கவும்

மேலே குறிப்பிட்டுள்ள மருத்துவ ஆய்வின் விவரங்கள் எனக்கு விளக்கப்பட்டது. என்னுடைய சந்தேகங்களைக் கேட்கவும் , அதற்கான தகுந்த விளக்கங்களைப் பெறவும் வாய்ப்பளிக்கப்பட்டது. ()

நான் இவ்வாய்வில் தன்னிச்சையாகத்தான் பங்கேற்கிறேன். எந்தக் காரணத்தினாலோ எந்தக் கட்டத்திலும் எந்த சட்ட சிக்கலுக்கும் உட்படாமல் நான் இவ்வாய்வில் இருந்து விலகிக் கொள்ளலாம் என்றும் அறிந்து கொண்டேன். ()

இந்த ஆய்வு சம்மந்தமாகவும் , மேலும் இது சார்ந்த ஆய்வு மேற்கொள்ளும்போதும், இந்த ஆய்வில் பங்குபெறும் மருத்துவர் என்னுடைய மருத்துவ அறிக்கைகளைப் பார்ப்பதற்கு என் அனுமதி தேவையில்லை என அறிந்துகொள்கிறேன். நான் ஆய்வில் இருந்து விலகிக் கொண்டாலும் இது பொருந்தும் என அறிகிறேன். ()

இந்த ஆய்வின் மூலம் கிடைக்கும் தகவல்களையும் பரிசோதனை முடிவுகளையும் மற்றும் சிகிச்சை தொடர்பான தகவல்களையும் மருத்துவர் மேற்கொள்ளும் ஆய்வில் பயன்படுத்திக் கொள்ளவும் , அதைப் பிரசுரிக்கவும் என் முழு மனதுடன் சம்மதிக்கிறேன். ()

இந்த ஆய்வில் பங்கு கொள்ள ஒப்புக்கொள்கிறேன் . எனக்குக் கொடுக்கப்பட்ட அறிவுரைகளின் படி நடந்துகொள்வதுடன், இந்த ஆய்வை மேற்கொள்ளும் மருத்துவ அணிக்கு உண்மையுடன்

இருப்பேன் என்றும் உறுதியளிக்கிறேன் . என் உடல் நலம்
பாதிக்கப்பட்டாலோ அல்லது எதிர்பாராத வழக்கத்திற்கு மாறாக
நோய்க்குறி தென்பட்டாலோ உடனே அதை மருத்துவ
அணியிடம் தெரிவிப்பேன் என உறுதி அளிக்கிறேன். ()
இந்த ஆய்வில் எனக்கு மருத்துவப் பரிசோதனை செய்து
கொள்ள மற்றும் ஆய்வில் பங்கேற்க நான் முழு மனதுடன்
சம்மதிக்கிறேன். ()
பங்கேற்பவரின் கையொப்பம் / கட்டைவிரல் ரேகை:

இடம்: _____

தேதி: _____

பங்கேற்பவரின் பெயர் மற்றும் விலாசம்:

ஆய்வாளரின் கையொப்பம் _____

இடம் _____

தேதி _____

ஆய்வாளரின் பெயர் _____

ஆராய்ச்சி தகவல் தாள்

கிழ்பாக்கம் அரசு பொது மருத்துவமனையில் காசநோய் உள்ளவர்களிடம் இருக்கும் மனநோய்களைக் குறித்து ஆராய்ச்சி செய்ய உள்ளோம் . நீங்கள் இந்த ஆராய்ச்சியில் பங்கேற்க நாங்கள் விரும்புகிறோம் . இந்த ஆராய்ச்சியில் பங்கேற்பதால் தங்களது நோயின் ஆய்வறிக்கையோ அல்லது சிகிச்சையோ பாதிக்கப்படாது என்பதையும் தெரிவித்துக் கொள்கிறோம்.

