

Dissertation titled

**“ATTITUDE TOWARDS MEDICATION AND REASON
FOR DRUG NON- COMPLIANCE IN PATIENT
WITH SCHIZOPHRENIA”**

A CROSS SECTIONAL STUDY

Submitted in partial fulfilment for

M.D. DEGREE EXAMINATION

BRANCH – XVIII (PSYCHIATRY)

Department of Psychiatry

Madras Medical College & Rajiv Gandhi Government General Hospital

Chennai-600 003



THE TAMILNADU Dr. M.G.R. MEDICAL UNIVERSITY

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APRIL 2017

CERTIFICATE

This is to certify that the dissertation titled, “**ATTITUDE TOWARDS MEDICATION AND REASON FOR DRUG NON- COMPLIANCE IN PATIENT WITH SCHIZOPHRENIA**” - A CROSS SECTIONAL STUDY is the bonafide work of **Dr.SHYAMPRAKASH.J**, in part fulfillment of the requirements for the M.D. Branch – XVIII(Psychiatry) examination of the Tamil Nadu Dr.M.G.R. Medical University, to be held in April 2017.

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CERTIFICATE OF GUIDE

This is to certify that the dissertation titled, “**ATTITUDE TOWARDS MEDICATION AND REASON FOR DRUG NON- COMPLIANCE IN PATIENT WITH SCHIZOPHRENIA**” is the original work of **Dr.SHYAMPRAKASH.J**, done under my guidance submitted in partial fulfillment of the requirements for M.D. Branch – XVIII [Psychiatry] examination of The Tamilnadu Dr. M. G. R. Medical University, to be held in April 2017.

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DECLARATION

I, **Dr. SHYAMPRAKASH.J**, solemnly declare that the dissertation titled, “**ATTITUDE TOWARDS MEDICATION AND REASON FOR DRUG NON- COMPLIANCE IN PATIENT WITH SCHIZOPHRENIA**” is a bonafide work done by me at the Madras Medical College , Chennai, under guidance and supervision of **DR.A.KALAICHELVAN, M.D,D.P.M**, professor of psychiatry, Madras medical college. The dissertation is submitted to The Tamilnadu Dr.M.G.R Medical University towards part fulfillment for M.D branch XVIII (psychiatry) examination.

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To
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Dear Dr.J.Shyamprakash,

The Institutional Ethics Committee has considered your request and approved your study titled **"A STUDY ON ATTITUDE TOWARDS MEDICATION AND REASON FOR DRUG NON-COMPLIANCE IN PATIENT WITH SCHIZOPHRENIA "** NO.16032016.

The following members of Ethics Committee were present in the meeting hold on **01.03.2016** conducted at Madras Medical College, Chennai 3

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We approve the proposal to be conducted in its presented form.

The Institutional Ethics Committee expects to be informed about the progress of the study and SAE occurring in the course of the study, any changes in the protocol and patients information/informed consent and asks to be provided a copy of the final report.

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INTRODUCTION

Schizophrenia is chronic and disabling illness. During the course of illness Patient have recurrent relapse. Relapse leads to acute exacerbation of psychotic illness leads to harm to themselves and others, relationship problem with family members, impairment on education, employment problem which leads further stigmatization illness in community. According to WHO⁽¹⁾ 2001, "Schizophrenia is a severe form of mental illness affecting about 7 per 1000 adult globally. Although incidence is low, the prevalence of schizophrenia is high as it is long term chronic illness"⁽²⁾ and American psychiatric association⁽³⁾ 2006 suggested "Neuroleptic medication plays vital role in management of schizophrenia and symptom reduction. For successful management of schizophrenia requires long term treatment for prevent relapse". In chronic illness, Attitudes towards medication play important role in the continuation of treatment and regular follow up. Antipsychotic medication is corner stone for treating schizophrenic patients and its effectiveness is evident in acute phase and maintenance phase of treatment. On other hand general public view negatively about antipsychotic medication they believe the risk of such drugs out weight the possible benefit of drug. Negative attitude about medication in patient with schizophrenia which will create negative impact on treatment compliance and adverse effect of the antipsychotic medication such as extra pyramidal symptoms contribute to poor public perception. Tolerance of adverse side effects by patients is influenced, among others, by a good doctor-patient relationship, the attitudes of

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INTRODUCTION

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PAGE 1 OF 28

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CONTENTS

SL.NO	TOPIC	PAGE NO.
	Abbreviations	
1	Introduction	1
2	Review of Literature	6
3	Aims and objectives	32
4	Null Hypothesis	33
5	Methodology	34
6	Results and observation	40
7	Discussion	74
8	Conclusion	84
9	Limitations	85
10	Future directions	86
	Bibliography	
	Annexure	
	Master Chart	

ABBREVIATION

WHO	–	World health organization.
APA	-	American psychiatric association.
PANSS	-	Positive and negative symptoms scale.
ROMI	-	Rating of medication influence scale.
DAI	-	Drug attitude inventory.
ICD	-	International classification of disease.
BPRS	-	Brief psychiatry rating scale
GAS	-	Global assessment scale.
CI	-	Confidence interval.
RCT	–	Randomized control trial.
OR	-	Odds ratio.
CPR	-	Cumulative possession ratio.
MPR	-	Medication possession ratio.
PDC	-	Proportion of days cover.
NR	-	Not reported.
CFR	-	Calculated compliant fill rate.
CMGR	-	Cumulative mean gap ratio.
CATIE	-	Clinical antipsychotic trial of intervention effectiveness.
N	-	Number of the patients
A	-	Age of the patients

INTRODUCTION

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In chronic illness, Attitudes towards medication play important role in the continuation of treatment and regular follow up. Antipsychotic medication is corner stone for treating schizophrenic patients and its effectiveness is evident in acute phase and maintenance phase of treatment.

On other hand general public view negatively about antipsychotic medication they believe the risk of such drugs out weight the possible benefit of drug.

Negative attitude about medication in patient with schizophrenia which will create negative impact on treatment compliances and adverse effect of the

antipsychotic medication such as extra pyramidal symptoms contribute to poor public perception. “Tolerance of adverse side effects by patients is influenced, among others, by a good doctor patient relationship, the attitudes of prescribing doctors, and their ability to explain the proposed treatment in an understandable way and to address patients' concerns”.⁽⁴⁾

Compliance, adherence, concordance all are common term used in psychiatry regarding regular follow up and continuation of medication. Effective management of schizophrenia depends on patient needs to be requiring taking medication on long term basis.

Compliance is defined as person behavior in the terms of taking medication, following the diets, regular schedule appointment for follow up and executing life style changes. Drug compliance is essential condition for successful outpatient management. Outpatient attendance is most important in clinical and economic terms, When compare other Specialty, rate of non attendance at psychiatric clinics is twice.⁽⁵⁾

In 2004 Jim rosack ⁽⁶⁾ published article in American psychiatric association (Psychiatric news) regarding education on medication adherence will reduce cost; improve outcome. He quoted about study done by jeste and his colleagues regarding adherence to treatment with Antipsychotic Medication directly impacts health expenditures and define risk factor that leads to Non-adherence. It was funded by national institute of mental health; published in April 2004 in American Psychiatry Association (psychiatric news). In this

adherence to medication defined in terms of Refill Rate. Refill Rate defined as proportion between numbers of day's patient intake prescribed Medication to total Number of day's medication advice to patient.⁽⁷⁾⁽⁸⁾

For example drug prescribed to patient 8 weeks duration, but he failed to report at end of the 8th week he reported at 10th week therefore patient is 80 % adherence to medication. Based Upon this adherence rate is calculated categories in to 4 terms. 1) If the patient filled prescription 80% to 110% of their expected refill rate is termed as adherence to medication 2) if the patient filled Prescription is 50% to 80% of their expected refill rate is termed as partially adherence to medication 3) If the patient filled prescription less than 50% of their expected refill rate is termed as non adherence to medication 4) if the patient filled prescription over 110 % of their expected refill rate is termed as Excess fillers⁽⁸⁾⁽⁷⁾.

In Indian set up due to lack of community care and lack of primary level care for Psychiatric illness risk of relapse rate is higher when compare to other countries. In Indian majority of Patient living with family and family supervise their drug intake. During acute phase of illness majority of patients not willing to take medication so that family member administrate drug via mixed with food and patient involuntary taking medication , once severity of symptoms start to decrease, patient will start to take medication regularly of their own⁽⁹⁾.

To improve treatment stateragies in schizophrenia it is essential to find out obstacles and patients have to reach medication, find of reason for poor

drug compliance in patient with schizophrenia. Reason for poor drug compliance is analyzed in:

Patient related factors

Environmental related factors.

Drug related factors.

In patient related risk factor, patient attitude towards medication to be find out, Whether patient have positive attitude towards medication or negative attitude towards medication to be find out, Lack of insight(awareness about one's own illness and treatment to be measure), Severity of illness to be measure (positive symptoms and negative symptoms), Past and present h/o substance use to be consider and other variable factor age, gender, ethnicity, marital status, education level are to be consider in patient related factor.

In environmental related factor poor therapeutic alliance, less outpatient contact, Inadequate discharge planning, poor after care environment, unstable living arrangement, poor family Involvement during hospitalization, stigma about illness, non availability drug at nearest health care facilities are taken to be consideration.

In medication related factor side effect, oral vs. depot administration of medication, number of tablet taking per day and polypharmacy are taken to be consideration.

Therefore multiple factor contributing reason for drug poor compliance from patient aspect, environmental aspect, and medication aspect and it is necessary to improve treatment compliance in schizophrenia to prevent future relapse decrease disabling condition in schizophrenia. Reason for drug poor compliance is important to sort out is main objective of the study.

REVIEW OF LITERATURE

According to WHO⁽¹⁾ 2003, “Despite critical importance of medication, non compliance to prescribed drug treatment has been recognized as a important problem and almost it is most challenging aspect of treating schizophrenic patients”.

CATIE study tells that seventy four percent of patients discontinue medication within eighteen months, main reason for this insufficient efficacy and intolerable side effect.

Robbison et al.⁽¹⁰⁾ conducted prospective study follow up patients for 5 years duration about Relapse after first episode of schizophrenia. Study conclusion shows that risk diminished by maintains of antipsychotic drug treatment and 50% of the patient who did not attend regular appointment did not use drug regularly⁽¹¹⁾. In 2007 Kane et al published article regarding treatment strategies to prevent relapse and encourage remission state that improving medication adherence is the key component in the management of schizophrenia⁽¹²⁾.

Despite this medication recommendation, there is a high dropout rate from continuous medication. Studies done by Johnson 1997; Axelrod and Wetzler 1989 suggested that non compliance rates are reported to be between 10 percent and 60 percent. Irregularity in taking antipsychotics is of secondary importance , because the persistence of medication of efficacy , or the

therapeutic windows of antipsychotic , is sufficient to prevent immediate relapse even if some tablets not taken⁽¹³⁾.

Gabel and pietzcker⁽¹⁴⁾ reported that more than 90 percent patients with schizophrenia have undergo relapse and finally difficult to attain full recovery. Prophylactic treatment will start immediately after first episode helps to prevent relapse and also it should continue for 5 years duration or more⁽¹⁵⁾.Patients with schizophrenia who are on neuroleptics Medication, non compliance rate may occur up to50 percent (bebbington et al1995)⁽¹⁶⁾ Even it may be higher up to 73% (Razali and yahya 1995) ⁽¹⁷⁾.

According to (Johnson et al 1983; Rajkumar and thara 1989) study about Medication non compliance in schizophrenia, suggested that schizophrenic patients are more vulnerable to relapse(18). Therefore it is necessary to improving medication compliance to reduce morbidity, suffering of patients, Care giver burden; in addition decrease cost of rehospitalization ⁽¹⁹⁾.

It is important to find out association between drug compliance with depot injection vs. Oral Medication. In 1996 depot neuroleptics medication was first introduced in the United Kingdom.

ADVANTAGE OF DEPOT PREPARATION

- 1) Simplifying medication administration
- 2) Regular review, monitoring, and patient contact is better than oral medication.

- 3) Reduce bioavailability problem of oral antipsychotics medication.
- 4) Resulting in more constant serum levels .

The majority of the studies also suggested that depot medication increases Compliance (Renton et al.1985; Davis et al. 1994; Johnson and Freeman 1973; curson et al. 1985) .According to zygmunt et al⁽²⁰⁾ 2002 , Antipsychotic medication effective for schizophrenia but patient do not comply withthe prescribed medication . Therefore result in significant decline in the promise of antipsychotic medication and rate of medication non adherence after discharge from hospital following 1 year is 50%. prevalence of medication non adherence in schizophrenia is 50 percent⁽²¹⁾.

Gray et al 2002; the word “compliance” replaced by “concordance”, Non compliance with medication means failure on the part of client to follow recommended medication by mental health professionals and concordance is patient right and need for information; it is two way communication between client and clinician and involves in decision making such as stopping antipsychotic medication even if clinician do not agree with decision⁽²²⁾.

Intolerable side effect to antipsychotic medication, cost of medication, psychotic explanation such as delusion and hallucination are major reason for drug non compliance in patient with schizophrenia (kumar and Sedgwick et al 2001). Consequence of the drug noncompliance in schizophrenia include frequent relapse , poor outcome,and poor quality of life for patient, increase care giver burden, increase financial burden to society ⁽²¹⁾. In 2008 Llorca,

severity of illness, treatment characteristics, and external environmental factor such as therapeutics support are potential factor for non adherence in patient with schizophrenia⁽²³⁾.

According to Liu seifert et al⁽²⁴⁾, reported about best predictor for good adherence is improvement in positive symptoms, hostility and depressive symptoms. Negative impact of drug non compliances in schizophrenia leads to relapse, rehospitalization, difficulty in achieve remission and suicide attempts⁽²⁵⁾. In 2007 Byerly et al⁽²⁶⁾, reported that drug non compliance can have result in negative impact on patients health and as well as society. Therefore reducing non adherence to neuroleptics medications has the necessary to reduce severity of illness and improve the quality of life in patients with schizophrenia as well as prevent further acute psychotic episodes.

National institute of mental health reported about high prevalence of medication non adherence in psychiatry population, it recommended further inquiry in to all aspect of this problem. One of the main key tasks of this research agenda is to find out patient characteristics associated with drug non adherence, analyzing impact on drug adherence on clinician and patient alliance , and validating measure of adherence and designing and evaluating intervention to change adherence behavior .

According to van putten et al. 1981 conducted prospective study subject number of sample 63 who are in inpatient care, risk factor measure by using subjective response to medication (thiothixine) based on 4 question about

reaction assessed after 4 and 24 hours after test dose. Adherence measures dichotomous rating, based on immediate and eventual drug refusal, found out 30% non adherence and patient related risk factor for non adherence dysphoric initial response to medication⁽²⁷⁾. In 1983 Hogan et al, conducted cross sectional study subject number around 150 done in outpatients care, risk factor assessed by using self report scale of experience related to medication. Adherence measures about clinician rating of adherence based on prior year, non adherent if habitual to occasional refusal of medication, found out 54% non adherence. Result suggested about patient related risk factor is more negative subjective response to medication. There is no association found out about knowledge or belief about medication⁽²⁸⁾.

In 1984 Prospective study conducted by caton et al, with 119 sample, medication adherence measure by using chart reviews, interviews of patient and hospital staff regarding hospitalization, level of psychopathology adequacy of discharge planning to measure risk factor for non adherence and rated adherence as very compliant, moderately compliant and non compliant, found out 47% non adherence. Study result suggested about environmental risk factor for non adherence is inadequate discharge planning⁽²⁷⁾.

In 1984 van putten et al, prospective study with number of sample subject 105, and risk factor measure by using subjective response to medication (thiothixene or haloperidol) based on 4 questions about reaction, assessed shortly after test dose and weekly for next 4 weeks. Adherence measure dichotomous rating based on cooperation with continued medication treatment

in the hospital, found out 26% non adherent, patient related risk factors of non adherence is dysphoric initial response to medication⁽²⁹⁾.

A Retrospective study with number of sample 60 done by zito et al 1985, Study sample taken as inpatient among it 60% high school graduates. Risk factor is measure by review of nursing summaries, psychiatrist's notes, order sheet over 1 month period. Adherence is measure by patients who refused medication (N=30) matched and compare with who did not refuse with medications (N=30). Result found out 50 % non adherent, Patient related risk factor analyze by comparison made between bipolar or schizoaffective disorder with schizophrenia. Result of the study found out no association when matched sample for same age and gender⁽³⁰⁾.

A Cross sectional Study was conducted in outpatient department, with number of patient 107 age around 42 in that 56% white and 44% African American, with sample consist of 69 % high school graduate or greater. Risk factor for adherence measure by structured interview assessing components of health belief model: severity, susceptibility, benefits, barriers, and cues to action. Adherence measure: self reported compliance: (a) reported compliance (ever neglecting to follow prescribed regimen, 0-9 score) and (b) reported errors (any of 6 specific types of error once during week prior to interview , 0-6 score). Result of study show (a) mean compliance 7.6 out of possible 9 (b) mean reported errors 0.74 out of possible 6. Patient related risk factor suggested 20% of variance in reported compliance explained by beliefs about susceptibility, benefits, and cues to action.17% of variance in reported errors

explained by beliefs about susceptibility, benefits and severity. Study not reported about medication and environmental risk factor for compliances (kelly et al 1987)⁽³¹⁾ .

According to bartko et al, 1988 conducted longitudinal study with number of population 58 age around 42 . Sample was taken outpatient department who are on taking depot antipsychotic. Risk factor for adherence measure by 1) brief psychiatry rating scale (BPRS), 2) Global assessment scale (GAS), 3) clinical self rating scale (self report). Adherence measures: dichotomous rating: non adherence based on missed appointments and deliberate discontinuation of injection treatments in the year following discharge. Result of the study found to be 54% non adherent, patient related risk factor lower self reported depressive symptoms, increased grandiosity , lack of feeling illness , lack of insight. There is no association found on other part of BPRS ⁽³²⁾ .

Drake et al, 1989 conducted prospective study about influence of alcohol on drug compliances with number of patient about 115 age around 38, sample was taken from outpatient department who are 66% high school graduates. Risk factor for adherence was measure by clinician rating scale of alcohol and substance use. Adherence measure clinician ratings of adherence on 5 point scale for 6 month duration, Study found out 26% non adherent, Patient related risk factor suggested heavy alcohol use ⁽³³⁾ .

In 1989 case series published with number of patient 52, ages around 34. Sample was taken from both inpatients and outpatients 54% voluntarily admitted, risk factor for adherence measure by using insight and treatment attitudes questionnaire (ITAQ), interview scored 0 to 10 for degree of insight. Adherence measure : nurse ratings of adherence every 2 week: 1= active compliance, 2=passive compliance, 3= resistance, 4= overt refusal. Result shows that mean adherence in hospital: 1.35 at initial assessment and 1.23 at final assessment. Patient related risk factor found to lower insight rating on ITAQ, Medication related and environmental related risk factor for relapse not reported. (Mc evoy et al.) In 1989 mc envoy et al, done retrospective study , classification of information from follow up previous study, Risk factor measure by insight and treatment attitude questionnaire (ITAQ), interview scored 0 to 10 for degree of insight, also rated after care environment by follow up patient at 30 days after discharge, 2^{1/2} year and 3^{1/2} year duration ,Result of study suggested that score adherence at 30 days post discharge , 2^{1/2} year and 3^{1/2} year later; adherence rate with prescribed medication ,on 30 day duration 25% non adherent and long term observation 47% non adherent. Study found out patient related risk factor lower insight and environmental related risk factor worse after care environment, medication related risk factor for relapse not reported^(34,35).

According to pan and tantam conducted cross sectional study (regular vs irregular attenders at depot clinics), conducted study at outpatients department who are all on taking depot injection and number of sample was taken around

80, ages around 38 and measure risk of medication adherence by using interviewed regarding opinion about medication health belief questionnaire, psychopathology scale, abnormal involuntary movement scale. Adherence measure: 40 regular attenders receiving injection regularly for at least 12 month matched with 40 irregular attenders who missed two or more appointments in last 12 months, Study result shows 50% non adherent . Patient related risk factor are more frequent depression, there is no association found age, gender, health belief, psychotic symptoms ,severity of extra pyramidal symptoms and living situation⁽³⁶⁾.

In 1990 prospective study two years duration with number of sample 143 done by frank and gunderson, Adherence measure by dichotomous rating: non adherent if changed own medication regimen, took less than full dosage, for shorter duration, on a different schedule than prescribed. Study result found out 61% non adherent over course of 2 years study, Poor or fair therapeutic alliance found as medication and environmental related risk factor⁽³⁷⁾.

A Retrospective study conducted with sample taken from inpatients 77% high school or more education and number of sample taken (N= 42) age about 35. Risk factor for medication non adherence measure by self administrated alcoholism screening test. Adherence measure by dichotomous rating based on self report, chart review, information from significant others, study result found out 72% non adherent, no association found out with alcohol use, occurrence of or total number of side effects. (Pristach and Smith, 1990)⁽³⁸⁾.

In 1992, longitudinal study conducted at outpatient department who taking depot antipsychotic, with number of sample 61 and age around 36. Risk factor was measure by interview regarding insight and attitudes, Adherence measures rated adherence as good, average, poor on the basis of inspection of records and analysis of urine, result found out 41% poor or average medication adherence at 1 year and 49% poor or average medication adherence at 2 year. Patient related risk factor for non adherence negative attitude towards medication, previous non adherence, and involuntary hospitalization, there is no association found on age, gender, ethnicity, employment, belief in having been unwell during admission or in becoming ill again , mini mental state examination score , psychotic symptoms , mood change , thought disorder. Medication and environmental related risk factor for non adherence found found to be: living alone, presence of akinesia and there is no association found with number of drugs being taken, number of doses per day, depot vs oral , akathisia, drowsiness, tremor, dystonia, destination on discharge, treatment setting (Drake et al, 1991).⁽³⁹⁾

According to david et al, 1992 conducted cross sectional study with number of sample taken 91; age around 31, conducted in both inpatients and outpatients set up. Risk factor measure by using present state examination, schedule for assessment of insight. Adherence measures adherence rated 0 to 4 (measure within insight scale). Patient related risk factor for non adherence found to be less ability to recognize illness and there is no association found with ability to relabeled delusions and hallucination as abnormal. Study not

reported about medication and environmental related risk factors for non adherence⁽⁴⁰⁾.