இந்த ஆராய்ச்சியின் முடிவுகளை அல்லது கருத்துகளை வெளியிடும் போதோ அல்லது ஆராய்ச்சியின் போதோ தங்களது பெயரையோ அல்லது அடையாளங்களையோ வெளியிடமாட்டோம் என்பதையும் தெரிவித்துக் கொள்கிறோம்.

இந்த ஆராய்ச்சியில் பங்கேற்பது தங்களுடைய விருப்பத்தின் பேரில் தான் இருக்கிறது . மேலும் நீங்கள் எந்நேரமும் இந்த ஆராய்ச்சியில் இருந்து பின்வாங்கலாம் என்பதையும் தெரிவித்துக்கொள்கிறோம்.

இந்த சிறப்புப் பரிசோதனைகளின் முடிவுகளை ஆராய்ச்சியின் போதோ அல்லது ஆராய்ச்சியின் முடிவின் போதோ தங்களுக்கு அறிவிப்போம் என்பதையும் தெரிவித்துக்கொள்கிறோம்.

ஆராய்ச்சியாளர் கையொப்பம் பங்கேற்பாளர் கையொப்பம்

KUPPUSWAMY'S SOCIOECONOMIC STATUS SCALE

(A) EDUCATION	SCORE
Profession or Honours	7
Graduate or post graduate	6
Intermediate or post high school diploma	5
High school certificate	4
Middle school certificate	3
Primary school certificate	2
Illiterate	1
(B) OCCUPATION	SCORE
Profession	10
Semi-Profession	6
Clerical, Shop-owner, Farmer	5
Skilled worker	4
Semi-skilled worker	3
Unskilled worker	2
Unemployed	1
(C) MONTHLY FAMILY INCOME (Modified for 2012)	SCORE
≥ 32050	12
16020 – 32049	10
12020 – 16019	6
8010 – 12019	4
4810 – 8009	3
1601 – 4809	2

≤ 1600

1

Total Score - Socioeconomic class

26-29 - Upper (I)

16-25 - Upper Middle (II)

11-15 - Middle/Lower middle (III)

5-10 - Lower/Upper lower (IV)

<5 - Lower (V)

Beck's Suicide Intent Scale (1974)

1. Isolation

1. Somebody present
2. Somebody nearby, or in visual or vocal contact
3. No one nearby or in visual or vocal contact

2. Timing

1. Intervention is probable
2. Intervention is not likely
3. Intervention is highly unlikely

3. Precautions against discovery/intervention

1. No precautions
2. Passive precautions (as avoiding other but doing nothing to prevent their intervention; alone in room with unlocked door)
3. Active precautions (as locked door)

4. Acting to get help during/after attempt

1. Notified potential helper regarding attempt
2. Contacted but did not specifically notify potential helper regarding attempt
3. Did not contact or notify potential helper

5. Final acts in anticipation of death (will, gifts, insurance)

1. None
2. Thought about or made some arrangements
3. Made definite plans or completed arrangements

6. Active preparation for attempt

1. None
2. Minimal to moderate
3. Extensive

7. Suicide Note

1. Absence of note
2. Note written, but torn up; note thought about
3. Presence of note

8. Overt communication of intent before the attempt

1. None
2. Equivocal communication
3. Unequivocal communication

9. Alleged purpose of attempt

1. To manipulate environment, get attention, get revenge
2. Components of above and below
3. To escape, surcease, solve problems

10. Expectations of fatality

1. Thought that death was unlikely
2. Thought that death was possible but not probable
3. Thought that death was probable or certain

11. Conception of method's lethality

1. Do less to self than s/he thought would be lethal
2. Was not sure if what s/he did would be lethal
3. Equalised or exceeded what s/he thought would be lethal

12. Seriousness of attempt

1. Did no seriously attempt to end life
2. Uncertain about seriousness to end life
3. Seriously attempted to end life

13. Attitude toward living/dying

1. Did not want to die
2. Components of above and below
3. Wanted to die

14. Conception of medical rescuability

1. Thought that death would be unlikely if he received medical attention
2. Was uncertain whether death could be averted by medical attention
3. Was certain of death even if he received medical attention