A Cross sectional study conducted with number of sample has taken 42 and age around 36, conducted in inpatient set up. Risk factor measure by using questionnaire about risk factor for non adherence and perceived benefit of medication. Adherence measures interview assessing % of medications taken in month prior. Study result found out 43% took 50% or less of medication in month prior. Patient related risk factors for non adherence are lower endorsement of symptom relief and indirect benefits (e.g., staying out of hospital, allowing patient to make friends) Medication and environmental related risk factor for non adherence is no association found with side effects, difficulty obtaining medication, reinforcement for not taking medication (adams and howe, 1993).⁽⁴¹⁾

According to Amador et al, 1993, cross sectional study, risk factor for non adherence is measure by using scale to assess unawareness of mental disorder, rating of adherence as “active compliance”, “passive compliance”, “resistance,” “over refusal”. Patient related risk factor is moderately correlated with poorer awareness of mental disorder and current awareness of effect of medication (sub scales of instrument).⁽⁴²⁾

A Retrospective study with large number of sample 256 age around 36, risk factor measure using chat review with demographic information. Adherence measures: psychiatrist recall of patients who were very compliant,

i.e, persistent refusal of medication while in hospital. Result of the study found out 17% non adherence and patient related risk factors for non adherence male gender, afro Caribbean ethnicity .No association found with age (sellwood and tarier ,1994).⁽⁴³⁾

According to razali and yahya 1995, retrospective study contain sample size about 225 and age most of them less than 30, years conducted in outpatients set up who are all taking depot antipsychotic. Risk factor measures by using patient and family interviews, patient questionnaires and chart review. Adherence measure dichotomous rating: non adherent if missed more than 2 doses over a period of 2 weeks and defaulted on more than 1 follow up visit. study found out 73% non adherent and Patient related risk factor for nonadherence found to be treatment duration more than 5 year, negative attitude towards medication and no association found with age, gender, income, view of past severity of illness. Medication and environmental related risk factor found to be once or twice daily dosage (vs. 3 times daily), supervised medication usage . Study found out no association with family involvement in follow up⁽¹⁷⁾.

In 1996 , owen et al, done longitudinal study, risk Factor are assessed by using baseline and 6 month follow up: BPRS, Information about drug and alcohol abuse and living arrangements, observed side effects. Adherence measures are dichotomous rating based on ratings of patients and family members about degree of antipsychotic adherence on 5 point scale: non adherent if missed several times, took fewer than half of prescribed doses or

stopped altogether. Informant (family members or health professional) also reported on patients adherence using same scale. Result found out baseline: 36% non adherent and on 6 month follow up 15% non adherent. Patient related risk factor for non adherence found to be substance abuse and no association found with gender and ethnicity. Medication and environmental related risk factor found to be less outpatient contact, fewer observed side effects and no association found with stability of living arrangement⁽⁴⁴⁾.

According to Dixon et al , 1997 conducted cross sectional (for baseline assessment of adherence) ,conducted in outpatients with all Patients homeless at baseline, 73% diagnosed with substance use disorder. Risk factor for non adherence measures by using BPRS, patient/clinical/family interviews. Adherence measure patients deemed to non adherence if they missed medication more than 1 week of medication (at baseline). Result found out suggested that baseline 71% non adherent, patient related risk factor for non adherence found to be higher psychotic symptoms subscale and total BPRS scores and no association found with gender, ethnicity, marital status, perceived medication efficacy, inpatient status, substance abuse. Environmental and medication related risk factor for non adherence not reported⁽⁴⁵⁾.

A Cross sectional study conducted by ruscher et al 1997, Study sample taken from both inpatients and outpatients who are all 90 % high school education or greater. Risk factor for non adherence is measure by structured interview (attitudes about medications questionnaire) to asses' attitude about medication. Adherence measures by using structured interview assessing

history of adherence, based on patients responses to questions about changing or stopping medication without discussing with psychiatrist. Study result found out 66% changed way they were taking medications and 47% had stopped to taking medication at some points. Patients related risk factor for non adherence measures about higher education, opposition to idea of taking medications, belief that medication not working properly, inpatient status and no association found with age, gender, marital status, diagnosis other attitudes toward medications (both positive and negative). Medication and environmental related risk factor found to be side effect and no association with current medication⁽⁴⁶⁾.

In 1998 Duncan and rogers, done cross sectional study, find out association of young age , severity of illness such as hallucination and delusion with drug non compliance, risk factor measures schedule for affective disorders and schizophrenia. Adherence measures rated by staff nurse as “compliant” (took medications as prescribed 80% or more of the time), “noncompliant” (less than 50% of the time), or “mixed” (between 50% and 80% of the time). Result found out 42% noncompliant, 13% mixed and patient related risk factor for non adherence young age , severity of hallucination and delusion , subjective anger⁽⁴⁷⁾.

In 1998 cross sectional study conducted in outpatients who 31% taking depot antipsychotic. Risk factor measures by using drug attitude inventory, insight scale (self report), schedule for assessment of insight (interview). Adherence measures: adherence rated on 4point scale: no or consistently

irregular, frequently irregular, rather irregular, or regular. Result found out 20% consistently or rather irregularly non adherent. Patient related risk factor for non adherence found to be more negative subjective response to medications, lower scores on “recognition of need for treatment” subscale of insight scale and no association found with age, duration of illness, number of admissions, attitudes toward medication or overall insight. In Medication and environmental risk factor analyse relationship between higher neuroleptics dose, mode of administration (oral vs. depot) neuroleptic use and no association between adherence and dose of medication and mode of administration (garvan et al)⁽⁴⁸⁾.

According to heyscue et al. 1998, retrospective study with number of sample 98 , conducted study outpatients who are taking depot antipsychotic, risk factor for non adherence measure evaluation of urban (N=75) vs. rural (N=23) location and socio demographic characteristics . Adherence rating by using chart review, number of kept appointments divided by number of scheduled appointments over previous year. Result found out 4% non adherent and patient related risk factor for non adherence is shorter duration of illness , history of substance abuse and no association found with age, gender, ethnicity, education. Medication and environmental related risk factors for non adherence found to be no association with geographic location, having a case manager, type of transportation used⁽⁴⁹⁾.

Corriss et al, 1999 done cross Sectional study find out association with clinical variable i.e. severity of psychotic symptoms with drug non compliance risk factor for non adherence Measures rating by clinical staff: Behavior and symptom identification scale (sub scales on psychosis, depression/anxiety, impulsive/addictive behavior, relation to self and others, daily living skills), working alliance inventory. Adherence measures: rated by clinician on 4 point scale: “active compliance,” “passive compliance”, “resistance,” and “overt refusal”. Patient related risk factor for non adherence found to be more severe Psychotic symptoms, poor sense of relation to self /others and medication and environmental related risk factor for non adherence found to be low degree of agreement between patient and therapist on task of treatment⁽⁵⁰⁾.

In 1999 cross sectional study by smith et al, found no association with positive and negative symptoms, depression, neurocognitive measures and drug non compliances with number of sample 46 and age around 39,Conducted in outpatients departments. Risk factor for non adherence Measures by using scale to assess unawareness of mental disorder, scale for the assessment of positive symptoms, scale for assessment of Negative symptoms, BPRS, neurocognitive battery. Adherence measures: Rated using 100-points visual analog scale (0=no adherence, 100=perfect adherence) for adherence during two weeks after hospital discharge and percentage of non adherence not reported. Patient related risk factor for non adherence found to be poor insight regarding current and past symptoms and no association with positive and negative symptoms,

depression, neurocognitive measures. Medication and environmental related risk factor for non adherence not reported⁽⁵¹⁾.

Cabeza et al, 2000 done retrospective study found out association between attitude towards medication and drug non compliances, also find out association between typical and atypical antipsychotics, with number of sample 60 and age = 35, conducted in inpatients who are 27% high school graduates with 53% with duration of illness greater than equal to 6 years. Risk factor for non adherence measures by using interviews by psychiatrists prior to discharge from hospital, drug attitude inventory, BPRS, GAS. **Adherence measures :** adherence over prior year rated as adequate, irregular (taking medication in different way from prescribed or missing appointments), or drop outs. Patient related risk factor for non adherence found to be less positive attitudes towards medications, there is no association found with use of typical vs. atypical medication⁽⁵²⁾.

In one prospective study there is strong association between older age, African American (possibly secondary to increased weight gain vs. white subject), substance abuse and also found out association with haloperidol vs. clozapine its association with drug non compliance, with large number of sample size N=423 and risk Factor measures by using positive and negative syndrome scale, Heinrichs– carpenter quality of life scale, barnes akathisia scales, abnormal Involuntary movement scale, simpson-angus scale for extrapyramidal syndromes. Adherence measures: medication continuation measured as the number of weeks of participation in double blind treatment

weekly pill counts performed. Result of the study shows mean SD weeks of participation: clozapine 35.5 + or – 19.9 vs. haloperidol 27.2 + or – 20.2 and no difference in pill counts between groups. Patient related risk factor for non adherence found to be older age, African American (possibly secondary to increased weight gain vs. white subject), substance abuse history. Improved adherence: reduction in psychopathology, improved quality of life and no association with education level found out. Medication and environmental related risk factor for non adherence found to be more for haloperidol (haloperidol > clozapine) (by duration of study participation) and clozapine is equal to haloperidol for non adherence as determined by pill count. Improved adherence: receiving public support and there is no association found with reduction in side effects (beyond effect of taking clozapine) (rosenheck et al, 2000)⁽⁵³⁾.

According to grunebaum et al, 2001 conducted retrospective study with number of sample consist of 74 and age around 47. Study was conducted in outpatients department supported patients with residential housing facilities. Risk factor for non adherence measures by using medication supervision status, regimen complexity, patient's opinion about antipsychotic, global assessment of function (GAF), and substance abuse. Adherence measures total number of days in the past month in which patient did not take antipsychotics. Patients related risk factor non adherence found to be negative views about medication. Trend: lower GAF scores and there is no association found with age, gender, ethnicity, diagnosis, substance use. Medication and environmental related risk

factor for non adherence found to be less medication supervision, increased medication regimen complexity⁽⁵⁴⁾.

In 2001 Linden et al. prospective study in Schizophrenia with number of sample 122, key Potential positive factors including Physician's judgment on lack of Willingness of the patient to cooperate ($p < 0.001$), idiosyncratic assumptions ($p < 0.05$) and key potential for negative factors including Older age ($p < 0.05$), longer duration of illness ($p < 0.01$), trust in the effectiveness of medication, less tendency to feel responsible for their illness⁽²⁾ and Svarstad et al. during year 2001 done retrospective database analysis in Schizophrenia/schizoaffective/bipolar disorder, with large sample size 619 and definition of adherence is describe as Irregular users if they had one quarter or more without a claim, finding suggested that Rehospitalizations (irregular users versus regular users): ODD RATIO 1.99 (95% Confidence interval 1.12–3.54) ($p < 0.05$)⁽⁵⁵⁾.

Valenstein et al. explained drug compliance in medication possession ratio (MPR), conducted retrospective database analysis Schizophrenia/schizoaffective disorder With huge number of sample around 67,079. Adherence is described as Poor adherent if "Medication possession ratio $< 80\%$ Good adherence, if Medication possession ratio from 80% to 110% Excess medication fills, if Medication possession ratio $> 110\%$, finding suggested that Hospitalization rate by Medication possession ratio: 37.1% for Medication possession ratio between 0 and 10% , 8.3% for Medication possession ratio between 90% and 100% , 28.4% for Medication possession ratio between 120%

and >130% OR for Medication possession ratio < 80%: 2.4 ($p < 0.001$); Odd Ratio for Medication Possession ratio > 110%: 3.0 ($p < 0.001$)” .(56) Study finding also suggested that Patients with poor compliance were 2.4 times as likely to be admitted during the study years when compare with patients with good adherence and p value found to be significant ($p < 0.001$). On analysis of inpatients study result reported that poor compliances had more total psychiatric Inpatient days (mean of 33 days) when compare with patients with good adherence (mean of 24 days) and p value found to be significant ($p < 0.001$)⁽⁵⁶⁾.

A Prospective study by Loffler et al. [2003], Suggested key potential for negative factor: “Subjective reasons for non Compliance include: drug side effects found to be (50%), lack of acceptance of the need of antipsychotic treatment found to be (40%), lack of insight found to be (27%)” and key potential for positive factor: “Subjective reasons for compliance include: relapse prevention found to be (88%), perceived benefit from medication found to be (79%), positive relationship with a therapist found to be (41%)”.(57) similar prospective study Hudson et al. [2004] Suggested key potential for negative factors: “stigma of taking medications, drug side effect , forgetfulness, poor social support (significance level NR), There is significant association found with severity of illness higher PANSS total score ($p = 0.05$), lower education level ($p = 0.02$), comorbid substance abuse ($p = 0.01$) and p value found to be significant”⁽⁵⁸⁾.

According to Rettenbacher et al. [2004] conducted Cross-sectional (interview) in Schizophrenia with sample size 61, in this study potential positive factors found to be “Subjectively experienced positive effect on illness ($p = 0.093$) and everyday life ($p = 0.072$), psychiatrist inquiring medication intake ($p = 0.074$), more negative symptoms ($p = 0.044$), psychological side effects ($p = 0.004$)”⁽⁵⁹⁾.

Weiden et al. [2004] conducted Cross-Sectional (postal survey) in Schizophrenia with large number of sample $N=304$, “Obesity found to be major factor and (Odd Ratio = 2.5; 95% Confidence interval 1.1–5.5) study also reported patient subjectively distress from Weight gain” (60). Valenstein et al. [2004], retrospective database analysis in Schizophrenia or schizoaffective Disorder with huge number of sample around 63,214. “Potential negative factor : There is significant association found with Ethnicity (African-American) (OR 2.38; 95% CI 2.28–2.49), younger age less than 45 (OR 1.31; 95% CI 1.25–1.37) and Potential positive factor: There is significant association found with change of antipsychotic atypical agent (clozapine) ($p < 0.001$), switching from typical to atypical therapy ($p < 0.001$)”⁽⁶¹⁾.

Knapp et al. [2004], “Non compliance patients were over 1.5 times more likely to report admitted as in-patient services when compared with compliance patients ($p = 0.054$) Non compliance was associated With almost 3 times increase in external service costs($p < 0.001$) Patients reporting non compliant were predicted to have increase in inpatient costs of approximately £2,500 a

year Predicted excess total service costs for patients reporting non compliant is over £5,000 a year compared with total costs for compliant patients”.

According to Rittmannsberger et al. [2004] conducted Cross-sectional (interview) in Schizophrenia/ schizoaffective disorder, sample size 95, key findings: “Non compliant patients were hospitalized for significantly longer duration of stay the year after the index episode 44.8 days (95% CI \pm 58.5) versus 20.6 days (95% CI \pm 27.4) ($p < 0.05$)”⁽⁶²⁾. In 2004 Gilmer et al. conducted retrospective database analysis in Schizophrenia, sample size 1,619. Definition for compliant describe as “Non compliant patients if CPR found to be = 0–49%, partly compliant if CPR found to be = 50–79% , compliant if CPR found to be = 80–110%, excess medication fillers if CPR $>$ 110%”. Study reported key findings: “Non compliant patients had the highest risk for psychiatric hospitalization (34.9% versus 13.5%) and medical hospitalization (13.3% versus 7.0%) p value found to be significant for both”⁽⁷⁾.

Weiden et al.⁽⁶⁰⁾ [2004] retrospective database analysis in Schizophrenia , with sample size 4,325 and adherence describe as percentage of MPR , study key finding suggested that odd ratio for hospitalizations ($<$ 0.001) for ten percent improved compliance. Medication non compliance was the one of the major cause of relapse with OR found to be 7.6 and significant p value ($p = 0.002$) (Chen et al. 2005)⁽⁶³⁾. In 2005 Eaddy et al retrospective data analysis with huge sample size 7,864, “Partially Compliant patients were 49 percent (95% CI 29.2–71.7) more likely than Compliant

patients to have an inpatient admission and incurred 54.5 percent and p value found to be significant ($p < 0.001$)”⁽⁶⁴⁾.

According to Ascher-Svanum et al. 2006 conducted Prospective study in Schizophrenia, with number of sample size 1,579. Study result suggested key potential for negative factor: “Prior poor adherence($p < 0.001$), prior illicit drug use ($p = 0.025$), prior alcohol use ($p = 0.015$), prior treatment with antidepressants, and greater patient reported, medication-related cognitive impairment ($p < 0.01$)”⁽⁶⁵⁾.

Janssen et al. [2006], Prospective study in Schizophrenia with $n=500$ (74.6%) Schizoaffective disorder, $n = 110$ (16.4%) Other, $n = 60$ (9.0%). Study result suggested positive finding key potential for negative factors such as “Involuntary admission ($p < 0.005$), history of aggressive behavior ($p < 0.005$), no school Graduation ($p < 0.005$), substance disorder co morbidity ($p < 0.005$), Not having competitive work ($p < 0.005$)”.^(66,67) and key potential for positive factor changing to atypical antipsychotics ($p < 0.001$)⁽⁶⁶⁾. “Lack of Awareness of mental illness ($p = 0.021$)”^(Olfson et al. 2006)⁽⁶⁸⁾.

Ascher-Svanum et al. [2006], Non compliance associated with “significantly greater risks of psychiatric hospitalization and use of emergency psychiatric services, arrests, violence, victimizations, poorer mental functioning, poorer life satisfaction, greater substance abuse and more alcohol-related problems (all $p < 0.001$) Non adherence associated with greater risk of violence (non adherent patients more than twice as likely to be more violent and more than two times more often arrested than adherent patients”^(65,69). In

2006 Leucht and Heres, Qualitative review in Schizophrenia Study result reported that “Non compliant patients were at four times greater risk of suicide than those who were compliant”⁽²⁵⁾.

According to Borrás et al. [2007] conducted Cross-Sectional (interview) in Schizophrenia/other non affective disorders, sample size 103, Study reported about key potential for negative factor found to be “Negatively Influenced by spiritual belief (26%) and key potential for positive factor found to be Positively influenced by spiritual belief (31%)”⁽⁷⁰⁾. Svestka and Bitter 2007, Qualitative review in Schizophrenia disorders. Study finding reporting that “Out of a total of 41,754 patients, 1,020 attempted suicide and 154 were successful in their attempt the relapse after premature Withdrawal from antipsychotic treatment is associated with suicidal Behavior or violence”⁽⁶⁷⁾.

Llorca et al. [2008], Qualitative review in Schizophrenia, finding suggested that “Non Adherent patients were at seven times greater risk of suicide than those who were adherent”⁽²³⁾. Morken et al. [2008] conducted RCT in Schizophrenia/ schizoaffective / schizophreniform disorder, with number of sample 50, “Adherence is defined as good adherence was defined as less than One month without medication, finding suggested that good Adherence with oral antipsychotics admitted to hospital (32%) versus poor adherence (50%, $p = 0.201$)”⁽⁷¹⁾.

In 2008 Ahn et al., Retrospective database analysis in Schizophrenia, sample size 36,195, “Adherence is defined as fully or partially adherent if MPR $\geq 80\%$, Non Adherent if MPR $< 80\%$. Study finding suggested that Non

adherent patients were more likely to use acute hospitalization ($p < 0.001$), psychiatric hospitalization ($p < 0.001$) and ambulatory outpatient care ($p = 0.025$) than adherent patients”⁽⁷²⁾.

According to Acosta et al. 2009 conducted Prospective study in Schizophrenia, sample size 74, Study suggested key potential negative factor is “Poor insight ($p = 0.04$), higher scores for conceptual disorganization in the PANSS items ($p = 0.068$)”.⁽⁷³⁾ and Aldebot and de Mamani 2009, Cross-sectional (interview) in Schizophrenia/ schizoaffective, sample size 40. Study suggested key potential negative factor “Denial coping ($p = 0.008$)”⁽⁷⁴⁾.

In 2009, Velligan et al. 2009 Qualitative review suggested that poor insight and substance use major contributory factor survey by 48 leading experts on adherence problems, suggested negative key factor are rating by experts on scale from 1 to 10: “poor insight (7.2), distress associated with side effects (7.2), lack of/partial efficacy with continued symptoms (6.9), belief that the medications are no longer needed (6.7), ongoing substance use problems (6.6) and results from literature review on positive factors include: positive therapeutic relationship, family and social support”⁽⁷⁵⁾.

Novick et al. [2010], Prospective study in Schizophrenia, with sample size 6,731 found negative factor: “Alcohol dependence ($p = 0.013$) or substance abuse ($p = 0.043$) in a previous month, hospitalization in the last 6 months ($p < 0.001$) and positive factor: good prior adherence ($p < 0.001$), greater social activities ($p < 0.001$)”⁽⁷⁶⁾.

Laan et al. [2010] conducted Retrospective database analysis in Psychotic disorder, with sample size 477 Schizophrenia (79%). Definition of adherence describe as in % of MPR. Study key finding suggested that the “average MPR for patients readmitted and not readmitted was 50% and 59% respectively. HR of 0.60 (95% CI 0.42–0.88) for the MPR on relapse risk”⁽⁷⁷⁾.