15. Degree of premeditation

1. None; impulsive
 2. Suicide contemplated for three hours or less prior to attempt
 3. Suicide contemplated for more than three hours prior to attempt
- Other Aspects (Not included in total score)

16. Reaction to attempt

1. Sorry it was made; feels foolish; ashamed
2. Accepts both attempt and failure Beck's Suicide Intent Scale (1974)
3. Regrets failure of attempt

17. Visualization of death

1. Life after death, reunion with descendants
2. Never-ending sleep, darkness, end of things
3. No conceptions of or thoughts about death

18. Number of previous attempts

1. None
2. One or two
3. Three or more

19. Relationship between alcohol intake and attempt

1. Some alcohol intake prior to but not related to attempt; reportedly not enough to Impair judgment, reality testing
2. Enough alcohol intake to impair judgment; reality testing and diminish responsibility
3. Intentional intake of alcohol in order to facilitate implementation of attempt

20. Relationship between drug intake and attempt

1. Some drug intake prior to but not related to attempt; reportedly not enough to Impair judgment, reality testing
2. Enough drug intake to impair judgment; reality testing and diminish the responsibility
3. Intentional intake of drug in order to facilitate implementation of attempt

15-19 Low Intent

20-28 Medium Intent

29+- High Intent

There is also a greater risk of repeated attempts the higher the intent rating.

CALGARY DEPRESSION RATING SCALE FOR SCHIZOPHRENIA;

Interviewer: Ask the first question as written. Use follow up probes or qualifiers at your discretion. Time frame

Refer to last two weeks unless stipulated. N.B. The last item, #9, is based on observations of the entire interview.

1. **DEPRESSION** : How would you describe your mood over the last two weeks? Do you keep reasonably cheerful or have you been very depressed or low spirited recently? In the last two weeks how often have you (own words) every day? All day?

0. Absent Expresses some sadness or discouragement on questioning.
1. Mild Distinct depressed mood persisting up to half the time over last
2. Moderate 2 weeks: present daily.
3. Severe Markedly depressed mood persisting daily over half the time interfering with normal motor and social functioning.

2. **HOPELESSNESS** : How do you see the future for yourself? Can you see any future? - or has life seemed quite hopeless? Have you given up or does there still seem some reason for trying?

0. Absent
1. Mild Has at times felt hopeless over the last two weeks but still has some degree of hope for the future.
2. Moderate Persistent, moderate sense of hopelessness over last week. Can be persuaded to acknowledge possibility of things being better.
3. Severe Persisting and distressing sense of hopelessness.

3. **SELF DEPRECIATION** : What is your opinion of yourself compared to other people? Do you feel better, not as good, or about the same as others? Do you feel inferior or even worthless?

0. Absent
1. Mild Some inferiority; not amounting to feeling of worthlessness.
2. Moderate Subject feels worthless, but less than 50% of the time.
3. Severe Subject feels worthless more than 50% of the time. May be challenged to acknowledge otherwise.

4. **GUILTY IDEAS OF REFERENCE** : Do you have the feeling that you are being blamed for something or even wrongly accused? What about? (Do not include justifiable blame or accusation. Exclude delusions of guilt.)

0. Absent

1. Mild Subject feels blamed but not accused less than 50% of the time.
 2. Moderate Persisting sense of being blamed, and/or occasional sense of being accused.
 3. Severe Persistent sense of being accused. When challenged, acknowledges that it is not so.
5. **PATHOLOGICAL GUILT** : Do you tend to blame yourself for little things you may have done in the past? Do you think that you deserve to be so concerned about this?
0. Absent
 1. Mild Subject sometimes feels over guilty about some minor peccadillo, but less than 50% of time.
 2. Moderate Subject usually (over 50% of time) feels guilty about past actions the significance of which he exaggerates.
 3. Severe Subject usually feels s/he is to blame for everything that has gone wrong, even when not his/her fault.
6. **MORNING DEPRESSION** : When you have felt depressed over the last 2 weeks have you noticed the depression being worse at any particular time of the day?
0. Absent No depression.
 1. Mild Depression present but no diurnal variation.
 2. Moderate Depression spontaneously mentioned to be worse in a.m.
 3. Severe Depression markedly worse in a.m., with impaired functioning which improves in p.m.
7. **EARLY MORNING AWAKENING** : Do you wake earlier in the morning than is normal for you? How many times a week does this happen?
0. Absent No early wakening.
 1. Mild Occasionally wakes (up to twice weekly) 1 hour or more before normal time to wake or alarm time
 2. Moderate Often wakes early (up to 5 times weekly) 1 hour or more before normal time to wake or alarm.
 3. Severe Daily wakes 1 hour or more before normal time.
8. **SUICIDE** : Have you felt that life wasn't worth living? Did you ever feel like ending it all? What did you think you might do? Did you actually try?
0. Absent
 1. Mild Frequent thoughts of being better off dead, or occasional thoughts of suicide.
 2. Moderate deliberately considered suicide with a plan, but made no attempt.

3. Severe Suicidal attempt apparently designed to end in death (i.e.: accidental discovery or inefficient means).

9. OBSERVE DEPRESSION : Based on interviewer's observations During the entire interview. The question "Do you feel like crying?" used at appropriate points in the interview, may elicit information useful to this observation.

0. Absent

1. Mild

2. Moderate 0. Absent

1. Mild

3. Severe

Subject feels blamed but not accused less than 50% of the time.

Persisting sense of being blamed, and/or occasional sense of being accused.

Persistent sense of being accused. When challenged, acknowledges that it is not so.

SANS: Scale for the Assessment of Negative Symptoms

Patient ID

Date of Birth

Gender

Age

Initials

Interview Date

Scale for the Assessment of Negative Symptoms

SANS CODES

0 = None/Not at all 2 = Mild 4 = Marked 9 = Unknown/Cannot be 1 =
Questionable 3 = Moderate 5 = Severe assessed/Not assessed

|AFFECTIVE FLATTENING OR BLUNTING

1.

Unchanging Facial Expression

None -----> Severe

The patient's face appears wooden-changes less than expected as emotional content of discourse changes.

0

1

2

3

4

5

9

2. Decreased Spontaneous Movements

The patient shows few or no spontaneous movements, does not shift position, move extremities, etc.

0

1

2

3

4

5

9

3.Paucity of Expressive Gestures

The patient does not use hand gestures or body position as an aid in expressing his ideas.

0

1

2

3

4

5

9

4.

Poor Eye Contact

The patient avoids eye contact or "stares through" interviewer even when speaking.

0

1

2

3

4
5
9

5.

Affective nonresponsivity

The patient fails to laugh or smile when prompted.

0
1
2
3
4
5
9

6.

Inappropriate Affect

The patient's affect is inappropriate or incongruous, not simply flat or blunted.

0
1
2
3
4
5
9

7.

Lack of Vocal Inflections

The patient fails to show normal vocal emphasis patterns, is often monotonic.

0
1
2
3
4
5
9

8.

Global Rating of Affective Flattening

This rating should focus on overall severity of symptoms, especially unresponsiveness, inappropriateness and an overall decrease in emotional intensity.

0
1
2

3
4
5
9

--

ALOGIA

9. Poverty of Speech

The patient's replies to questions are restricted in amount, tend to be brief, concrete, unelaborated.

0
1
2
3
4
5
9

10. Poverty of Content of Speech

The patient's replies are adequate in amount but tend to be vague, over concrete or over generalized, and convey little in information.

0
1
2
3
4
5
9

11. Blocking

The patient indicates, either spontaneously or with prompting, that his train of thought was interrupted.

0
1
2
3
4
5
9

12. Increased Latency of Response

The patient takes a long time to reply to questions, prompting indicates the patient is aware of the question.

- 0
- 1
- 2
- 3
- 4
- 5
- 9

13. Global Rating of Alogia

The core features of alogia are poverty of speech and poverty of content.