Conclusion

In systematic review of literature on drug poor adherence in schizophrenia reveals a wide range of factors. One of the major consequence of nonadherence is lack of illness insight and literature also suggested that maintain good therapeutic relationship with physician and perceiving the benefits of medication are positive factors for maintain drug compliance. it is important for Practicing physicians to building up a therapeutic relationship and educate to both patients and caregiver regarding nature of illness, recognize of symptoms and importance of medication. Non adherence to medication is substantial burden of patients with schizophrenia and also burden for society therefore it is important to improve adherence in schizophrenia is of great value to patients and society. There are more number of studies done on nonadherence to medication in patients with schizophrenia yet so many hidden factors to be identify for better compliance which need future studies. Review literature shows that “Nonadherence is a complex behavioural issue; therefore measures will need to measures nonadherence from various angles and it need multifaceted approach with patients and healthcare providers”⁽⁷⁸⁾.

AIMS AND OBJECTIVE

Primary objectives:

- 1) To find out patients attitude towards medication.
- 2) To find out reason for drug non compliances.

Secondary objectives:

- 1) Drug non compliances and its association with socio Demographic variables.
- 2) Drug non compliances and its association with clinical variables.
- 3) Drug non compliance and its association with positive and negative symptoms.
- 4) Comparing drug non compliance with positive and negative attitudes towards medication.

NULL HYPOTHESIS

- 1) There is no association with patients attitude towards medication with drug non compliance in patients with schizophrenia.
- 2) There is no factor association for reason for drug non compliances in patients with schizophrenia.

METHODOLOGY

STUDY DESIGN: Cross sectional based descriptive study, conducted at institute of mental health, kilpauk Chennai-10

SUBJECT SELECTION:

INCLUSION CRITERIA:

- 1) Age between 18 – 60 yrs.
- 2) Diagnosed as schizophrenia according to ICD-10.
- 3) who are giving written informed consent.

EXCLUSION CRITERIA:

- 1) Patient who are on medication < 6 month duration.
- 2) Patient with co morbid seizure.
- 3) Patient without reliable informant.
- 4) Patient who are physically not fit to answer.

SAMPLE SIZE:

The prevalence drug non compliances in schizophrenia reported in various study 40% to 50%. sample size is calculated by using formula $n = \frac{Z^2 * P(100-P)}{d^2}$ where n= number of sample, Z= Desired confidence interval 95% z score is 1.96 , P= Prevalence d= precision . Relative precision is 20% of prevalence d=10. $n = 1.96^2 * 50(100-50) \div 10$ i.e. n=96. Estimated sample size is n=96. Total number of sample taken for this study is 124.

SAMPLING TECHNIQUE:

Systemic random sampling method was used. Each person was considered as a unit. Every fifth patient was taken for the study until the required sample size of 124 was reached.

DURATION OF STUDY : 3months.

DATA ANALYSIS: Using SPSS version 20.0

PROCEDURE:

This study was conducted in institute of mental health, patients selected who attending outpatient department. In our hospital set up patient have note book record and regular follow up visit entry marked on each visit. sample selected randomly every 5th patient who are diagnosed as schizophrenia. patient note book record was verified with hospital record. After obtaining informed consent patient was selected for study.

First step in data collection socio demographic profile of patient which included name, age, sex, marital status, educational qualification which is categories in to illiterate, primary level schooling, secondary level schooling, graduate, occupation categories in to employed and unemployed. Socio economic status assessed with kuppusamy scale, type of family categories in to nuclear and joint family, availability of health care facility and drug availability within concern district taken in to consideration, social support of patient, number of drug taken per day, oral or depot preparation .(annexure:1)

second step: Based on jim rosack criteria Compliance to medication usually means the extent to which the patient takes the medication as prescribed. He explained the phenomenon of adherence to medication in terms of refill rate. Refill rate is proportion of days of proper adherence to prescribed medication by the patient calculated in relation to total day of advice. "Patients who had only 50% of their expected refill rate were termed non adherent. Those who filled prescriptions between 50% to 80% of expected refill rate were termed partially adherent. Those who filled their prescriptions at more than 110% of the expected rate were termed excess fillers".⁽⁷⁹⁾ Based upon this criteria study sample labeled as compliant and non compliant.

Third step to apply PANSS (positive and negative symptoms of schizophrenia) to assess severity of illness. It is 30 items rating scale which included 7 item in positive scale, 7 item in negative scale and the remaining 16 item in general psychopathology scale. From PANSS predominant positive symptoms and negative symptoms asses which are compare with compliant and non compliance. How it affect drug compliance analysis separately (annexure:2). Insight of patients is assessed with PANSS G12 domain in which severity of insight is rated. (annexure:3)

Fourth step, to asses attitude of patients towards medication whether patients have positive attitude towards medication or negative attitude towards medication. How it influence on drug compliance? Attitude of medication measures by using **DRUG ATTITUDE INVENTORY**. it has two version original scale consist of 30 item invented by Hogan 1983 and second version

shorten, 30 items scale in to 10 items scale has also been validated (Awad 1993). The DAI-10 was derived by means of stepwise discriminate analyses applied to the responses of 150 schizophrenia patients to the DAI-30 (Awad, 1993). “The DAI-10 contains six items that a patient who is fully adherent to prescribed medication would answer as ‘True’, and four they would rate as ‘False’. Scores are allocated to each answer and the total score is calculated in the same way as for the DAI-30”. Similarly, “a positive total score indicates a positive subjective response (adherent) and a negative total score indicates a negative subjective response (non-adherent)”.(annexure no:4)

Final step to find out reason for medication non compliance in patient with schizophrenia. Rating of medication influences scale in schizophrenia is used to measure medication non compliance in patient with schizophrenia. Non compliance is major barrier for delivery of effective treatment in schizophrenia outpatients. it was published in schizophrenia bulletin volume 20, No 2, 1994 by peter welden, Bruce rapkin, Tasha mott,Annete zygmunt, Dodi goldman, Marcela Horvitz- Lennon, and Allen Frances. it describe the “development of a standardized measure for assessment of attitudinal and behavioral factors influencing patients compliance with neuroleptic treatment”. ROMI (Rating of medication influences scale in schizophrenia) scale was developed as part of longitudinal study of neuroleptic compliance in schizophrenia and administered to 115 discharged patient schizophrenia outpatients.

The ROMI is a reliable and valid instrument that can be used to assess the patients subjective reasons for medication compliance and non compliance.

The subscale findings suggest that the ROMI provides a more comprehensive data base for patient reported compliance than other available subjective measures. Rating of medication influences it consists of two parts A) semi structured interview, B) Structured interview. Semi structured interview should ask about the general areas which may impact on compliance. This topics include:

- “1) Living situation (eg., supervised vs. unsupervised, alone vs. family vs. residence)
- 2) Treatment settings.
- 3) Prescribed medication regimen (specific neuroleptic, IM route of medication vs. oral medication, other neuroleptic medication, dosage, frequency, length of treatment).
- 4) Patient’s overall attitude towards medication (positive vs. negative, voluntary compliance vs. coerced compliance).
- 5) The family’s and caregiver’s overall attitude towards treatment and medication”.(annexure no:6)

In structured interview, begin with open ended question, such as, what is the main reason you are willing to take medication?. it consist of two parts . In part 1 reason for compliance to be assess, it consist of 7 set of question come under heading of are you willing to take medication because ?,degree of influence graded as none, mild , strong, not assessable. if patient has been

noncompliant for atleast 1 week for any part of the last month or is currently off medication begin with part 2 otherwise begin with part 1.(annexure no:5). In part 2 reason for compliance begin with open ended question because are you reluctant to take your medication because? In this 13 items are there in which degree of influence grade as none, mild, strong, not assessable. (annexure no:5) .

RESULT AND OBSERVATION

On comparing compliant with non compliant sample with all variable, percentage is calculated as per count. Chi-square test is applied to find out statistically significance. Total number of sample taken for study 124, out of 124 sample 76 (61.3%) were compliant and 48 (38.7%) were noncompliant.

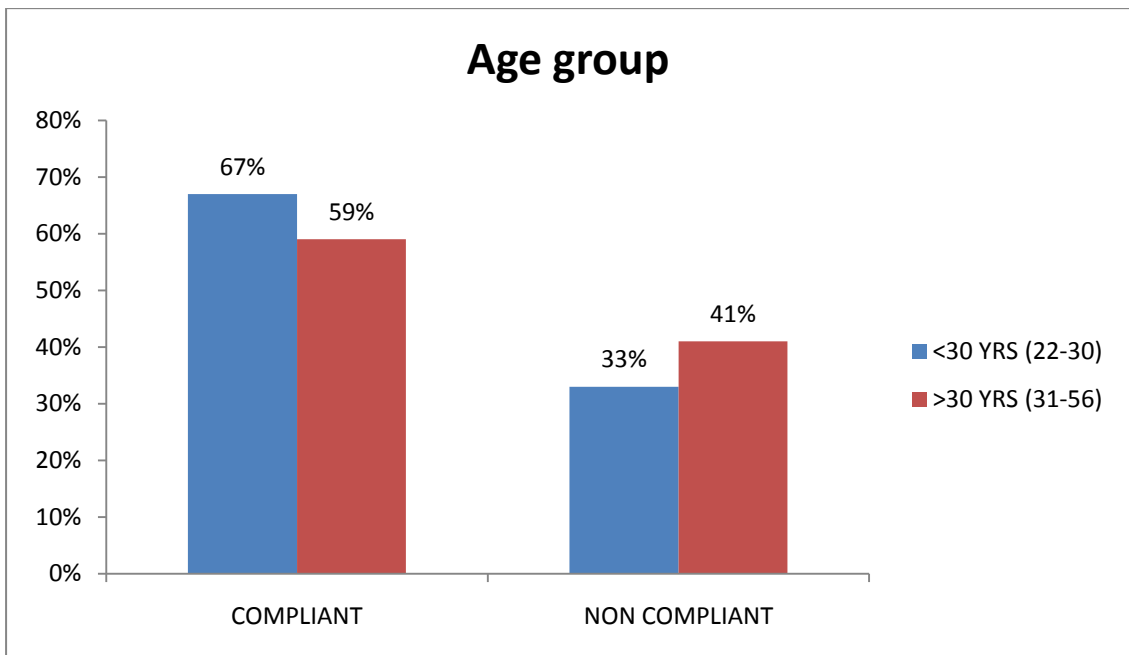
On analysis of age group comparing as compliant and non compliant , age group divided in to <30 years and >30 years. Among 76 sample of compliant, 22 were under age group of 30 and 54 were above age group of 30 and among 48 of non compliant, 11 were under age group of 30 and 37 were under age group of above 30. Chi square score = 0.548 and p value =0.459. P value found to be non significant. (table no:1) (figure no:1)

TABLE NO:1 COMPARISION WITH AGE GROUP

		AGE_GROUP		Total	
		<30 YRS (22-30)	>30 YRS (31-56)		
COMPLIANT/ NON- COMPLIANT	COMPLIANT	Count	22	54	76
		% within AGE_GROUP	66.7%	59.3%	61.3%
	NON COMPLIANT	Count	11	37	48
		% within AGE_GROUP	33.3%	40.7%	38.7%
Total		Count	33	91	124
		% within AGE_GROUP	100.0%	100.0%	100.0%

Chi-Square=0.548 P=0.459 (non significant)

FIGURE NO: 1



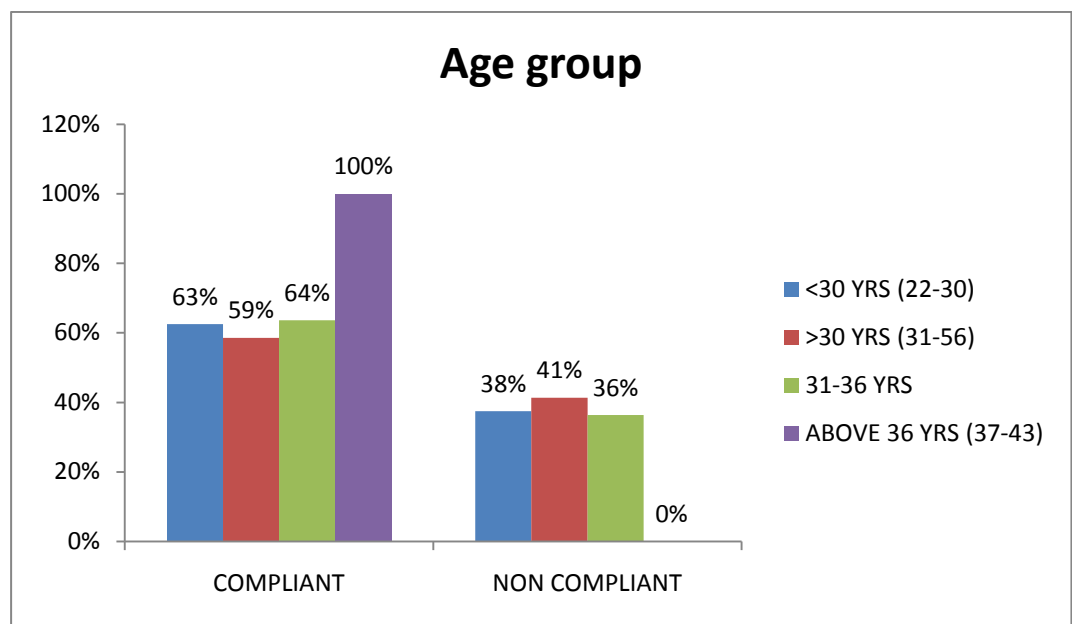
On analysis of age onset of illness and comparing with compliant and non compliant, age group of onset divided as 18-24 years, 25-30 years, 31-36 years, and above 36 years. Chi square =2.163 and P=0.539. P value found to be non significant. Result is shown in table no:2 and comparison shown in figure no: 2.

TABLE 2: COMPARISION WITH AGE ONSET

			AGE ONSET GROUPS				Total
			18-24 YRS	25-30 YRS	31-36 YRS	ABOVE 36 YRS	
COMPLIANT/ NONCOMPLIANT	COMPLIANT	Count	25	41	7	3	76
		% within AGE_ONSET_GROUPS	62.5%	58.6%	63.6%	100.0%	61.3%
	NON COMPLIANT	Count	15	29	4	0	48
		% within AGE_ONSET_GROUPS	37.5%	41.4%	36.4%	0.0%	38.7%
Total		Count	40	70	11	3	124
		% within AGE_ONSET_GROUPS	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square=2.163 P=0.539 (non significant)

FIGURE 2: COMPARISION WITH AGE ONSET



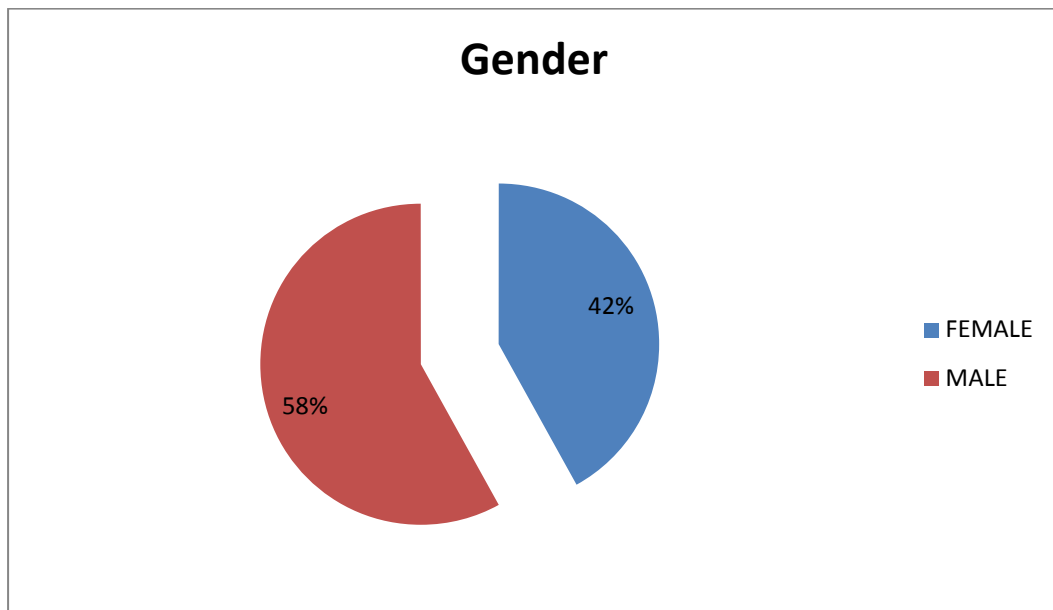
On analysis of sex , out of 124 sample group 72 were male among that 44 were compliant and 28 were non compliant, 52 were female among that 32 were compliant and 20 were non compliant. Chi square =0.002 and P=0.962. P value found to be non significant. Result shown in table no:3 and percentage of compliant and non compliant shown in figure no :3.

TABLE:3 COMPARISION WITH SEX

			SEX		Total
			FEMALE	MALE	
COMPLIANT/NON _COMPLIANT	COMPLIANT	Count	32	44	76
		% within SEX	61.5%	61.1%	61.3%
	NON COMPLIANT	Count	20	28	48
		% within SEX	38.5%	38.9%	38.7%
Total		Count	52	72	124
		% within SEX	100.0%	100.0%	100.0%

Chi-Square=0.002 P=0.962 (non significant)

FIGURE: 3 COMPARISION WITH SEX



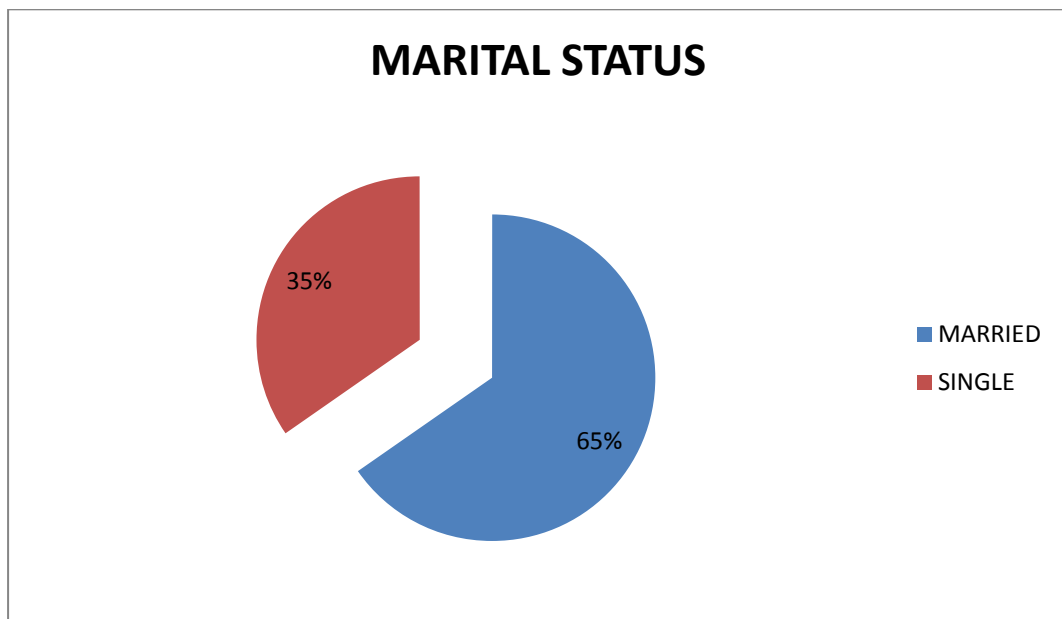
On analysis of marital status out of 124 sample 81 were married among this 47 were compliant and 34 were non compliant , 43 were single among this 29 were compliant and 14 were non compliant. Chi square =1.050 and P=0.306. P value found to be non significant. Result shown in table no:4 (figure no:4) .

TABLE :4 COMPARISION WITH MARITAL STATUS

			Marital status		Total
			Married	Single	
Compliant/non_compliant	compliant	count	47	29	76
		% within marital status	58.0%	67.4%	61.3%
	non compliant	count	34	14	48
		% within marital status	42.0%	32.6%	38.7%
total		count	81	43	124
		% within marital status	100.0%	100.0%	100.0%

Chi-Square=1.050 P=0.306 (non significant)

FIGURE :4 COMPARISION WITH MARITAL STATUS



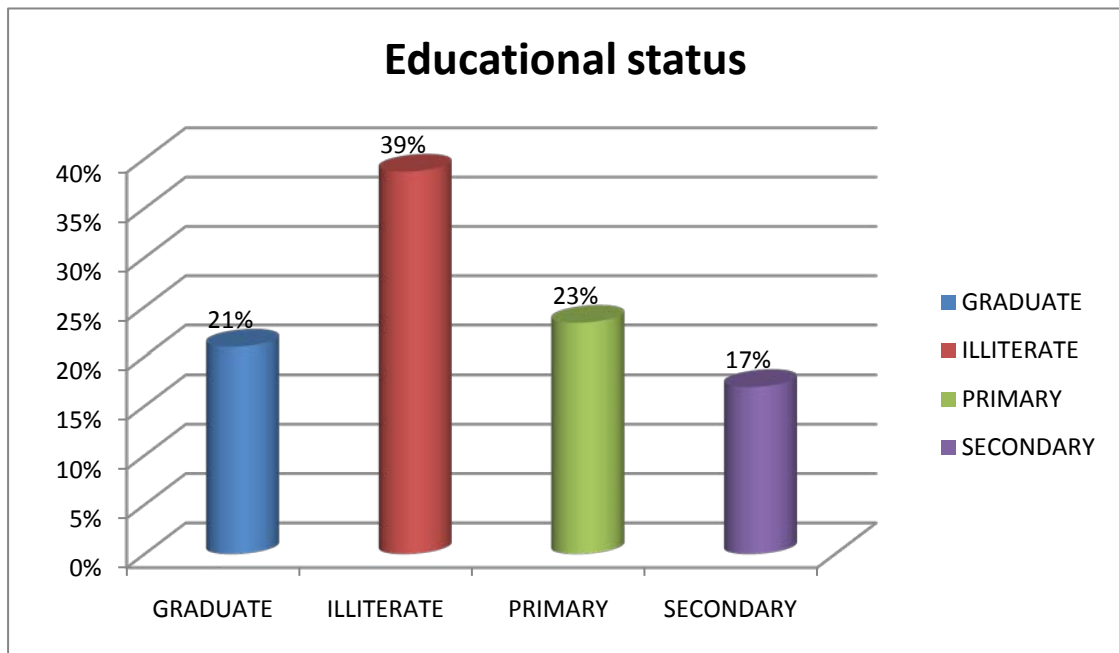
On analysis of education status, out of 124 sample in compliant group 28 were illiterate , 18 were primary level educated, 12 were secondary level educated, 18 were graduate and in non compliant group 20 were illiterate, 11 were primary level educated, 9 were secondary level educated, 8 were graduate. Chi square =1.028 and P=0.795. P value found to be statistically non significant. Result is shown in table no :5 (figure no:5).