- 0
- 1
- 2
- 3
- 4
- 5
- 9

AVOLITION/APATHY

14. Grooming and Hygiene

The patient's clothes may be sloppy or soiled, and he may have greasy hair, body odor, etc.

- 0
- 1
- 2
- 3
- 4
- 5
- 9

15. Inpersistence at Work or School

The patient has difficulty seeking or maintaining employment, completing school work, keeping house, etc. If an inpatient, cannot persist at ward activities, such as OT, playing cards, etc

- 0
- 1
- 2
- 3
- 4
- 5
- 9

16. Physical Anergia

The patient tends to be physically inert. He may sit for hours and not initiate spontaneous activity.

- 0
- 1
- 2
- 3
- 4
- 5
- 9

17. Global Rating of Avolition/Apathy

Strong weight may be given to one or two prominent symptoms if particularly striking.

- 0
- 1
- 2
- 3
- 4
- 5
- 9

ANHEDONIA/ASOCIALITY

18.Recreational Interests and Activities

The patient may have few or no interests. Both the quality and quantity of interests should be taken into account.

- 0
- 1
- 2
- 3
- 4
- 5
- 9

19. Sexual Activity

The patient may show decrease in sexual interest and activity, or no enjoyment when active.

- 0
- 1
- 2
- 3
- 4
- 5
- 9

20. Ability to Feel Intimacy and Closeness

The patient may display an inability to form close or intimate relationships, especially with opposite sex and family.

- 0
- 1
- 2
- 3
- 4
- 5
- 9

21. Relationships with Friends and Peers

The patient may have few or no friends and may prefer to spend all his time isolated.

- 0
- 1
- 2

3
4
5
9

22.

Global Rating of Anhedonia/Asociality

This rating should reflect overall severity, taking into account the patient's age, family status, etc.

0
1
2
3
4
5
9

|

ATTENTION

23. Social Inattentiveness

The patient appears uninvolved or unengaged. He may seem "spacey".

- 0
- 1
- 2
- 3
- 4
- 5
- 9

24. Inattentiveness During Mental Status Testing

Refer to tests of "serial 7s" (at least five subtractions) and spelling "world" backwards.

- 0
- 1
- 2
- 3
- 4
- 5
- 9

25. Global Rating of Attention

This rating should assess the patient's overall concentration, both clinically and on tests.

- 0
- 1
- 2
- 3
- 4
- 5
- 9

SCALE FOR ASSESSMENT OF POSITIVE SYMPTOMS

SAPS CODES

0 = None/Not at all 2 = Mild 4 = Marked 9 = Unknown/Cannot be 1 =
Questionable 3 = Moderate 5 = Severe assessed/Not assessed

1.

Auditory Hallucinations

None -----> Severe Unk

The patient reports voices, noises, or other sounds that no one else hears.

0

1

2

3

4

5

9

2. **Voices Commenting**

The patient reports a voice which makes a running commentary on his behavior or thoughts.

0

1

2

3

4

5

9

3.

Voices Conversing

The patient reports hearing two or more voices conversing.

0

1

2

3

4

5

9

4.

Somatic or Tactile Hallucinations

The patient reports experiencing peculiar physical sensations in the body.

0

1

2

3

4

5

9

5.

Olfactory Hallucinations

The patient reports experiencing unusual smells which no one else notices.

0

1

2

3

4

5

9

6.

Visual Hallucinations

The patient sees shapes or people that are not actually present.

0

1

2

3

4

5

9

7.

Global Rating of Hallucinations

This rating should be based on the duration and severity of the hallucinations and their effects on the patient's life.

0

1

2

3

4

5

9

8.

Persecutory Delusions

The patient believes he is being conspired against or persecuted in some way.

0

1

2

3

4

5

9

9.

Delusions of Jealousy

The patient believes his spouse is having an affair with someone.

0

1

2

3

4

5

9

10. Delusions of Guilt or Sin

The patient believes that he has committed some terrible sin or done something unforgivable.

0

1

2

3

4

5

9

11.

Grandiose Delusions

The patient believes he has special powers or abilities.

0

1

2

3

4

5

9

12.

Religious Delusions

The patient is preoccupied with false beliefs of a religious nature.

0

1

2

3

4

5

9

13.

Somatic Delusions

The patient believes that somehow his body is diseased, abnormal, or changed.

0

1

2
3
4
5
9

14.

Delusions of Reference

The patient believes that insignificant remarks or events refer to him or have special meaning.

0
1
2
3
4
5
9

15.

Delusions of Being Controlled

The patient feels that his feelings or actions are controlled by some outside force.

0
1
2
3
4
5
9

16.

Delusions of Mind Reading

The patient feels that people can read his mind or know his thoughts.

0
1
2
3
4
5
9

17.

Thought Broadcasting

The patient believes that his thoughts are broadcast so that he himself or others can hear them.

0
1
2
3

4
5
9

18.

Thought Insertion

The patient believes that thoughts that are not his own have been inserted into his mind.

0
1
2
3
4
5
9

19.

Thought Withdrawal

The patient believes that thoughts have been taken away from his mind.

0
1
2
3
4
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9

20.

Global Rating of Delusions

This rating should be based on the duration and persistence of the delusions and their effect on the patient's life.

0
1
2
3
4
5
9

--

21.

Clothing and Appearance

The patient dresses in an unusual manner or does other strange things to alter his appearance.

0
1
2

3
4
5
9

22.

Social and Sexual Behavior

The patient may do things considered inappropriate according to usual social norms (e.g., masturbating in public).

0
1
2
3
4
5
9

23.

Aggressive and Agitated Behavior

The patient may behave in an aggressive, agitated manner, often unpredictably.

0
1
2
3
4
5
9

24.

Repetitive or Stereotyped Behavior

The patient develops a set of repetitive actions or rituals that he must perform over and over.

0
1
2
3
4
5
9

25.

Global Rating of Bizarre Behavior

This rating should reflect the type of behavior and the extent to which it deviates from social norms.

0
1
2
3

4

5

9

26.

Derailment

A pattern of speech in which ideas slip off track onto ideas obliquely related or unrelated.

0

1

2

3

4

5

9

27.

Tangentiality

The patient replies to a question in an oblique or irrelevant manner.

0

1

2

3

4

5

9

28.

Incoherence

A pattern of speech that is essentially incomprehensible at times.

0

1

2

3

4

5

9

29.

Illogicality

A pattern of speech in which conclusions are reached that do not follow logically.

0

1

2

3

4

5

9

30.

Circumstantiality

A pattern of speech that is very indirect and delayed in reaching its goal idea.

0

1

2

3

4

5

9

31.

Pressure of Speech

The patient's speech is rapid and difficult to interrupt; the amount of speech produced is greater than that considered normal.

0

1

2

3

4

5

9

32.

Distractible Speech

The patient is distracted by nearby stimuli which interrupt his flow of speech.

0

1

2

3

4

5

9

33.

Clanging

A pattern of speech in which sounds rather than meaningful relationships govern word choice.

0

1

2

3

4

5

9

34.

Global Rating of Positive Formal Thought Disorder

The frequency of this rating should reflect the frequency of abnormality and degree to which it affects

0

1

2

3

4

5

9

the patient's ability to communicate.

The scale of suicidal ideation

The scale of suicidal ideation consists of 19 items which can be used to evaluate a patient's suicidal intentions. It can also be used to monitor a patient's response to interventions over time.