TABLE:5 COMPARISION WITH EDUCATIONAL STATUS

			Educational status				Total
			Graduate	Illiterate	Primary	Secondary	
COMPLIANT/ NONCOMPLIANT	Compliant	count	18	28	18	12	76
		% within educational status	69.2%	58.3%	62.1%	57.1%	61.3%
	Non compliant	count	8	20	11	9	48
		% within educational status	30.8%	41.7%	37.9%	42.9%	38.7%
Total		count	26	48	29	21	124
		% within educational status	100.0%	100.0%	100.0%	100.0%	100.0%

CHI SQUARE=1.028 ; P=0.795 (NON SIGNIFICANT)

FIGURE NO: 5 COMPARISION WITH EDUCATIONAL STATUS



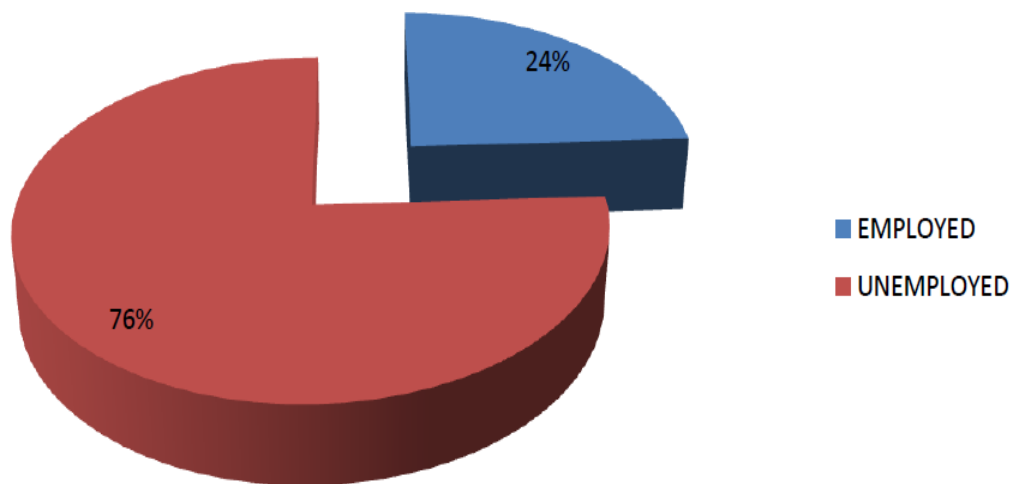
On analysis of occupation status out of 124 sample 30 were employed among that 16 were compliant and 14 were non compliant and 94 were unemployed among that 60 were complaint and 34 were noncompliant. Chi square=1.056 and P =0.304. P value found to be non significant. Result is shown in table no :6 and (figure no:6)

TABLE NO:6 COMPARISION WITH OCCUPATION

			Occupation		Total
			Employed	Unemployed	
Compliant/ non_compliant	compliant	count	16	60	76
		% within occupation	53.3%	63.8%	61.3%
	non compliant	count	14	34	48
		% within occupation	46.7%	36.2%	38.7%
total		count	30	94	124
		% within occupation	100.0%	100.0%	100.0%

CHI SQUARE=1.056 ;P=0.304(NON SIGINIFICANT)

FIGURE NO:6



On analysis of family income, it divided in to two <Rs5000 and>Rs 5000, out of 124 sample 61 were income less than 5000 rupees among that 36 were compliant and 25 were non compliant and 63 were family income above 5000 rupees among that 40 were compliant and 23 were non compliant. Chi square=0.262 and P=0.609. P value found to be non significant. Result shown in table no:7

TABLE NO:7 COMPARISION WITH FAMILY INCOME

			Family_Income		Total
			<5000	>5000	
Compliant/ non_compliant	Compliant	Count	36	40	76
		% within family_income	59.0%	63.5%	61.3%
	Non compliant	Count	25	23	48
		% within family_income	41.0%	36.5%	38.7%
Total		Count	61	63	124
		% within family_income	100.0%	100.0%	100.0%

CHI SQUARE =0.262; P=0.609 (NON SIGINIFICANT)

On analysis of type of family, out of 124 sample 76 were in compliant group among this 55 were nuclear family and 21 were in joint family. In non compliant group 40 were in nuclear family and 8 were in joint family. Chi square =1.974 and P value=0.160. P value found to be non significant. Result shown in table no:8

TABLE NO:8 COMPARISION WITH TYPE OF FAMILY

			Type_of_family		Total
			Joint	Nuclear	
Compliant/non _compliant	Compliant	Count	21	55	76
		% within TYPE_OF_FAMILY	72.4%	57.9%	61.3%
	Non compliant	Count	8	40	48
		% within TYPE_OF_FAMILY	27.6%	42.1%	38.7%
Total		Count	29	95	124
		% within TYPE_OF_FAMILY	100.0%	100.0%	100.0%

CHI SQUARE=1.974 ;P=0.160(NON SIGNIFICANT)

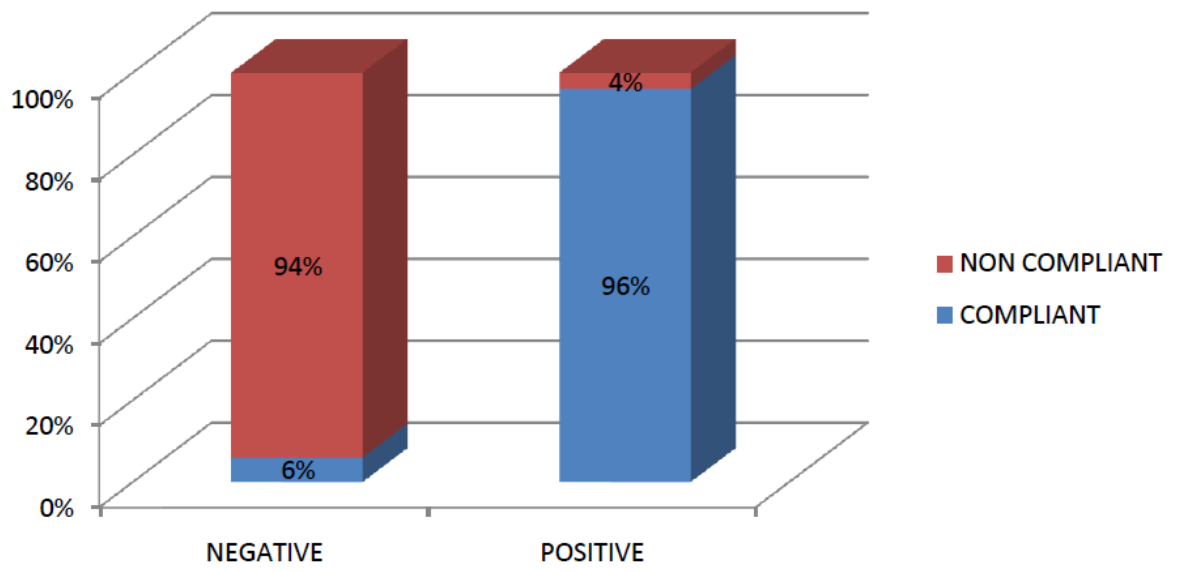
On analysis of patient attitude towards medication, out of 124 patient in compliant group totally 73 patient have positive attitude towards medication and 3 patient have negative attitude towards medication. In non compliant group 45patients have negative attitude towards medication 3 patient have positive attitude towards medicine. Chi square=100.00 and P value is <0.001. P value is found to be highly significant. Result shown in table no:9 and figure no:9.

TABLE NO:9 COMPARISION WITH PATIENTS ATTITUDE

			Attitudes_towards_medication		Total
			Negative	Positive	
Compliant/non-compliant	compliant	count	3	73	76
		% within attitudes_towards_medication	6.2%	96.1%	61.3%
	Non-compliant	count	45	3	48
		% within attitudes_towards_medication	93.8%	3.9%	38.7%
total	count		48	76	124
	% within attitudes_towards_medication		100.0%	100.0%	100.0%

CHI SQUARE=100.00**; P<0.001(HIGHLY SIGNIFICANT)

FIGURE NO:9



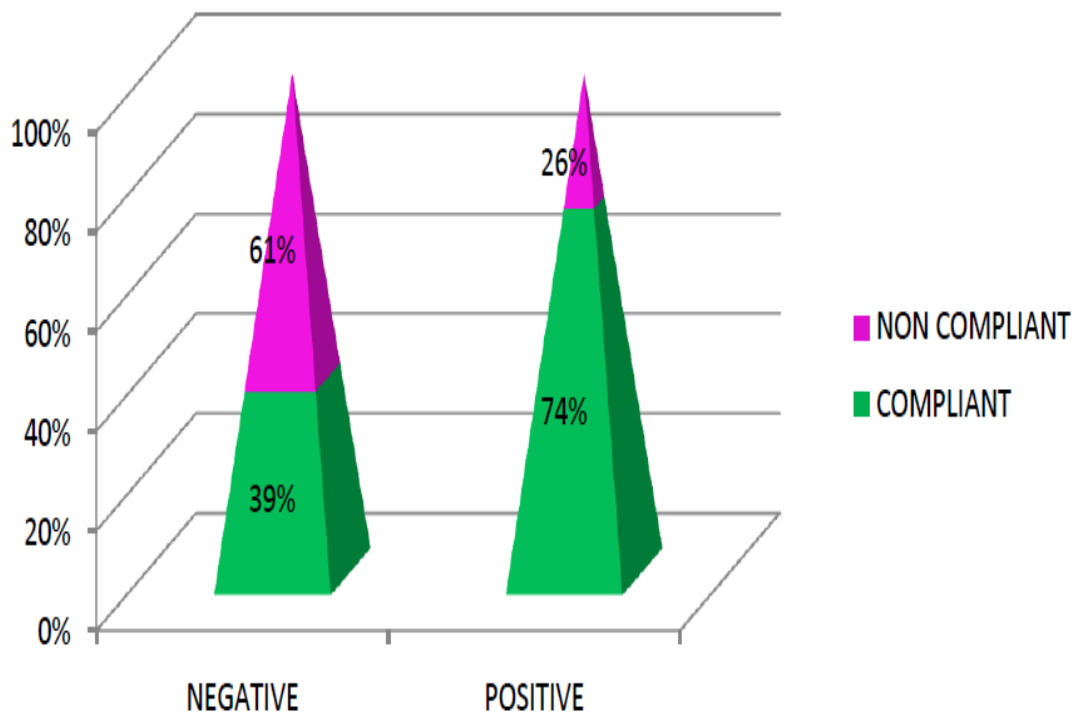
On analysis of drug compliance and non compliance with positive and negative symptoms, out of 124 patients in compliant group 58 patients have positive symptoms shows better drug compliance and 18 patients have negative symptoms. In non compliant group 28 patients have negative symptoms and 20 patients have positive symptoms. Chi square =15.136 and P value is<0.001. P value is highly significant. Result is shown in table no:10 and figure no:10

TABLE NO:10 COMPARISION WITH POSITIVE AND NEGATIVE SYMPTOMS

			positive_or_negative_symptoms		Total
			negative	positive	
Compliant/non-compliant	Compliant	Count	18	58	76
		% within positive_or_negative_symptoms	39.1%	74.4%	61.3%
	Non compliant	Count	28	20	48
		% within positive_or_negative_symptoms	60.9%	25.6%	38.7%
Total		Count	46	78	124
		% within positive_or_negative_symptoms	100.0%	100.0%	100.0%

CHI SQUARE=15.136**,P<0.001 (HIGHLY SIGNIFICANT)

FIGURE NO:10



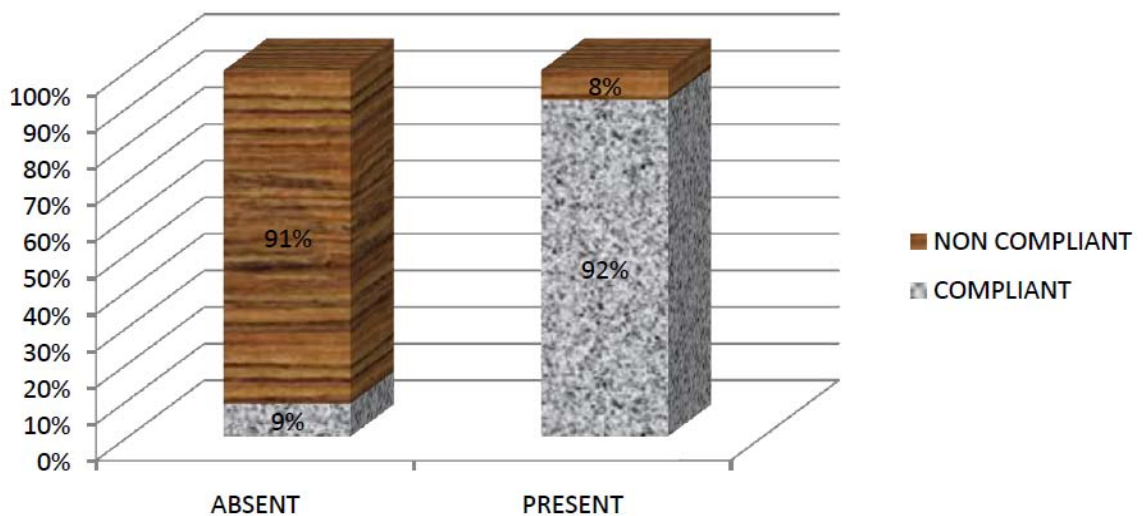
On comparing with patient insight , out of 124 patients in compliant group 72 patients have insight and 4 patient have absent insight. In non compliant group 42 patients have absent insight and 6 patients have insight. Chi square=85.262 and p value is <0.001. P value is highly significant. Result is shown in table no:11 and figure no:11.

TABLE NO :11 COMPARISION WITH INSIGHT

		Insight		Total	
		Absent	Present		
Compliant/non-compliant	Compliant	Count	4	72	76
		% within INSIGHT	8.7%	92.3%	61.3%
	Non compliant	Count	42	6	48
		% within INSIGHT	91.3%	7.7%	38.7%
Total		Count	46	78	124
		% within INSIGHT	100.0%	100.0%	100.0%

CHI SQUARE=85.262**; P<0.001(HIGHLY SIGNIFICANT).

FIGURE NO:11



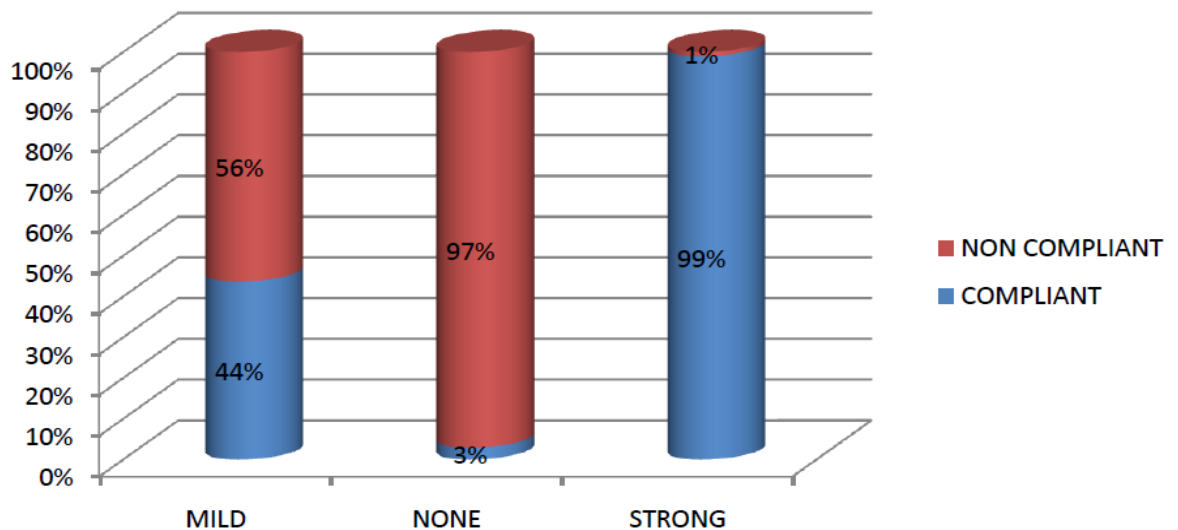
On analysis of drug compliance reason on perceived daily benefit out 124 patients in compliant group 65 patients have strong response,10 patients have mild response and 1 patients response none. In non compliant group 34 patients have response none,13 patients response mild, one patients response strong. Chi square score is 91.931and P value is <0.001 which is highly significant. Result is shown in table no :12 and figure 12.

TABLE NO:12 COMPARISION WITH PERCEIVED DAILY BENIFIT

			Perceived_daily_benefit			Total
			Mild	None	Strong	
Compliant/non_compliant	Compliant	Count	10	1	65	76
		% within perceived_daily_benefit	43.5%	2.9%	98.5%	61.3%
	Non compliant	Count	13	34	1	48
		% within perceived_daily_benefit	56.5%	97.1%	1.5%	38.7%
Total		Count	23	35	66	124
		% within perceived_daily_benefit	100.0%	100.0%	100.0%	100.0%

CHI SQUARE=91.931**;P<0.001(HIGHLY SIGINIFICANT)

FIGURE NO:12

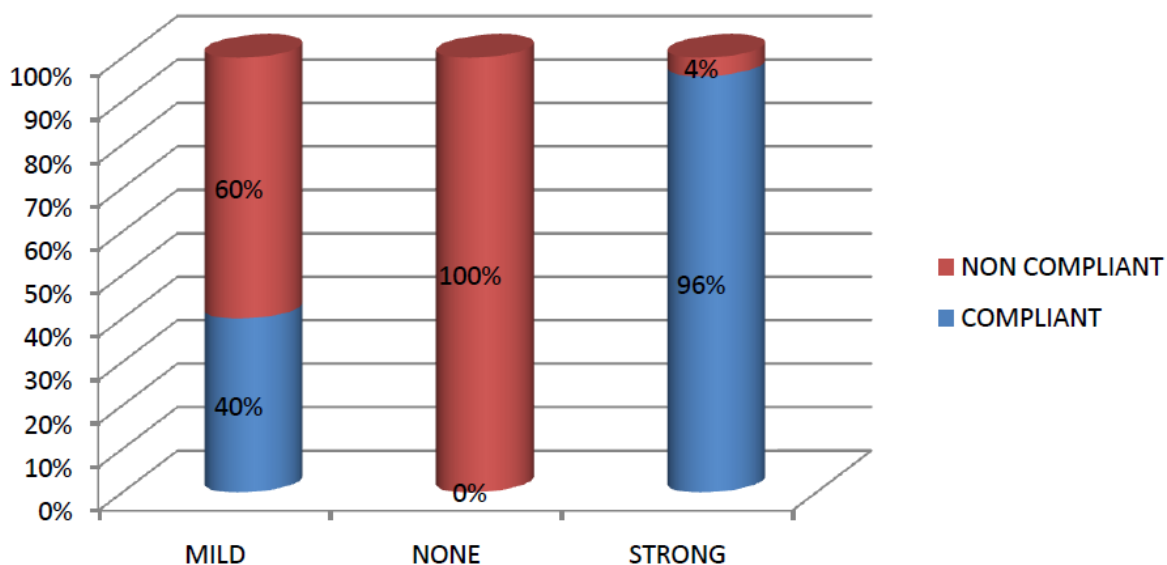


On analysis of positive family belief on patients medication, out of 124 patients in compliant group 68 responds as strong,8 responds as mild, zero respond on none. In non compliant group 33 respond as none, 12 respond as mild 3 respond as strong. chi square score is 91.658 and P value is <0.001 which is highly significant. Result is shown in table no: 13 and figure no: 13.

TABLE NO:13 COMPARISION WITH POSITIVE FAMILY BELIEF						
			Family_belief			Total
			Mild	None	Strong	
Compliant/non _compliant	Compliant	Count	8	0	68	76
		% within family_belief	40.0%	0.0%	95.8%	61.3%
	Non compliant	Count	12	33	3	48
		% within family_belief	60.0%	100.0%	4.2%	38.7%
Total		Count	20	33	71	124
		% within family_belief	100.0%	100.0%	100.0%	100.0%

CHI SQUARE=91.658**,P<0.001(HIGHLY SIGNIFICANT)

FIGURE NO:13



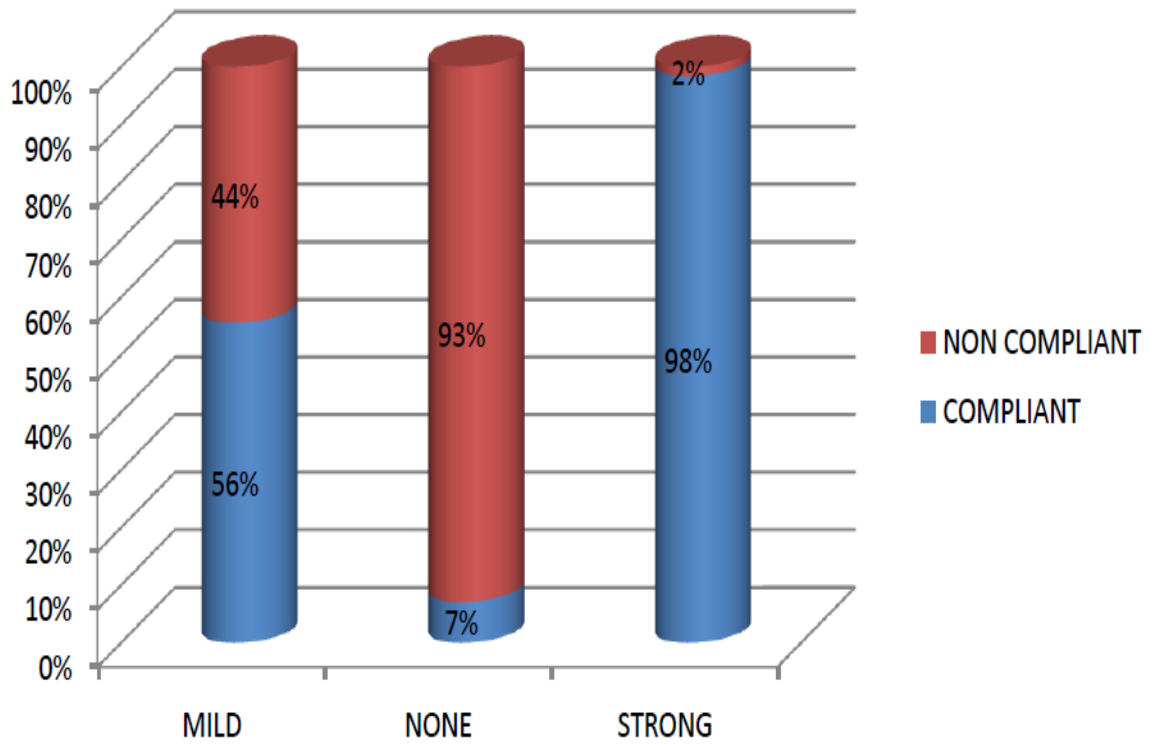
On analysis of patients belief on taking medication prevents their illness or symptoms relapse, out of 124 patients in compliant group 63 respond as strong,10 responds as mild, 3 respond as none. In non compliant group 39 respond as none,8 respond as mild,1 respond as strong. chi square is 89.376 and p value is <0.001which is highly significant. Result is shown in table no:14 and figure no:14

TABLE NO :14 COMPARISION WITH RELAPSE PREVENTION

			Relapse_prevention			Total
			Mild	None	Strong	
Compliant/non-compliant	Compliant	Count	10	3	63	76
		% within relapse_prevention	55.6%	7.1%	98.4%	61.3%
	Non compliant	Count	8	39	1	48
		% within relapse_prevention	44.4%	92.9%	1.6%	38.7%
Total		Count	18	42	64	124
		% within relapse_prevention	100.0%	100.0 %	100.0 %	100.0%

CHI SQUARE=89.736**;P<0.001(HIGHLY SIGNIFICANT)

FIGURE NO:14



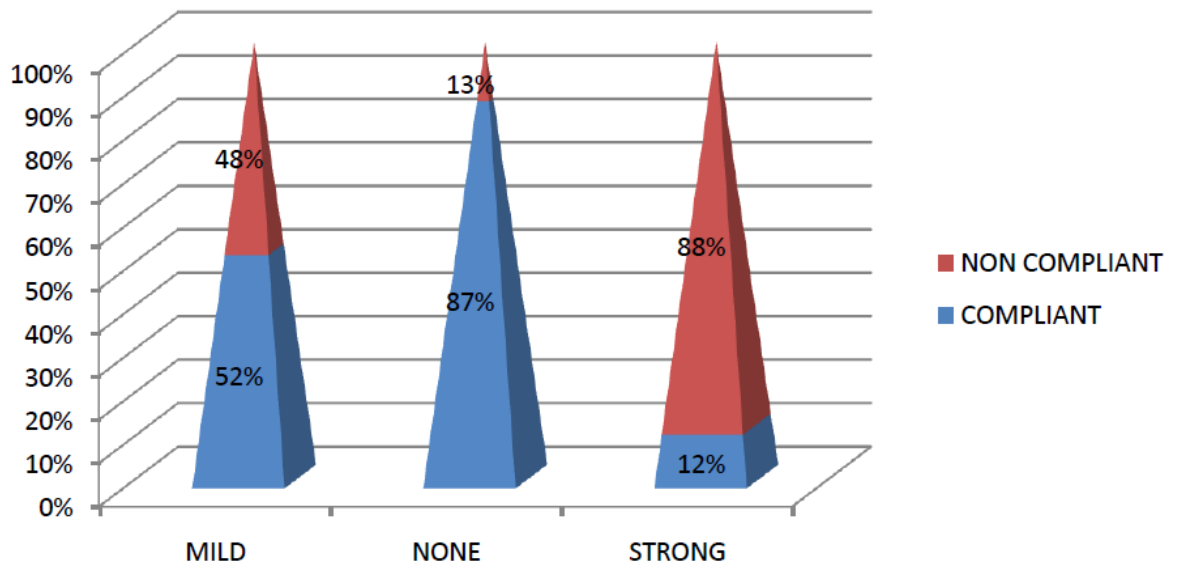
On analysis of pressured or forced to take medication ,out of 124 patients in compliant group 52 responds none,21 respond mild,3 respond strong. In non compliant group 21 respond strong, 19 respond mild, 8 respond none. chi square is 41.669 and p value is <0.001 which is highly significant. Result show in table no:15 and figure no :15

TABLE NO:15 COMPARISION WITH PRESSURE OR FORCE TAKE MEDICATION

			Pressure_or_force			Total
			Mild	None	Strong	
Compliant/non_compliant	Compliant	Count	21	52	3	76
		% within pressure_or_force	52.5%	86.7%	12.5%	61.3%
	Non compliant	Count	19	8	21	48
		% within pressure_or_force	47.5%	13.3%	87.5%	38.7%
Total		Count	40	60	24	124
		% within pressure_or_force	100.0%	100.0%	100.0%	100.0%

CHI SQUARE =41.669**;P<0.001(HIGHLY SIGINIFICANT)

FIGURE NO:15



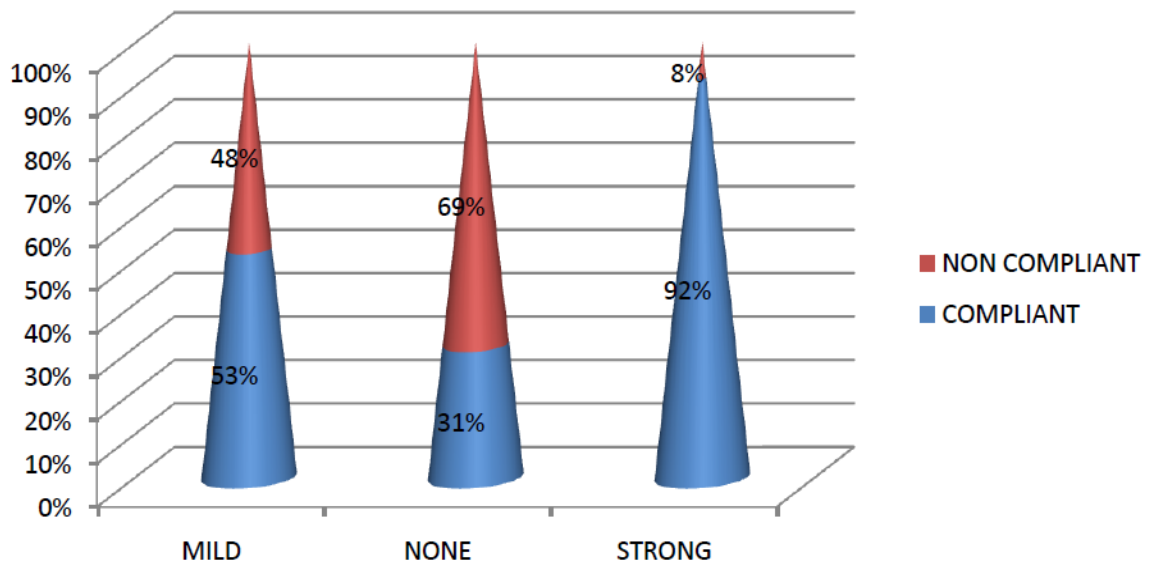
On analysis fear of being rehospitalization , out of 124 patients in compliant group 44 respond as strong, 21 respond as mild, 11 responds as mild. In non compliant group 25 respond as none, 19 respond as mild, 4 respond as strong. Chi square is 34.304 and p value is <0.001 which is highly significant. Result is shown in table no:16 and figure no:16.

TABLE NO :16 COMPARISION WITH FEAR OF HOSPITALISATION

			Fear_of__hospitalisation			Total
			Mild	None	Strong	
Compliant/non _compliant	Compliant	Count	21	11	44	76
		% within fear_of__hospitalisation	52.5%	30.6%	91.7%	61.3%
	Non compliant	Count	19	25	4	48
		% within fear_of__hospitalisation	47.5%	69.4%	8.3%	38.7%
Total		Count	40	36	48	124
		% within fear_of__hospitalisation	100.0%	100.0 %	100.0%	100.0%

CHI SQUARE=34.304**; P <0.001(HIGHLY SIGNIFICANT)

FIGURE NO:16



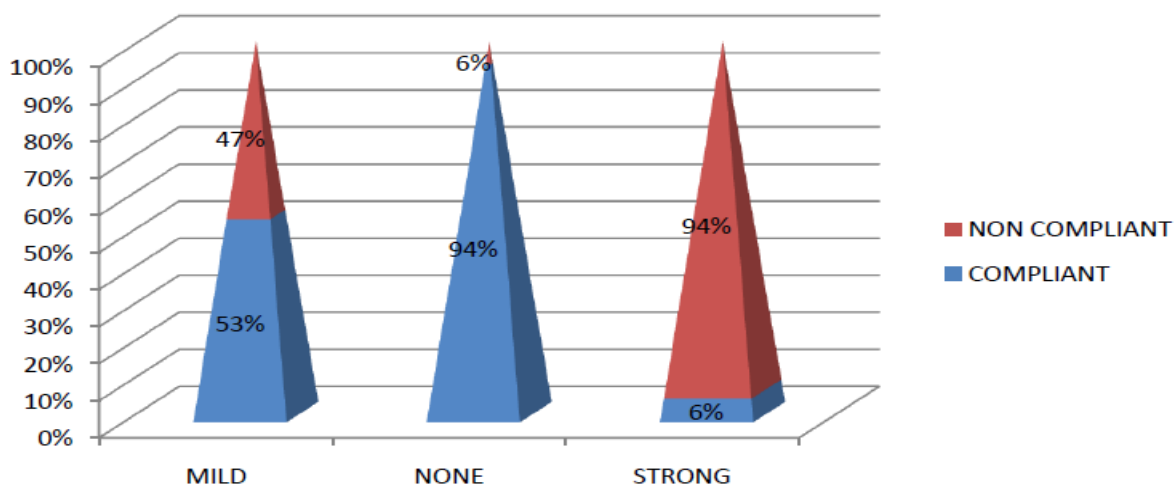
On analysis of access of treatment problem such as difficulty in getting appointment and medicine out of 124 patients in compliant group 58 respond as none, 16 respond as mild , 2 respond as strong. In non compliant group 30 respond as strong, 14 respond as mild, 4 respond as none. Chi square score is 68.854 and $p < 0.001$ which is highly significant. Result is shown in table no:17 and figure no:17

TABLE NO:17 COMPARISION WITH ACESS TO TREATMENT PROBLEM

			Acess_to_treatment_problem			Total
			Mild	None	Strong	
Compliant/non-compliant	Compliant	Count	16	58	2	76
		% within access_to_treatment_problem	53.3%	93.5%	6.2%	61.3%
	Non compliant	Count	14	4	30	48
		% within access_to_treatment_problem	46.7%	6.5%	93.8%	38.7%
Total		Count	30	62	32	124
		% within access_to_treatment_problem	100.0%	100.0%	100.0%	100.0 %

Chi-Square=68.854 ** $P < 0.001$ (Highly significant)

FIGURE NO:17



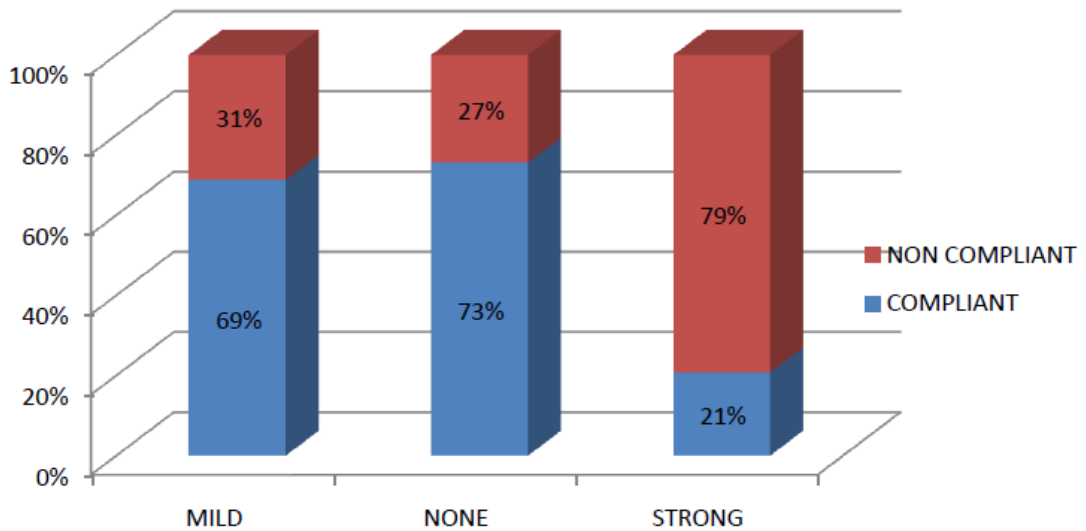
On analysis of embarrassment or stigma about taking medication, out of 124 patients in compliant group 38 respond as none , 33 respond as mild, 5 respond as strong. In non compliant group 19 respond as strong , 15 respond as mild , 14 respond as none. Chi square is 20.728 and p value <0.001 which is significant. Result is shown in table no:18 and figure no:18.

TABLE NO:18 COMPARISION WITH STIGMA

			Stigma			Total
			Mild	None	Strong	
Compliant/non-compliant	Compliant	Count	33	38	5	76
		% within stigma	68.8%	73.1%	20.8%	61.3%
	Non-compliant	Count	15	14	19	48
		% within stigma	31.2%	26.9%	79.2%	38.7%
Total		Count	48	52	24	124
		% within stigma	100.0%	100.0%	100.0%	100.0%

CHI SQUARE=20.728**; P<0.001(HIGHLY SIGNIFICANT)

FIGURE NO:18



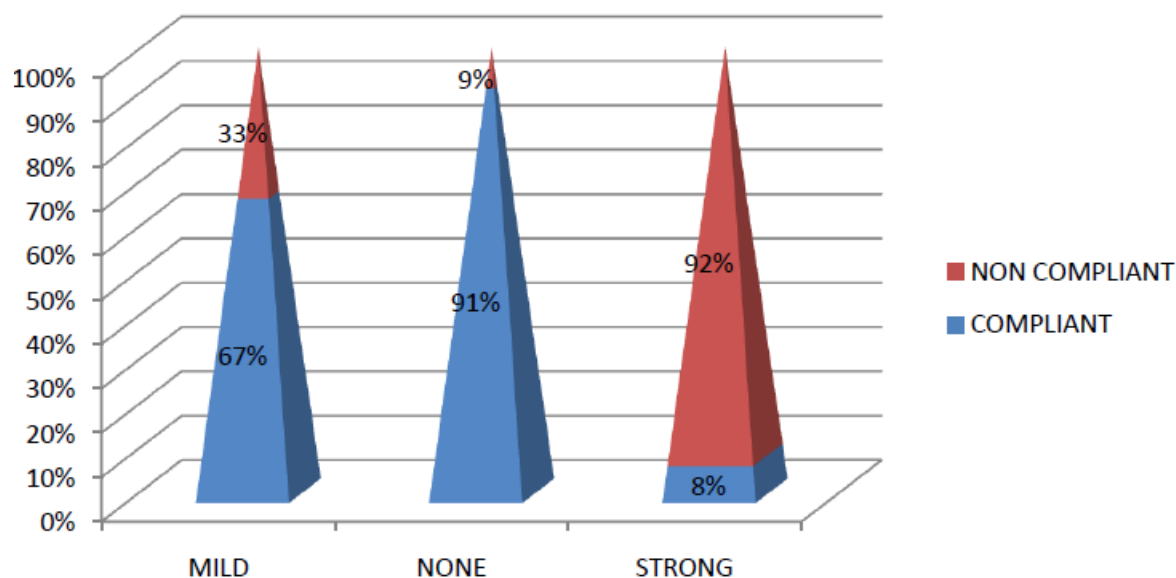
On analysis of financial obstacles for getting medication out of 124 patients in compliant group 57 respond as none, 16 respond as mild, 3 respond as strong. In non compliant group 34 respond as strong, 8 respond as mild, 6 respond as none. Chi square score is 67.02 and p value <0.001 which is highly significant. Result is shown in table no:19 and figure: no19.

TABLE NO:19 COMPARISION WITH FINANCIAL OBSTACLES

			Financial_obstacles			Total
			Mild	None	Strong	
Compliant/non _compliant	Compliant	Count	16	57	3	76
		% within financial_obstacles	66.7%	90.5%	8.1%	61.3%
	Non compliant	Count	8	6	34	48
		% within financial_obstacles	33.3%	9.5%	91.9%	38.7%
Total		Count	24	63	37	124
		% within financial_obstacles	100.0 %	100.0%	100.0%	100.0%

CHI SQUARE =67.02**; P<0.001(HIGHLY SIGINIFICANT)

FIGURE NO:19



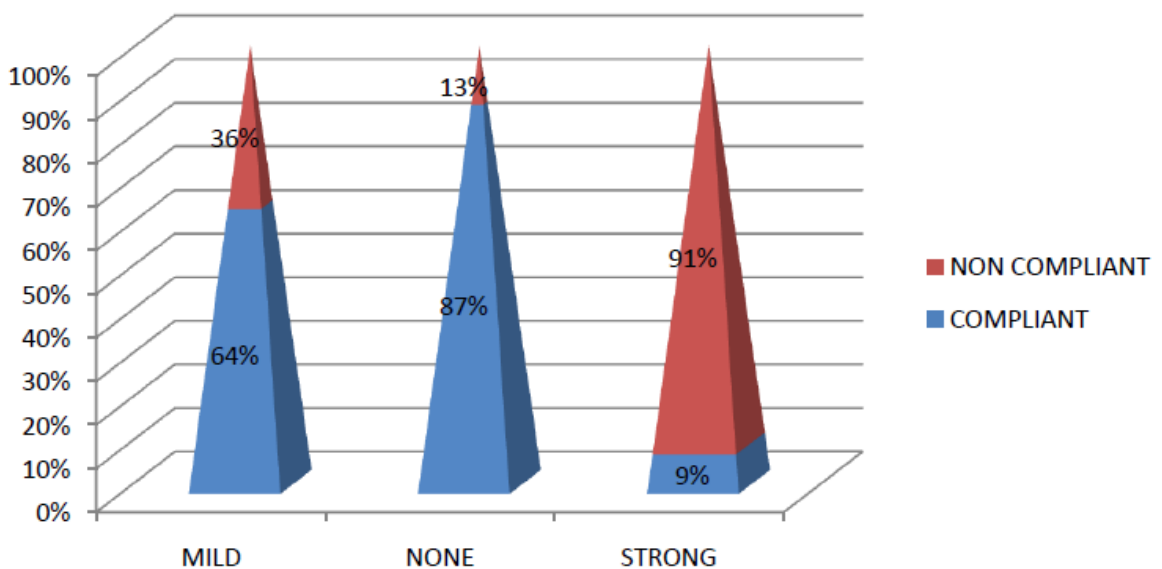
On analysis of substance use factor influence on drug non compliance, out of 124 patients in compliant group 59 respond as none,14 respond as mild, 3 respond as strong. In non compliant group 31 respond as strong, 9 respond as none, 8 respond as mild. Chi square score is 58.100 and p value <0.001 which is highly significant. Result is shown in table no:20 and figure no:20.