Item	Response	Points
1. Wish to live	moderate to strong	0
	weak	1
	none	2
2. Wish to die	none	0
	weak	1
	moderate to strong	2
3. Reasons for living/dying	for living outweigh for dying	0
	about equal	1
	for dying outweigh for living	2
4. Desire to make active suicide attempt	none	0
	weak	1
	moderate to strong	2
5. Passive suicidal desire	would take precautions to save life	0
	would leave life/death to chance	1
	would avoid steps necessary to save or maintain life	2
6. Duration of suicide ideation/ wish	brief fleeting periods	0
	longer periods	1
	continuous (chronic) or almost continuous	2
7. Frequency of suicide	rare occasional	0

ideation	intermittent	1
	persistent or continuous	2
8. Attitude toward ideation/wish	rejecting	0
	ambivalent indifferent	1
	accepting	2
9. Control over suicidal action/ acting-out wish	has sense of control	0
	unsure of control	1
	has no sense of control	2
10. Deterrents to active attempt	would not attempt because of a deterrent	0
	some concern about deterrents	1
	minimal or no concern about deterrents	2
11. Reason for contemplated attempt	to manipulate the environment; get attention or revenge	0
	combination of desire to manipulate and to escape	1
	escape surcease solve problems	2
12. Method: specificity or planning of contemplated attempt	not considered	0
	considered but details not worked out	1
	details worked out and well-formulated	2
13. Method: availability or opportunity for contemplated attempt	method not available or no opportunity	0
	method would take time or effort; opportunity not readily	1

	available	
	method and opportunity available	2
	future opportunity or availability of method anticipated	2
14. Sense of "capability" to carry out attempt	no courage too weak afraid incompetent	0
	unsure of courage or competence	1
	sure of competence courage	2
15. Expectancy/anticipation of actual attempt	no	0
	uncertain not sure	1
	yes	2
16. Actual preparation for contemplated attempt	none	0
	partial	1
	complete	2
17. Suicide note	none	0
	started but not completed; only thought about	1
	completed	2
18. Final acts in anticipation of death	none	0
	thought about or made some arrangements	1
	made definite plans or completed arrangements	2
19. Deception or concealment of contemplated suicide	revealed ideas openly	0
	held back on revealing	1
	attempted to deceive conceal or lie	2

Scoring:

The total score for the 19 items is calculated.

Minimum score = 0

Maximum score = 38

Higher scores indicate greater suicidal ideation

References:

Beck AT Kovacs M Weissman A. Assessment of suicidal intention: The scale of suicide ideation. J Consult Clin Psychology. 1979; 47: 343-352.

Beck AT Steer RA Rantieri WF. Scale for suicide ideation: Psychometric properties of a self-report version. J Clin Psychology. 1988; 44: 499-505.

It has a reliability coefficient of 0.89. The interrater reliability coefficient was 0.83 ($p < .001$).

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THESIS

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ABBREVIATION

5- HIAA	-	5-Hydroxy Indole acetic acid
TPH Gene	-	Tryptophan hydroxylase gene
STP Gene	-	Serotonin transporter gene
ASPD	-	Anti – social personality disorder
DLPFC	-	Dorsolateral pre frontal cortex
SAPS	-	Scale for the assessment of positive symptoms
SANS	-	Scale for the assessment of negative symptoms
CDSS	-	The Calgary Depression rating Scale for Schizophrenia
BSIS	-	Beck's Suicide Intent Scale

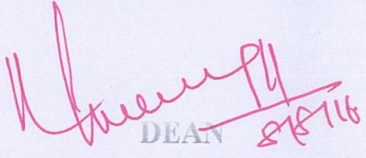
INSTITUTIONAL ETHICS COMMITTEE
GOVT.KILPAUK MEDICAL COLLEGE,
CHENNAI-10

Protocol ID. No. 22/2016 Dt: 20.06.2016
CERTIFICATE OF APPROVAL

The Institutional Ethical Committee of Govt. Kilpauk Medical College, Chennai reviewed and discussed the application for approval "STUDY OF SUICIDAL IDEATION IN SCHIZOPHRENIA – A CROSS SECTIONAL STUDY"- For Project Work submitted by Dr.A.Kumaresan, Post Graduate in MD (Psychiatry), Govt. Kilpauk Medical College, Chennai-10.

The Proposal is APPROVED.

The Institutional Ethical Committee expects to be informed about the progress of the study any Adverse Drug Reaction Occurring in the Course of the study any change in the protocol and patient information /informed consent and asks to be provided a copy of the final report.