TABLE NO:20 COMPARISION WITH SUBSTANCE USE

			Substance_use			Total
			Mild	None	Strong	
Compliantnon _compliant	Compliant	Count	14	59	3	76
		% within substance_use	63.6%	86.8%	8.8%	61.3%
	Non compliant	Count	8	9	31	48
		% within substance_use	36.4%	13.2%	91.2%	38.7%
Total		Count	22	68	34	124
		% within substance_use	100.0%	100.0%	100.0%	100.0%

Chi-Square=58.100** P<0.001 (Highly significant)

FIGURE NO:20



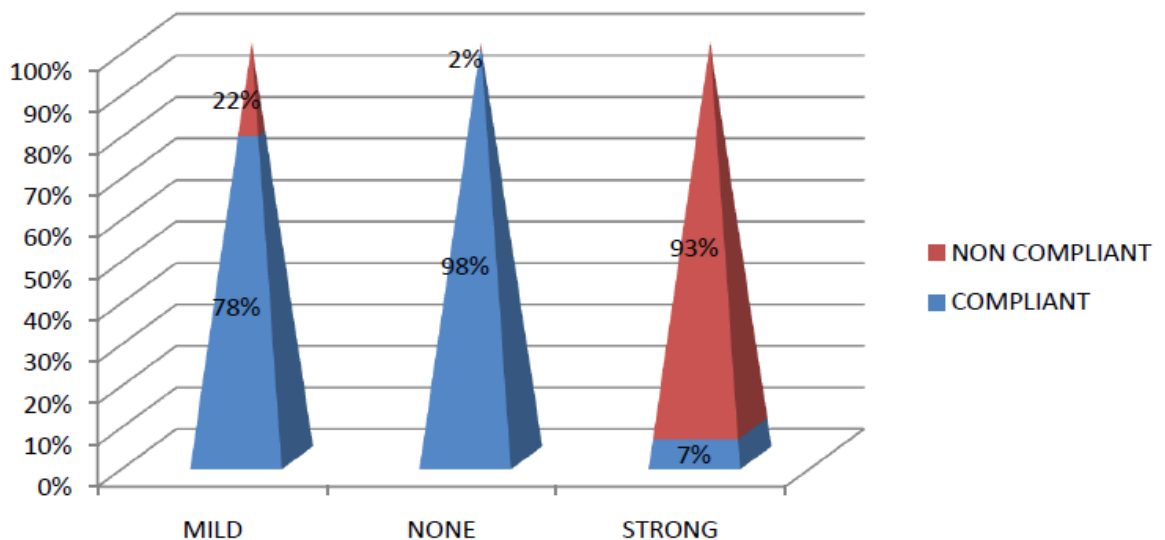
On analysis of denial of illness, out of 124 patients in compliant group 48 respond as none, 25 respond as none, 3 respond as strong. In non compliant group 40 respond as strong, 7 respond as mild, and 1 respond as none. Chi square score is 85.058 and p value is <0.001 which is highly significant. Result shown in table no: 21 and figure no:21.

TABLE NO :21 COMPARISION WITH DENIAL OF ILLNESS

			Denial_of_illness			Total
			Mild	None	Strong	
Compliant/non _compliant	Compliant	Count	25	48	3	76
		% within denial_of_illness	78.1%	98.0%	7.0%	61.3%
	Non compliant	Count	7	1	40	48
		% within denial_of_illness	21.9%	2.0%	93.0%	38.7%
Total		Count	32	49	43	124
		% within denial_of_illness	100.0%	100.0 %	100.0%	100.0%

CHI SQUARE=85.058**; $P < 0.001$ (HIGHLY SIGNIFICANT)

FIGURE NO:21



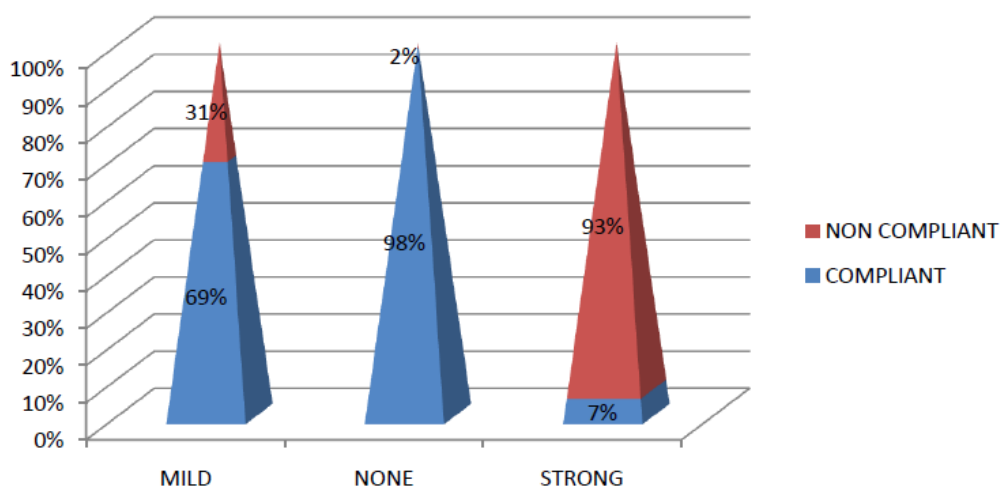
On analysis of patients believe that currently medication unnecessary , out of 124 patients in compliant group 62 respond as none,11 respond as mild, 3 respond as strong. In non compliant group 42 respond as strong, 5 respond as mild, 1 respond as none. Chi square score is 93.561 and p value <0.001 which is significant. Result is shown in table no:22 and figure no:22.

TABLE NO:22 COMPARISION WITH MEDICATION CURRENTLY NOT NECESSARY

			Medication_currently_not _necessary			Total
			Mild	None	Strong	
Compliant/non _compliant	Compliant	Count	11	62	3	76
		% within medication_currently __not_necessary	68.8%	98.4%	6.7%	61.3%
	Non compliant	Count	5	1	42	48
		% within medication_currently __not_necessary	31.2%	1.6%	93.3%	38.7%
Total		Count	16	63	45	124
		% within medication_currently __not_necessary	100.0%	100.0%	100.0%	100.0 %

CHI SQUARE=93.561 **,P<0.001(HIGHLY SIGNIFICANT)

FIGURE NO:22



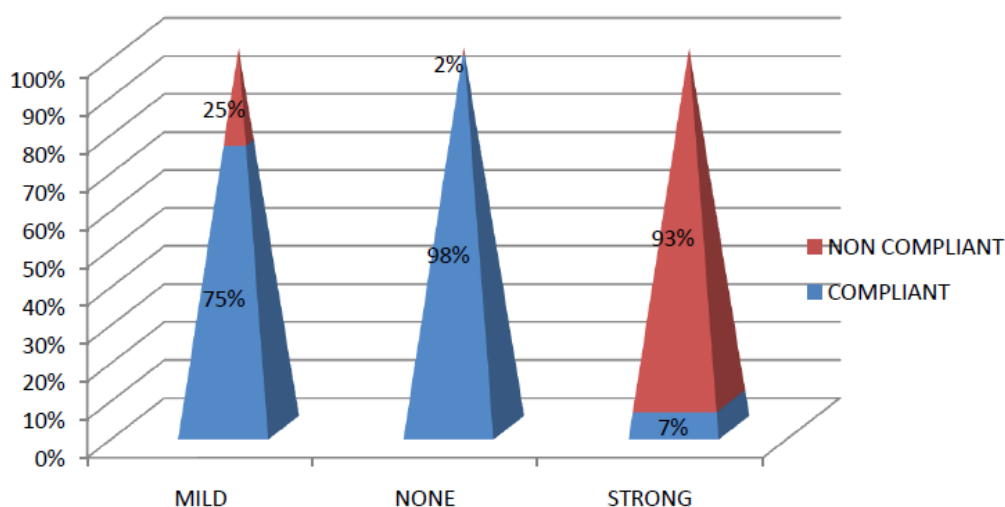
On analysis of distress by side effect of medication, out of 124 patients in compliant group 52 respond as none, 21 respond as mild, 3 respond as strong. In non compliant group 40 respond as strong, 7 respond as mild, 1 respond as none. Chi square score is 85.974 and p value < 0.001 which is highly significant. Result is shown in table no:23 and figure no:23.

TABLE NO:23 COMPARISION WITH DISTRESS BY SIDE EFFECT

			Distress_by_side_effect			Total
			Mild	None	Strong	
Compliant/non-compliant	Compliant	Count	21	52	3	76
		% within distress_by_side_effect	75.0%	98.1%	7.0%	61.3%
	Non compliant	Count	7	1	40	48
		% within distress_by_side_effect	25.0%	1.9%	93.0%	38.7%
Total		Count	28	53	43	124
		% within distress_by_side_effect	100.0%	100.0%	100.0%	100.0%

Chi-Square=85.974** P<0.001 (Highly significant)

FIGURE NO:23



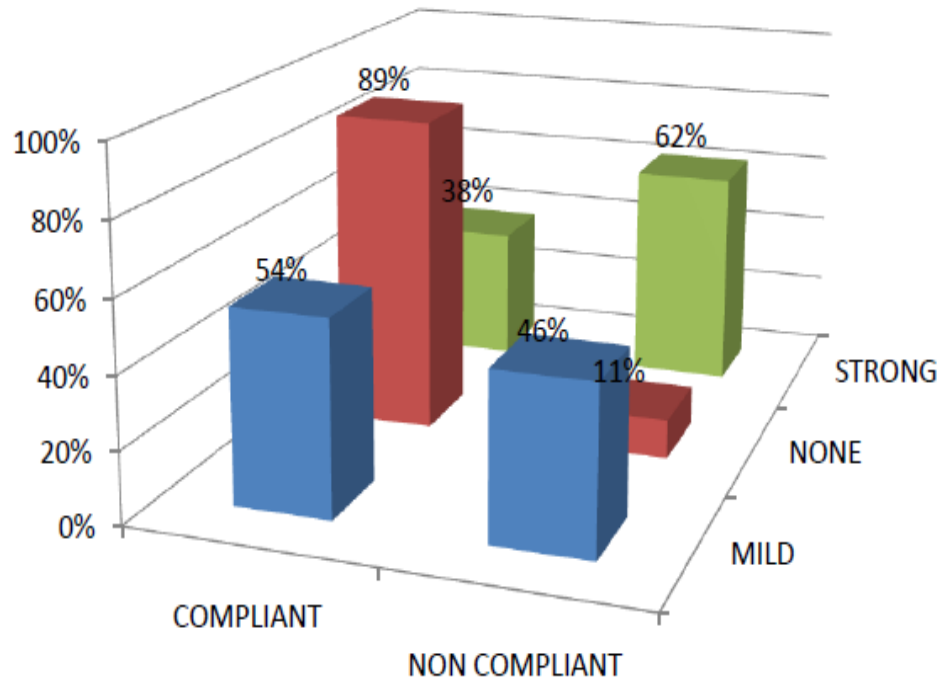
On analysis of patients desire for the hospitalization, out of 124 patients in compliant group 39 respond as none, 23 respond as mild, 14 respond as strong. In non compliant group 23 respond as strong, 20 respond as mild, 5 respond as none. Chi square score is 23.549 and p value <0.001 which is significant. Result is shown in table no:24 and figure no :24

TABLE NO :24 COMPARISION WITH DESIRE HOSPITALIZATION

			Desire hospitalisation			Total
			Mild	None	Strong	
Compliant/ noncompliant	Compliant	Count	23	39	14	76
		% within desire hospitalisation	53.5%	88.6%	37.8%	61.3%
	Non compliant	Count	20	5	23	48
		% within desire hospitalisation	46.5%	11.4%	62.2%	38.7%
Total		Count	43	44	37	124
		% within desire hospitalisation	100.0%	100.0%	100.0%	100.0%

CHI SQUARE=23.549**; P<0.001 (HIGHLY SIGNIFICANT)

FIGURE NO:24



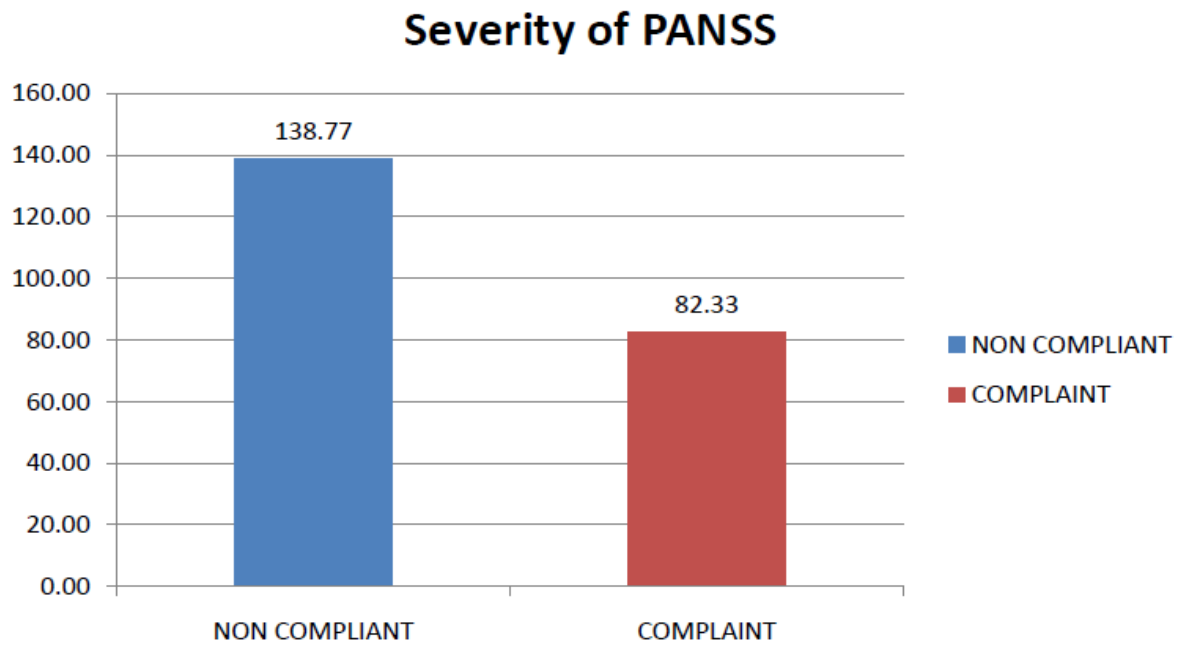
On analysis of SEVERITY OF PANSS with compliance and non compliance its association with age group age onset of illness. severity of PANSS have association with compliance and non compliance. t value found to be 43.906 and p value <0.001 which is significant. There is no association found with age group and age onset of illness .Result is shown in table no:25 and figure no:25.

TABLE NO:25 COMPARISION WITH SEVERITY OF PANSS

		N	Mean	Std. Deviation	Std. Error Mean	t value	p value
Severity of PANSS	Non compliant	48	138.7708	6.95040	1.00320	43.90	p<0.0
	Complaint	76	82.3289	6.98644	.80140	6*	01
Age	Non compliant	48	36.7083	8.18914	1.18200	.951	0.344
	Complaint	76	35.2632	8.28230	.95004		
Age onset of illness	Non compliant	48	26.1667	4.01769	.57990	-.314	0.754
	Complaint	76	26.4342	4.97282	.57042		

t value 43.906** p<0.001 (Highly significant)

FIGURE NO:25



DISCUSSION

The main objective of the studies to find out patients attitude towards medication and reason for drug poor compliance. Result are discussed under following heading:

1. Drug non compliance and its association with Socio demographical variables
2. Drug non compliance and its association with patients attitude towards medication
3. Drug non compliance and its association with positive and negative
4. Drug non compliance and its association with insight.
5. Factors contributing for drug compliance and non compliance
6. Drug non compliance and its association with severity of illness.

1. Drug non compliance and its association with demographical variables:

In this study demographic variables such as age, sex, marital status, educational qualification, type of family, family income, age onset of illness, on analysis of all the variables mentioned above, there is no significant association found with drug non compliance, statistical difference p value found to be non significant. When compared this result with previous studies shows similar results and few studies have significant association results, Agarwal et al⁽⁸⁰⁾ and Duncan and Roger's et al⁽⁴⁷⁾ shows that younger age of onset of illness more prone for drug non compliance and Sellwood and Tarrier⁽⁴³⁾ in 1994 found that male gender are more prone to poor drug compliance. Three prospective studies^(2,57,73) and one cross-sectional study⁽⁷⁴⁾ did not show a relation between adherence and socio demographic variables such as gender^(73,74), age⁽⁷³⁾, family/marital status^(2,73), ethnicity⁽⁷⁴⁾, occupational status/qualification⁽²⁾ and level of education^(2,57,73,74).

However, three prospective studies^(2,58,66) and one retrospective database study⁽⁶¹⁾ did report a positive relationship between socio demographic factors and adherence. For example, a positive relationship with older age^(2,61), and a negative relationship with low education level^(58,66) were identified. In addition, one study found that African Americans were more likely to have poor adherence compared with white people⁽⁶¹⁾.

2. Drug non compliance and its association with patients attitude towards medication.

Patients attitude towards medication is very important factor influence in drug compliance, patients with positive attitude towards medication have better compliance rate and then those who have negative attitude have negative attitude. There are numerous scale used to measure patients attitude towards medication most of studies used questionnaire, interview method, drug attitude inventory scale, attitude about medication questionnaire .In this study drug attitude inventory is used to measure patient attitude towards medication. Study result shows significant p value found to be $P < 0.001$. Similar result shows in previous studies^(17,39,41,42,46,54,81).

Two studies found to be no association with negative attitude towards medication^(19,28). Patient perception about whether medication helps them to control of symptoms appeared to be contribute to adherence rates. Rettenbacher et al done cross sectional study, found that the variable which best predicted compliance was “positive effect on everyday life as a reason for taking the drug and p value found to be significant ($p = 0.01$)”⁽⁵⁹⁾.

Two survey of experts **Velligan et al. 2009** reported that one of the important predictors of compliance problems was “**patient’s belief that medication does not work**”⁽⁷⁵⁾. **Linden et al. 2001** conducted prospective study, he found that “compliant patients have more trust on medication and they have tendency to feel less responsible for their illness, Evidence also

suggests that the patient's trust and belief in the effectiveness of prescribed medication may positively influence drug compliant rate⁽²⁾⁽⁶⁷⁾. "Attitude towards antipsychotic medication is significantly affected by the factors such as lack of insight into the illness, presence of global functioning, increased severity of illness and side effects of medications⁽⁸²⁾ .

3. Drug non compliance and its association with positive and negative symptoms.

Drug compliance more common in negative symptoms when compare with positive symptoms of schizophrenia in this study p value is statistically significant $p < 0.001$. Similar study done by Theresa M.Q. Tattan and Francis H. Creed on "Negative symptoms of schizophrenia and drug compliance with medication"⁽⁸³⁾. The relationship between poor adherences with antipsychotics and increase in severity of negative symptoms can be explained using a variety of hypotheses. Patients with apathy and avolition may find it difficult to motivate themselves to get to the medication regularly. Studies also implies that patients with negative symptoms are reluctant to attend for their antipsychotic medication because they feel it does not help to improve their residual symptoms. They may not appreciate the beneficial effects antipsychotic medication has on their positive symptoms. Patients with alogia (impoverished thinking and cognitive impairment) may have difficulty to understand about the illness and purpose of take medication and also have communication difficulty at the clinic. Negative symptoms act as barrier to patients with schizophrenia to becoming involved with rehabilitation services,

rehabilitation encourage compliance with medication. “compliance will hinder a community rehabilitation program”. there are possible explanations for poor compliance with medication in patient with negative symptoms were beyond the scope of the current study “patients with greater negative symptoms may lack insight into their illness and therefore not wish to continue taking medication regularly⁽⁸³⁾ .

4. Drug non compliance and its association with insight.

Insight on part of both patient and significant other thought to be an important factor influencing compliance with medication and treatment of schizophrenia. “Education for both patient and family member to identify disease symptoms, drug effect and side effect has the potential improvement on drug compliance in schizophrenia”.⁽⁸⁴⁾ In this study analysis of insight among compliance and drug non compliance, absent insight is major contributory for drug non compliance in schizophrenia p value found to be significant ($p < 0.001$). “Many individuals with schizophrenia have poor or no insight into their illness, meaning that they are not aware of the symptoms and consequences of their illness”^(57,73). one cross-sectional study⁽⁶⁸⁾ and survey of experts⁽⁷⁵⁾ four studies among that two prospective studies found a directional relation with insight it was associated with worse adherence. Study conducted by Velligan *et al.* 2009 rated “poor illness insight as the important role tononadherence”⁽⁷⁵⁾. Another cross-sectional study⁽⁷⁴⁾ shows that “individual who have poor insight and ignorance about illness and its symptoms is play vital role in less adherent to medication”. Other author hypothesized that

“patients have lack of insight may not accept that their symptoms can be managed, and they are less motivated to take medication and resolve their symptoms”.

Only one prospective study ⁽²⁾ reported no relation between drug compliance with insight, states that this contrary finding it may be due to the inclusion of more drug compliance patients which may, in turn, influence the overall findings concerning about patient compliance⁽⁶⁷⁾.

5.Factors contributing for drug compliance and non compliance.

As per ROMI , Factors contributing for drug compliance is assessed in this study following factor found to be contributing for drug compliance in schizophrenia perceived daily benefit , positive family belief without pressure or force to taking medication, fear of rehospitalisation, Relapse prevention. In this study also finding shows these are essential factor contributing for illness and p value found to be statistically significant. Factors contributing for drug non compliance are access to treatment problem such as difficulty in getting medication or appointment, embarrassment or stigma, financial obstacles, denial of illness, belief about medication currently not necessary, distressed by side effect, desires rehospitalisation. P value found to be statistically significant. This study result was similar when compare with previous study done by Rosa et al. by using of ROMI , suggested that factors shows that “Patients in the noncompliant group presented initial worsening of psychotic symptoms ($p < 0.05$) and had been treated for a shorter length of time ($p =$

0.007)”. “Perceived day-to-day benefit” and “Distress by side effect” was major factor contributing for drug compliance in patient with schizophrenia.

According to Loffler et al.⁽⁵⁷⁾ also state that perceived benefit from medication major contributory reason for patients' complaint with antipsychotic medication. Negative side effect of medication one of the reason for drug non compliance. There is no statistically significant differences in responses between the patients on treatment with First generation versus second-generation antipsychotics. A positive relationship with the therapist and a positive attitude of family members and significant others toward antipsychotic treatment is one of the major reason for medication compliance. Lack of acceptance of the necessity of psychiatric medication and lack of insight into the disease major reason for drug non compliance⁽⁵⁷⁾.