DEAN 27/6/16
Govt.Kilpauk Medical College,
Chennai – 10.


31/8/16

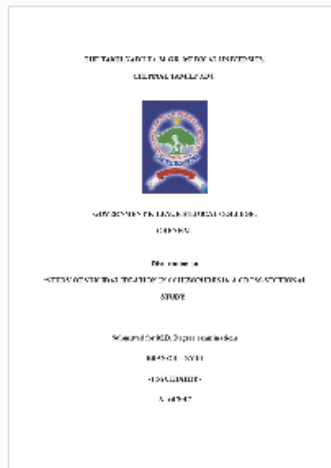


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Socio-economic status	Marital status	Type of family	Current suicidal ideation	Family H/O mental illness	Family H/O suicide attempt	Duration of illnesses	On treatment	H/O suicide attempt	H/O hospitalisation after attempt	Reason for attempt	Mode of attempt	Communication of attempt	Reason for ideation	SA PS score	SA NS score	CD SS score	Bec k's score	Scal e of suicidal ideation.
4	1	2	2	2	2	2	1	2						78	52	4		
4	2	2	2	2	2	1	1	2						80	55	3		
3	1	1	1	2	2	2	1	2						78	46	3		
4	1	2	2	2	2	3	1	2						85	46	4		
4	1	2	1	1	2	3	1	2					3	134	98	13		30
4	1	2	2	2	2	3	1	2						88	54	3		
4	2	1	1	2	2	3	1	2					2	112	78	9		27
4	1	1	2	2	2	3	1	1	1	2	1	2		145	98	18	14	
4	2	1	1	2	2	3	1	2					3	124	86	12		30
4	1	2	2	2	2	4	1	2						76	40	3		
4	2	1	1	2	2	3	1	2					3	136	96	13		31
4	1	1	1	2	2	3	1	2					2	130	90	12		29
4	2	2	2	2	2	2	1	2						78	43	3		

4	2	2	2	2	2	2	1	2						68	42	3		
4	1	2	1	2	1	4	1	2					3	12 8	84	12		29
3	2	1	1	1	2	2	1	2					1	12 7	85	11		26
4	2	2	2	2	2	2	1	2						78	43	2		
4	1	2	2	2	2	3	1	2						78	45	2		
4	2	1	1	2	1	3	1	2						74	38	2		24
4	1	2	2	2	2	3	1	2						74	42	2		
4	2	2	1	2	2	3	1	2					2	13 2	88	14		30
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4	2	1	2	2	2	2	1	2						74	34	2		
4	1	2	2	2	2	4	1	2						71	36	3		
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4	5	1	2	2	1	4	1	2						76	23	2		
4	2	1	1	2	2	4	1	2					2	13 2	98	15		30
4	1	2	1	2	2	4	1	2					3	12 2	91	12		22
4	1	2	1	1	1	3	2	2					1	12 4	88	14		24
4	2	2	2	2	2	3	1	2						82	33	2		
4	2	2	1	2	1	3	1	2					3	11 4	86	15		26

4	1	2	2	2	2	3	1	2						78	24	2		
4	2	2	1	1	2	3	1	2					3	12 3	93	16		26
4	1	2	2	2	2	4	1	2						76	32	2		
4	1	2	2	2	2	4	1	2						78	33	2		
2	2	1	1	2	2	4	1	1	1	3	4	2		14 8	98	17	12	30
4	1	2	1	2	2	4	1	2						73	37	2		
4	1	2	2	2	2	4	1	2						68	36	3		
4	1	2	1	1	2	4	1	2					2	11 2	89	10		27
4	1	2	2	2	2	3	1	2						74	43	5		
4	1	2	1	1	2	3	1	2					1	12 3	91	12		30
4	1	1	2	2	2	2	1	2						79	41	3		
4	1	2	2	2	2	4	1	2						78	41	4		
3	1	2	2	2	2	2	1	2						80	49	4		
4	1	2	2	2	2	3	1	2						84	45	4		
4	1	2	2	2	2	4	1	2						80	47	4		