According to Chandra et al. done in India, The significant reasons for non-compliance in our study were “Denial of illness, financial burden, less access to treatment facilities, Side-effects of the medication, Feeling that the medication was unnecessary and Substance abuse”(8).

Substance use.

In this study result shows significant association between substance use and drug non compliance. “Substance abuse is highly prevalent in patients with schizophrenia and is strongly associated with nonadherence, leading to a 13-fold increased risk of patients with schizophrenia and substance abuse to be non-adherent, in comparison with patients who do not use substances”⁽⁸⁵⁾. Four

prospective studies^(58,66,69,76) and the survey of experts ⁽⁷⁵⁾ suggested that substance use affect drug compliance and there is negative relationship exist between these two factors. Among four studies one studies⁽⁶⁵⁾ found that “almost a third of nonadherent patients with schizophrenia were substance users compared with a fifth of adherent patients and that patients with prior or current abuse of alcohol or drugs were more likely to be nonadherent”.

According to Acosta *et al.* 2009 ⁽⁷³⁾ found on comparing substance use with non adherent and adherent group ,patient have past and present history of substance in non adherent group but result did not show significant association⁽⁶⁷⁾.

Drug side effect:

The efficacy of the drug plays vital role in drug compliance, drug with good efficacy shows improvement in treating symptoms leads good drug compliant rate. One major factor for drug compliance is side effect of medication, it have indirectly cause negative impact on patients as well as care giver attitude towards medication. According to weiden et al⁽⁸⁶⁾1986 “Sedation, anticholinergic effects, cognitive blunting, depression, sexual dysfunction, and extrapyramidal syndromes— dystonia, akinesia, Parkinsonian effects, akathisia, and tardive dyskinesia are unpleasant side effect of antipsychotic which is result in drug non compliance”. In second generation antipsychotic weight gain and sedation are more common problem, studies show small advantage in tolerability and reducing relapse rate, but these advantages not directly show any difference in adherence rate between first and second

generation. According to following studies⁽⁸⁷⁻⁹⁰⁾ “Between one-quarter and two-thirds of patients who discontinue prescribed antipsychotics medicines due to side effects as their primary reason for non compliance”. Among outpatients, According to following studies both self^(28,31,91) and physician^(36,39,92) ratings of side effects are associated with or predictive of noncompliance⁽⁷⁸⁾.

6. Drug non compliance and its association with severity of illness.

Severity of illness have great role in drug compliance, severe psychopathology affect drug compliance. In this study also patient with more severe psychopathology are more prone for drug non compliance , severity assessed by PANSS, result found to be statistically significant $p < 0.001$. similar result show in previous study both inpatient drug refusal and outpatient noncompliance are consistently associated with more severe ratings of psychopathology. Eight studies assessed the relationship between symptom severity or global functioning and inpatient medication refusal, future outpatient medication compliance, or attitude toward medication. According to one study⁽⁹³⁾ found “more severe psychopathology, including disorganization, hostility, and suspiciousness, associated with inpatient drug refusal”. Five investigations reported a “positive association between symptom severity at or after discharge and poor outpatient compliance^(29,31,36,88) or poor attitude toward compliance”⁽⁹⁴⁾. One study found only the “Brief Psychiatric Rating Scale⁽⁹⁵⁾ grandiosity score to be associated with poor compliance”⁽³²⁾ and one study reported “no relationship between symptom severity at discharge and future outpatient compliance”⁽⁹⁶⁾. Seven studies investigating the relationship between

paranoid suspiciousness, persecutory delusions, or schizophrenia subtype and medication adherence yielded mixed results. Two studies^(38,87) reported that “noncompliance preceding a hospitalization is more common among patients with paranoid schizophrenia subtype”. An additional investigation reported “greater noncompliance as measured with urine screens among inpatients with paranoid delusions”⁽⁹⁷⁾. In contrast, one investigation found “no association between paranoid schizophrenia subtype and the expressed willingness to take medications”⁽⁹⁸⁾.

one study found no association between subtype and self-reported outpatient compliance⁽⁸⁹⁾, and another study reported no association between paranoid ratings and missed depot appointments⁽³²⁾. In a study that may reconcile these discrepant findings, One study⁽²⁹⁾ found “no association between compliance and paranoid schizophrenia subtype, but noted that 85% of paranoid schizophrenia patients with delusions of persecution or influence habitually complied with medications, whereas 92 % of paranoid patients with grandiose delusions habitually refused medications”⁽⁷⁸⁾.

CONCLUSION

In schizophrenia preventive and treatment of non compliance is major importance for relapse prevention . “There are multiple cause for non compliance all empirical literature identify circumscribed set of factors that alone or in varying combinations are likely to be operative in individual cases”⁽⁷⁸⁾. Study also suggested that educating patients and relative regarding medication and nature of illness plays vital role to prevent drug non compliances. Insight and perceived benefits of medication consider to be positive factor for drug compliances. “A comprehensive understanding and integration of patient, illness, treatment, and environmental factors are needed to manage noncompliance”⁽⁹⁹⁾. Considering the substantial burden of non compliance in schizophrenia on patients and society as a whole, improved compliance in schizophrenia is more precious to patients and society. “Non adherence is complex behavior issues and therefore it is necessary to measure nonadherence from many angles and it needed multifaceted approach with patients and healthcare providers”⁽⁷⁸⁾.

LIMITATION

In this studies there are certain limitation unable to cover:

1. Availability of nearest health care facility for getting drug and availability of psychiatrist in particular district not reported. Difficulty in travelling long distance may be one of reason of drug non compliances in patients.
2. Relationship between polypharmacy and its association with drug non compliance not find out in the study. Polypharmacy may be one of reason for drug non compliance. Excessive number of tablet prescribed per day make negative response in patient attitude it is not find out in this study.
3. Relationship between oral and depot preparation of antipsychotic, how it influence drug non compliance not find out in this study.
4. In this study self report base assessment scale only used for asses drug compliance .
5. Past history of drug non compliance is not assessed in this study.
6. Difference in Drug compliance rate with typical and atypical antipsychotic is not assessed in this study.
7. Chronic medical condition co morbid with schizophrenia influence with drug compliance not assessed.

FUTURE DIRECTION

In future, study needed to find out neurocognition and its relationship with drug compliance. There is great need for consistent definition for adherences and also measures of adherence to overcome unbiased and meaningful comparison of result. For better understanding about drug non compliances in future large number of prospective studies need to be conduct to find out drug noncompliance in same patient observed over long period of time.

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ANNEXURE NO:1

SOCIO-DEMOGRAPHIC PROFILE

I1. INFORMANT NAME		I3. INFORMANT ADDRESS:	
I2. INFORMANT ID			
Q1.Age			
Q2. Sex	1.Male	2.female	
Q3.Marital status	1.Single	3.Divorced	
	2.Married	4.Widow	
Q4.Education (1.patient 2.primary care giver)	1.Graduate		
	2.secondary level education		
	3.Primary level education		
	4.illiterate		
Q5.Religion	1.Hindu	3.Muslim	
	2.Christian	4.others	
		5.do not like to say	
Q7.Presence of Physical illness	1.Yes	2.No	
If yes--- 1.HT 2.DM 3.BA 4.thyroid disorders 5.others			

Q8.Average Monthly Income(1.patient 2.primary care giver)	1.<1589
	2.1590-4726
	3.4727-7877
	4.7878-11816
	5.11817-15753
	6.15754-31506
	7.>31,507

Q10.access to primary care – in time	1.<15 min
	2.15-30 min
	3.30 -60 min
	4.>60 min
Q11.access to speciality set up – in time	1.<1hr
	2.1-3hr
	3.3-6hr
	4.>6hr

Q9.Type of occupation (1.patient 2.primary care giver)	1.Professional
	2.Semi-Professional
	3.Clerical/Shop owner/Farmer
	4.Skilled worker
	5.semi-skilled
	6.unskilled
	7.unemployed

Q12.access to required medicines – in time	1.<1hr
	2.1-3hr
	3.3-6hr
	4.>6hr
Q13. Nearest access to required medicines – in terms if health service available	1.primary care
	2.secondary care
	3.tertiary care
	4.private
Q14. Average cost of medical care per month (in rupees)	1.<100
	2.100-500
	3.500-1000
	4.>1000
Transport to health care(self,private or govt transport services)	
Q15.Accessibility	1.<1 km
	2.1-3 km
	3.>3 km
Q16.Frequency	1.once in 15 min
	2.15 min to 1 hr
	3. once in 1 hr
Q17.Cost	1.<rs.50/visit
	2. rs.50-100/visit
	3. >100/visit

ANNEXURE NO:2

RATING OF POSITIVE AND NEGATIVE SYMPTOMS

		<u>absent</u>	<u>minimal</u>	<u>mild</u>	<u>Moderate</u>	<u>Moderate</u>	<u>severe</u>	<u>extreme</u>
					<u>-ate</u>	<u>severe</u>		

P1	Delusions	1	2	3	4	5	6	7
P2	Conceptual disorganisation	1	2	3	4	5	6	7
P3	Hallucinatory behaviour	1	2	3	4	5	6	7
P4	Excitement	1	2	3	4	5	6	7
P5	Grandiosity	1	2	3	4	5	6	7
P6	Suspiciousness/persecution	1	2	3	4	5	6	7
P7	Hostility	1	2	3	4	5	6	7

N1	Blunted affect	1	2	3	4	5	6	7
N2	Emotional withdrawal	1	2	3	4	5	6	7
N3	Poor rapport	1	2	3	4	5	6	7
N4	Passive/apathetic social withdrawal	1	2	3	4	5	6	7
N5	Difficulty in abstract thinking	1	2	3	4	5	6	7
N6	Lack of spontaneity & flow of conversation	1	2	3	4	5	6	7
N7	Stereotyped thinking	1	2	3	4	5	6	7

G1	Somatic concern	1	2	3	4	5	6	7
G2	Anxiety	1	2	3	4	5	6	7
G3	Guilt feelings	1	2	3	4	5	6	7
G4	Tension	1	2	3	4	5	6	7
G5	Mannerisms & posturing	1	2	3	4	5	6	7
G6	Depression	1	2	3	4	5	6	7
G7	Motor retardation	1	2	3	4	5	6	7
G8	Uncooperativeness	1	2	3	4	5	6	7
G9	Unusual thought content	1	2	3	4	5	6	7
G10	Disorientation	1	2	3	4	5	6	7
G11	Poor attention	1	2	3	4	5	6	7
G12	Lack of judgement & insight	1	2	3	4	5	6	7
G13	Disturbance of volition	1	2	3	4	5	6	7
G14	Poor impulse control	1	2	3	4	5	6	7
G15	Preoccupation	1	2	3	4	5	6	7
G16	Active social avoidance	1	2	3	4	5	6	7

ANNEXURE NO:3

RATING OF INSIGHT USING G12 DOMAIN OF PANSS

G12. LACK OF JUDGEMENT AND INSIGHT - Impaired awareness or understanding of one's own psychiatric condition and life situation. This is evidenced by failure to recognise past or present psychiatric illness or symptoms, denial of need for psychiatric hospitalisation or treatment, decisions characterised by poor anticipation or consequences, and unrealistic short-term and long-range planning.

Basis for rating – Thought content expressed during the interview.

- 1 **Absent** - Definition does not apply
- 2 **Minimal** - Questionable pathology; may be at the upper extreme of normal limits
- 3 **Mild** - Recognises having a psychiatric disorder but clearly underestimates its seriousness, the implications for treatment, or the importance of taking measures to avoid relapse. Future planning may be poorly conceived.
- 4 **Moderate** - Patient shows only a vague or shallow recognition of illness. There may be fluctuations in acknowledgement of being ill or little awareness of major symptoms which are present, such as delusions, disorganised thinking, suspiciousness and social withdrawal. The patient may rationalise the need for treatment in terms of its relieving lesser symptoms, such as anxiety, tension and sleep difficulty.
- 5 **Moderate Severe** - Acknowledges past but not present psychiatric disorder. If challenged, the patient may concede the presence of some unrelated or insignificant symptoms, which tend to be explained away by gross misinterpretation or delusional thinking. The need for psychiatric treatment similarly goes unrecognised.
- 6 **Severe** - Patient denies ever having had a psychiatric disorder. He disavows the presence of any psychiatric symptoms in the past or present and, though compliant, denies the need for treatment and hospitalisation.
- 7 **Extreme** - Emphatic denial of past and present psychiatric illness. Current hospitalisation and treatment are given a delusional interpretation (e.g. as punishment for misdeeds, as persecution by tormentors, etc), and the patient thus refuse to cooperate with therapists, medication or other aspects of treatment.

ANNEXURE NO:4

DRUG ATTITUDE INVENTORY-10

The DAI-10 was derived by means of stepwise discriminant analyses applied to the responses of 150 schizophrenia patients to the DAI-30 (Awad, 1993). The DAI-10 contains six items that a patient who is fully adherent to prescribed medication would answer as 'True', and four they would rate as 'False'. Scores are allocated to each answer and the total score is calculated in the same way as for the DAI-30. Similarly, a positive total score indicates a positive subjective response (adherent) and a negative total score indicates a negative subjective response (non-adherent).

DAI-10 questionnaire

Name	Date	Question	Answer (True/False)*
1		For me, the good things about medication outweigh the bad	T / F
2		I feel strange, "doped up", on medication	T / F
3		I take medications of my own free choice	T / F
4		Medications make me feel more relaxed	T / F
5		Medication makes me feel tired and sluggish	T / F
6		I take medication only when I feel ill	T / F
7		I feel more normal on medication	T / F
8		It is unnatural for my mind and body to be controlled by medications	T / F
9		My thoughts are clearer on medication	T / F
10		Taking medication will prevent me from having a breakdown	T / F
If you have any further comments about medication or this questionnaire, please write them below			

T = True, F = False

*Answers shown in **bold** are scored +1; answers in normal font are scored -1

ANNEXURE NO:5
RATING OF MEDICATION INFLUENCE SCALE IN
SCHIZOPHRENIA (ROMI)

Patient's name: _____ Date _____

Rater's name: _____

BEGINNING THE INTERVIEW:

A) SEMI-STRUCTURED INTERVIEW

For interviewing patients with whom you are not well acquainted, it is helpful to begin the interview with a few background questions. Reviewing the overall situation and setting will help you obtain more accurate information regarding factors which directly affect compliance.

Suggested prompt:

"I'm trying to learn about people's attitudes toward taking neuroleptic medication. I'd like to understand what makes people willing to take medication and what makes them feel reluctant to take medication. But, before I ask you about your opinions, I need to ask you a little background information."

You should ask about the following general areas which may impact on compliance. These topics include:

(1) Living situation (e.g., supervised vs. unsupervised, alone vs. family vs. residence).

(2) Treatment setting. _____

(3) Prescribed medication regimen (specific neuroleptic, IM route of medication vs. oral, other non-neuroleptic medication, dosage, frequency, length of treatment).

(4) Patient's overall attitude toward treatment and medication (positive vs. negative, voluntary compliance vs. coerced compliance). _____

(5) The family's and caregiver's overall attitude toward treatment and medication.

B) STRUCTURED INTERVIEW

"Now I'd like to ask you some questions about why you take the medication. There are no right or wrong answers, it's just what you think. I'm only interested in your opinion, not what your doctor or your family may think."

Begin the interview with an open ended question, such as, "What is the main reason you are willing to take medication?"

"Now I am going to read you some reasons other people are willing to take their medication. Please tell me if any of these reasons have influenced *your* willingness to take your medication over the past month."

If patient has been noncompliant for at least 1 week for any part of the last month or is currently off medication, begin with Part II, otherwise begin with Part I.

PART I: REASONS FOR COMPLIANCE

“ARE YOU WILLING TO TAKE YOUR MEDICATION BECAUSE”:

		DEGREE OF INFLUENCE			
1. PERCEIVED DAILY BENEFIT	NA	1	2	3	9
You believe the medicine helps you feel better?		None	Mild	Strong	Not Assessable
2. POSITIVE RELATION WITH PRESCRIBING CLINICIAN	NA	1	2	3	9
Your relationship with your prescribing doctor influences you?		None	Mild	Strong	Not Assessable
3. POSITIVE RELATION WITH THERAPIST	NA	1	2	3	9
Your relationship with your therapist influences you?		None	Mild	Strong	Not Assessable
4. POSITIVE FAMILY BELIEF					
Someone in your family or a friend believes that you should take medicine?	NA	1	2	3	9
		None	Mild	Strong	Not Assessable
5. RELAPSE PREVENTION					
You believe taking medication prevents your illness or symptoms from returning?	NA	1	2	3	9
		None	Mild	Strong	Not Assessable
6. PRESSURE/FORCE					
You are pressured or forced to take medication?	NA	1	2	3	9
		None	Mild	Strong	Not Assessable
7. FEAR OF REHOSPITALIZATION					
You are afraid of being rehospitalized?	NA	1	2	3	9
		None	Mild	Strong	Not Assessable

PART II: REASONS FOR NONCOMPLIANCE

“Even if you always take your medication, there may be times when you are reluctant to take it or wish you didn’t have to. What is the main reason you felt reluctant or wished you didn’t have to take the medication this month?”

“Now I am going to tell you some reasons other people are reluctant to take their medication. Please tell me if any of these reasons apply to you.”

“ARE YOU RELUCTANT TO TAKE YOUR MEDICATION BECAUSE”:

		DEGREE OF INFLUENCE			
8. NO PERCEIVED DAILY BENEFIT	NA	1	2	3	9
You believe medication does not help you feel better?		None	Mild	Strong	Not Assessable
9. NEGATIVE RELATION WITH CLINICIAN					
Your bad relationship with your prescribing doctor influences you?	NA	1	2	3	9
		None	Mild	Strong	Not Assessable

10. NEGATIVE RELATION WITH THERAPIST Your bad relationship with your therapist influences you?	NA	1	2	3	9
		None	Mild	Strong	Not Assessable
11. PRACTITIONER OPPOSED TO MEDS One of your practitioners does not believe you should be taking the medication?	NA	1	2	3	9
		None	Mild	Strong	Not Assessable
12. FAMILY/FRIEND OPPOSED TO MEDS Someone whose opinion is important to you is against your taking the medication?	NA	1	2	3	9
		None	Mild	Strong	Not Assessable
13. ACCESS TO TREATMENT PROBLEMS You have difficulty getting to your appointments, and/or difficulty getting meds?	NA	1	2	3	9
		None	Mild	Strong	Not Assessable
				Symptom Related Problems	<input type="checkbox"/>
				Logistical Problems	<input type="checkbox"/>
14. EMBARRASSMENT OR STIGMA OVER MEDS/ILLNESS You feel embarrassed about taking medication?	NA	1	2	3	9
		None	Mild	Strong	Not Assessable
15. FINANCIAL OBSTACLES You don't have enough money to pay for treatment or medication?	NA	1	2	3	9
		None	Mild	Strong	Not Assessable
16. SUBSTANCE ABUSE You would rather take other drugs or alcohol?	NA	1	2	3	9
		None	Mild	Strong	Not Assessable
17. DENIAL OF ILLNESS You don't believe you have a mental illness?	NA	1	2	3	9
		None	Mild	Strong	Not Assessable
18. MEDICATION CURRENTLY UNNECESSARY You don't believe that you currently need the medication?	NA	1	2	3	9
		None	Mild	Strong	Not Assessable
19. DISTRESSED BY SIDE EFFECTS The side effects of the medicine are too upsetting to you?	NA	1	2	3	9
		None	Mild	Strong	Not Assessable
				Current Side Effects	<input type="checkbox"/>
				Fear of Future Side Effects	<input type="checkbox"/>
20. DESIRES REHOSPITALIZATION You feel more comfortable in the hospital?	NA	1	2	3	9
		None	Mild	Strong	Not Assessable

NAME	AGE	SEX	MARITALSTATUS	EDUCATIONAL STATUS	OCCUPATION	TYPE OF FANAGE	OI ATTITUDES
SUBRAMANI	34	MALE	MARRIED	PRIMARY	UNEMPLOYED	NUCLEAR	28 NEGATIVE
JOHN PETER	48	MALE	MARRIED	ILLITERATE	UNEMPLOYED	NUCLEAR	32 NEGATIVE
UMA MAHESHWARI	26	FEMALE	SINGLE	PRIMARY	UNEMPLOYED	NUCLEAR	24 NEGATIVE
BALU	32	MALE	MARRIED	PRIMARY	EMPLOYED	JOINT	28 POSITIVE
JOHNSIRANI	45	FEMALE	MARRIED	ILLITERATE	UNEMPLOYED	NUCLEAR	22 POSITIVE
ANBARASAN	30	MALE	SINGLE	PRIMARY	UNEMPLOYED	NUCLEAR	26 POSITIVE
RAJA RATHINAM	27	MALE	SINGLE	GRADUATE	UNEMPLOYED	JOINT	25 POSITIVE
SAKUNTHALA	45	FEMALE	MARRIED	SECONDARY	UNEMPLOYED	JOINT	25 NEGATIVE
SETHU	34	MALE	SINGLE	PRIMARY	UNEMPLOYED	NUCLEAR	19 NEGATIVE
KOKILA	50	FEMALE	MARRIED	SECONDARY	UNEMPLOYED	NUCLEAR	30 POSITIVE
SHANMUGAPRIYA	28	FEMALE	SINGLE	GRADUATE	UNEMPLOYED	NUCLEAR	22 POSITIVE
SIVAN	35	MALE	MARRIED	PRIMARY	UNEMPLOYED	NUCLEAR	26 POSITIVE
GOPAL	37	MALE	MARRIED	SECONDARY	EMPLOYED	JOINT	30 NEGATIVE
RAMKUMAR	43	MALE	MARRIED	PRIMARY	EMPLOYED	NUCLEAR	30 POSITIVE
PAVITHRA	30	FEMALE	MARRIED	SECONDARY	UNEMPLOYED	NUCLEAR	23 POSITIVE
HEMA	29	FEMALE	SINGLE	PRIMARY	UNEMPLOYED	JOINT	27 POSITIVE
ROOPA	22	FEMALE	SINGLE	PRIMARY	UNEMPLOYED	NUCLEAR	19 POSITIVE
KASI	45	MALE	MARRIED	SECONDARY	EMPLOYED	NUCLEAR	35 NEGATIVE
BHAGATHACHALAM	34	MALE	MARRIED	ILLITERATE	UNEMPLOYED	NUCLEAR	28 NEGATIVE
MARIYAM	44	FEMALE	MARRIED	GRADUATE	UNEMPLOYED	JOINT	28 POSITIVE
PUSHPALATHA	22	FEMALE	SINGLE	ILLITERATE	UNEMPLOYED	NUCLEAR	19 POSITIVE
GOVINDARAJAN	23	MALE	SINGLE	GRADUATE	UNEMPLOYED	NUCLEAR	18 POSITIVE
MARIYAM R	34	FEMALE	MARRIED	PRIMARY	UNEMPLOYED	NUCLEAR	25 NEGATIVE
KRISHNAN	56	MALE	MARRIED	SECONDARY	UNEMPLOYED	NUCLEAR	43 POSITIVE
GOPI	45	MALE	SINGLE	PRIMARY	UNEMPLOYED	NUCLEAR	28 POSITIVE
DINESH	34	MALE	SINGLE	GRADUATE	UNEMPLOYED	JOINT	26 POSITIVE
VENKATESAN	34	MALE	MARRIED	PRIMARY	UNEMPLOYED	NUCLEAR	25 NEGATIVE
MATHANKUMAR	32	MALE	MARRIED	SECONDARY	EMPLOYED	NUCLEAR	30 NEGATIVE
RENUKA	40	FEMALE	SINGLE	GRADUATE	EMPLOYED	JOINT	30 NEGATIVE
SIVAPRIYA	51	FEMALE	MARRIED	PRIMARY	EMPLOYED	NUCLEAR	25 NEGATIVE
PADMAVATHI	23	FEMALE	MARRIED	SECONDARY	UNEMPLOYED	NUCLEAR	18 POSITIVE
NOORULA	34	MALE	SINGLE	PRIMARY	EMPLOYED	JOINT	28 POSITIVE
JAKIR HUSSAIN	31	MALE	SINGLE	GRADUATE	UNEMPLOYED	NUCLEAR	26 NEGATIVE

THULASIBALAN	35 MALE	MARRIED	PRIMARY	UNEMPLOYED	NUCLEAR	27 POSITIVE
EZHILAN	32 MALE	MARRIED	SECONDARY	UNEMPLOYED	NUCLEAR	23 NEGATIVE
RAVISHANKAR	34 MALE	MARRIED	ILLITERATE	UNEMPLOYED	JOINT	28 POSITIVE
BOOPATHY	36 MALE	SINGLE	GRADUATE	UNEMPLOYED	NUCLEAR	30 POSITIVE
MANJULA	37 FEMALE	SINGLE	GRADUATE	UNEMPLOYED	NUCLEAR	37 POSITIVE
INDIRANI	32 FEMALE	SINGLE	ILLITERATE	EMPLOYED	JOINT	25 POSITIVE
VANAJA	35 FEMALE	SINGLE	ILLITERATE	UNEMPLOYED	NUCLEAR	28 POSITIVE
KOSALAI	33 FEMALE	SINGLE	GRADUATE	UNEMPLOYED	NUCLEAR	28 POSITIVE
MURUGAN	32 MALE	SINGLE	GRADUATE	UNEMPLOYED	NUCLEAR	27 POSITIVE
VERAMUTHU	31 MALE	MARRIED	GRADUATE	UNEMPLOYED	JOINT	24 POSITIVE
KAUVERI	32 FEMALE	MARRIED	PRIMARY	EMPLOYED	NUCLEAR	28 NEGATIVE
THILAGAVATHY	36 FEMALE	MARRIED	SECONDARY	UNEMPLOYED	NUCLEAR	22 NEGATIVE
GOPAL	38 MALE	MARRIED	ILLITERATE	UNEMPLOYED	NUCLEAR	23 POSITIVE
NATARAJ	34 MALE	MARRIED	PRIMARY	UNEMPLOYED	NUCLEAR	30 NEGATIVE
ANTHONY SWAMY	36 MALE	MARRIED	GRADUATE	UNEMPLOYED	JOINT	28 NEGATIVE
TRIPURA SUNDARI	34 FEMALE	SINGLE	ILLITERATE	UNEMPLOYED	NUCLEAR	26 POSITIVE
NEETHI MANICKAM	34 MALE	SINGLE	GRADUATE	EMPLOYED	NUCLEAR	30 POSITIVE
MOHMAD JERJEES	44 MALE	MARRIED	ILLITERATE	UNEMPLOYED	NUCLEAR	35 NEGATIVE
YASIN	23 MALE	SINGLE	GRADUATE	UNEMPLOYED	NUCLEAR	18 POSITIVE
RENUKA	35 FEMALE	MARRIED	PRIMARY	EMPLOYED	NUCLEAR	32 POSITIVE
RABISHA	36 FEMALE	MARRIED	GRADUATE	UNEMPLOYED	NUCLEAR	28 NEGATIVE
RAJINI	37 MALE	MARRIED	GRADUATE	EMPLOYED	JOINT	33 POSITIVE
MOHAMAD BATCH	36 MALE	MARRIED	ILLITERATE	UNEMPLOYED	NUCLEAR	30 NEGATIVE
JEBARATHINAM	34 MALE	MARRIED	GRADUATE	UNEMPLOYED	NUCLEAR	26 POSITIVE
PRINCY	33 FEMALE	MARRIED	ILLITERATE	EMPLOYED	JOINT	23 POSITIVE
ARAVIND	36 MALE	MARRIED	GRADUATE	UNEMPLOYED	NUCLEAR	22 NEGATIVE
KAVI	45 MALE	SINGLE	ILLITERATE	UNEMPLOYED	NUCLEAR	30 POSITIVE
SHANTHI	47 FEMALE	SINGLE	ILLITERATE	EMPLOYED	NUCLEAR	26 NEGATIVE
VINOTH	32 MALE	SINGLE	GRADUATE	UNEMPLOYED	JOINT	26 NEGATIVE
RAVI MOORTHY	44 MALE	MARRIED	ILLITERATE	UNEMPLOYED	NUCLEAR	23 NEGATIVE
ARIVUKARASI	33 FEMALE	MARRIED	SECONDARY	UNEMPLOYED	NUCLEAR	26 POSITIVE
SETHU	43 MALE	MARRIED	ILLITERATE	EMPLOYED	NUCLEAR	30 POSITIVE
BAGAVAT	23 MALE	SINGLE	GRADUATE	UNEMPLOYED	JOINT	18 POSITIVE
MEENA	28 FEMALE	SINGLE	ILLITERATE	UNEMPLOYED	NUCLEAR	24 NEGATIVE

RAMKUMAR	43	MALE	MARRIED	ILLITERATE	EMPLOYED	JOINT	26	NEGATIVE
BAGYARAJ	33	MALE	MARRIED	GRADUATE	UNEMPLOYED	NUCLEAR	27	POSITIVE
MAHESHWARI	56	FEMALE	MARRIED	ILLITERATE	EMPLOYED	NUCLEAR	28	NEGATIVE
SHAKITHA	45	FEMALE	MARRIED	PRIMARY	UNEMPLOYED	JOINT	34	NEGATIVE
GURUMOORTHY	47	MALE	MARRIED	PRIMARY	UNEMPLOYED	NUCLEAR	40	POSITIVE
SELVA GANAPATHY	48	MALE	MARRIED	SECONDARY	UNEMPLOYED	JOINT	27	POSITIVE
SELVI	46	FEMALE	MARRIED	ILLITERATE	EMPLOYED	NUCLEAR	30	NEGATIVE
SENTHIL	44	MALE	MARRIED	ILLITERATE	UNEMPLOYED	NUCLEAR	27	POSITIVE
KAVIPERASU	45	MALE	MARRIED	ILLITERATE	EMPLOYED	NUCLEAR	26	NEGATIVE
PADMA	47	FEMALE	SINGLE	SECONDARY	UNEMPLOYED	JOINT	20	NEGATIVE
PANEER	48	MALE	MARRIED	ILLITERATE	UNEMPLOYED	NUCLEAR	25	POSITIVE
SELVAM	54	MALE	MARRIED	ILLITERATE	UNEMPLOYED	NUCLEAR	26	NEGATIVE
KAVINALAVU	43	FEMALE	MARRIED	PRIMARY	UNEMPLOYED	NUCLEAR	35	POSITIVE
BALAJI	23	MALE	MARRIED	ILLITERATE	EMPLOYED	NUCLEAR	18	NEGATIVE
VISHWAMALYA	34	FEMALE	SINGLE	GRADUATE	UNEMPLOYED	JOINT	30	POSITIVE
RAVISHANKAR	34	MALE	MARRIED	GRADUATE	UNEMPLOYED	NUCLEAR	28	POSITIVE
AARTHI	45	FEMALE	SINGLE	ILLITERATE	UNEMPLOYED	NUCLEAR	20	NEGATIVE
LAKSHMANAN	47	MALE	MARRIED	ILLITERATE	EMPLOYED	NUCLEAR	32	POSITIVE
MEENAKCHI	45	FEMALE	MARRIED	PRIMARY	UNEMPLOYED	NUCLEAR	35	POSITIVE
KAVISUNDRAM	34	MALE	MARRIED	ILLITERATE	UNEMPLOYED	JOINT	28	POSITIVE
AGAYARKANI	23	FEMALE	MARRIED	GRADUATE	EMPLOYED	NUCLEAR	18	NEGATIVE
PANEER	27	MALE	MARRIED	GRADUATE	UNEMPLOYED	NUCLEAR	24	POSITIVE
SAVITHA	28	FEMALE	SINGLE	ILLITERATE	UNEMPLOYED	NUCLEAR	22	NEGATIVE
GOPAL	29	MALE	MARRIED	PRIMARY	EMPLOYED	NUCLEAR	20	POSITIVE
SUBBAMAL	27	FEMALE	SINGLE	SECONDARY	UNEMPLOYED	NUCLEAR	26	NEGATIVE
RAMANARAYAN	45	MALE	MARRIED	ILLITERATE	UNEMPLOYED	NUCLEAR	28	NEGATIVE
SHINY	43	FEMALE	MARRIED	PRIMARY	UNEMPLOYED	NUCLEAR	28	NEGATIVE
KAPOOR KHAN	23	MALE	MARRIED	ILLITERATE	UNEMPLOYED	NUCLEAR	25	POSITIVE
GAYATHRIDEVI	27	FEMALE	SINGLE	SECONDARY	EMPLOYED	NUCLEAR	25	POSITIVE
MOHAMAD ELAHI	28	MALE	MARRIED	ILLITERATE	UNEMPLOYED	NUCLEAR	25	POSITIVE
RAVIBOPATHY	28	MALE	SINGLE	ILLITERATE	UNEMPLOYED	JOINT	23	NEGATIVE
SALIMA	26	FEMALE	MARRIED	SECONDARY	EMPLOYED	NUCLEAR	24	POSITIVE
PARTHIBAN	23	MALE	SINGLE	ILLITERATE	UNEMPLOYED	NUCLEAR	20	POSITIVE
SELVAM	24	MALE	SINGLE	SECONDARY	UNEMPLOYED	JOINT	20	POSITIVE

GEETHA	26 FEMALE	SINGLE	ILLITERATE	UNEMPLOYED	NUCLEAR	22 POSITIVE
KAVIYARASU	26 MALE	MARRIED	ILLITERATE	UNEMPLOYED	NUCLEAR	23 NEGATIVE
RUKHUMANI	25 FEMALE	MARRIED	SECONDARY	EMPLOYED	NUCLEAR	20 POSITIVE
KRISHNAN	26 MALE	MARRIED	ILLITERATE	UNEMPLOYED	NUCLEAR	23 POSITIVE
KANNAN	27 MALE	MARRIED	ILLITERATE	UNEMPLOYED	NUCLEAR	25 POSITIVE
POOVENI	45 FEMALE	MARRIED	ILLITERATE	UNEMPLOYED	NUCLEAR	23 POSITIVE
RASAYAL	45 FEMALE	MARRIED	PRIMARY	UNEMPLOYED	NUCLEAR	25 POSITIVE
SHANMUGAM	34 MALE	MARRIED	ILLITERATE	EMPLOYED	NUCLEAR	23 POSITIVE
SEETHA	34 FEMALE	MARRIED	ILLITERATE	UNEMPLOYED	NUCLEAR	30 POSITIVE
GANESH	36 MALE	MARRIED	ILLITERATE	UNEMPLOYED	NUCLEAR	30 POSITIVE
CHINNA THAMBI	38 MALE	MARRIED	SECONDARY	UNEMPLOYED	NUCLEAR	30 NEGATIVE
SIVAPRIYA	32 FEMALE	SINGLE	ILLITERATE	UNEMPLOYED	NUCLEAR	23 POSITIVE
SANTHALAKSHMI	36 FEMALE	SINGLE	ILLITERATE	UNEMPLOYED	NUCLEAR	30 POSITIVE
CHOLAN	37 MALE	MARRIED	ILLITERATE	EMPLOYED	JOINT	28 NEGATIVE
DEEPAK	45 MALE	MARRIED	PRIMARY	UNEMPLOYED	NUCLEAR	26 NEGATIVE
SELVI	54 FEMALE	MARRIED	ILLITERATE	UNEMPLOYED	JOINT	20 POSITIVE
SAVARI PETER	28 MALE	SINGLE	ILLITERATE	UNEMPLOYED	NUCLEAR	24 NEGATIVE
JAYABAL	30 MALE	SINGLE	PRIMARY	EMPLOYED	NUCLEAR	25 POSITIVE
ROSAVALLI	34 FEMALE	MARRIED	ILLITERATE	UNEMPLOYED	JOINT	28 POSITIVE
SELVARAJ	34 MALE	SINGLE	PRIMARY	UNEMPLOYED	NUCLEAR	23 POSITIVE
ROSELINE	36 FEMALE	MARRIED	PRIMARY	UNEMPLOYED	NUCLEAR	26 NEGATIVE
JEEVANSUNDRAM	45 MALE	MARRIED	SECONDARY	UNEMPLOYED	JOINT	34 POSITIVE
AMARAVATHY	40 FEMALE	MARRIED	SECONDARY	UNEMPLOYED	NUCLEAR	32 POSITIVE

POSITVE OR NE INSIGHT		COMPLIANT/NON COM	PERCEIVED	FAMILY BELIEF	RELAPSE PR	PRESSURE	DENIAL OF	FINANCIAL	MEDICATION	CU
POSITIVE	ABSENT	NON COMPLIANT	NONE	STRONG	NONE	NONE	STRONG	MILD	STRONG	
POSITIVE	ABSENT	NON COMPLIANT	MILD	STRONG	NONE	STRONG	STRONG	NONE	STRONG	
POSITIVE	ABSENT	NON COMPLIANT	MILD	MILD	NONE	MILD	MILD	NONE	MILD	
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	NONE	NONE	NONE	NONE	NONE	
NEGATIVE	PRESENT	COMPLIANT	STRONG	STRONG	NONE	NONE	MILD	NONE	NONE	
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	MILD	NONE	MILD	MILD	NONE	
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	MILD	NONE	NONE	NONE	NONE	
NEGATIVE	ABSENT	COMPLIANT	NONE	STRONG	NONE	NONE	NONE	MILD	NONE	
POSITIVE	ABSENT	NON COMPLIANT	MILD	MILD	STRONG	MILD	STRONG	MILD	STRONG	
NEGATIVE	ABSENT	COMPLIANT	MILD	STRONG	MILD	MILD	MILD	NONE	NONE	
POSITIVE	PRESENT	COMPLIANT	MILD	STRONG	MILD	NONE	MILD	MILD	NONE	
NEGATIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE	
POSITIVE	ABSENT	NON COMPLIANT	MILD	MILD	NONE	STRONG	STRONG	NONE	STRONG	
NEGATIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	MILD	
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	MILD	NONE	
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	MILD	NONE	NONE	MILD	NONE	
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE	
POSITIVE	PRESENT	NON COMPLIANT	NONE	NONE	MILD	STRONG	STRONG	STRONG	STRONG	
NEGATIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	NONE	STRONG	MILD	STRONG	
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	MILD	NONE	NONE	
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE	
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	STRONG	NONE	NONE	NONE	
NEGATIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	NONE	STRONG	STRONG	STRONG	
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	MILD	NONE	NONE	NONE	
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	MILD	MILD	NONE	
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	MILD	NONE	NONE	
POSITIVE	ABSENT	NON COMPLIANT	MILD	NONE	NONE	STRONG	STRONG	STRONG	STRONG	
NEGATIVE	ABSENT	NON COMPLIANT	NONE	NONE	MILD	STRONG	STRONG	STRONG	STRONG	
NEGATIVE	ABSENT	NON COMPLIANT	MILD	MILD	MILD	STRONG	STRONG	STRONG	STRONG	
NEGATIVE	PRESENT	NON COMPLIANT	MILD	MILD	NONE	MILD	STRONG	STRONG	MILD	
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	MILD	MILD	NONE	NONE	
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	MILD	MILD	MILD	
POSITIVE	ABSENT	NON COMPLIANT	NONE	NONE	MILD	STRONG	MILD	STRONG	STRONG	

POSITIVE	PRESENT	COMPLIANT	MILD	MILD	STRONG	MILD	NONE	NONE	NONE
NEGATIVE	PRESENT	NON COMPLIANT	MILD	NONE	NONE	STRONG	STRONG	MILD	STRONG
NEGATIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	MILD	MILD
POSITIVE	ABSENT	COMPLIANT	MILD	MILD	STRONG	MILD	NONE	MILD	MILD
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	MILD	NONE	NONE
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	MILD	MILD
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	MILD	NONE	NONE	NONE
NEGATIVE	PRESENT	COMPLIANT	MILD	STRONG	MILD	NONE	MILD	NONE	NONE
NEGATIVE	ABSENT	NON COMPLIANT	NONE	MILD	NONE	STRONG	STRONG	STRONG	STRONG
NEGATIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	STRONG	STRONG	STRONG	STRONG
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	STRONG	STRONG	STRONG
NEGATIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	STRONG	STRONG	STRONG	STRONG
NEGATIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	STRONG	STRONG	STRONG	STRONG
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	MILD	NONE
POSITIVE	ABSENT	COMPLIANT	STRONG	STRONG	STRONG	MILD	NONE	MILD	NONE
NEGATIVE	ABSENT	NON COMPLIANT	NONE	MILD	NONE	STRONG	STRONG	MILD	STRONG
NEGATIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	MILD	NONE	NONE	NONE
POSITIVE	PRESENT	COMPLIANT	STRONG	MILD	MILD	NONE	NONE	NONE	NONE
NEGATIVE	ABSENT	NON COMPLIANT	NONE	MILD	NONE	MILD	MILD	NONE	NONE
POSITIVE	PRESENT	COMPLIANT	MILD	MILD	STRONG	NONE	MILD	NONE	NONE
POSITIVE	ABSENT	NON COMPLIANT	MILD	NONE	NONE	STRONG	STRONG	STRONG	STRONG
NEGATIVE	PRESENT	NON COMPLIANT	NONE	NONE	NONE	MILD	STRONG	STRONG	STRONG
POSITIVE	PRESENT	COMPLIANT	MILD	MILD	STRONG	MILD	NONE	NONE	MILD
POSITIVE	ABSENT	NON COMPLIANT	STRONG	STRONG	MILD	NONE	NONE	NONE	MILD
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	MILD	NONE	NONE
NEGATIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	STRONG	STRONG	STRONG	STRONG
POSITIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	MILD	STRONG	STRONG	STRONG
NEGATIVE	PRESENT	NON COMPLIANT	MILD	MILD	NONE	MILD	MILD	MILD	MILD
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	MILD	NONE	NONE	NONE
NEGATIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE
POSITIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	MILD	STRONG	STRONG	STRONG

NEGATIVE	PRESENT	COMPLIANT	MILD	MILD	MILD	MILD	MILD	MILD	NONE
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	STRONG	MILD	NONE	NONE
NEGATIVE	ABSENT	NON COMPLIANT	MILD	MILD	NONE	MILD	MILD	NONE	STRONG
NEGATIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	MILD	STRONG	STRONG	STRONG
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	MILD	STRONG	STRONG	STRONG
POSITIVE	PRESENT	COMPLIANT	MILD	MILD	MILD	NONE	MILD	MILD	MILD
NEGATIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	MILD	STRONG	STRONG	STRONG
NEGATIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	MILD	NONE	NONE	NONE
NEGATIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	MILD	STRONG	STRONG	STRONG
NEGATIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	NONE	STRONG	STRONG	STRONG
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	STRONG	NONE	NONE	NONE
NEGATIVE	PRESENT	NON COMPLIANT	NONE	NONE	MILD	NONE	STRONG	STRONG	STRONG
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE
POSITIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	MILD	STRONG	STRONG	STRONG
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	MILD	MILD	MILD	MILD
NEGATIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	MILD	STRONG	STRONG	STRONG
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	MILD	NONE	NONE	NONE
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	MILD	NONE	NONE	NONE
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	MILD	NONE	NONE	NONE
POSITIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	STRONG	STRONG	STRONG	STRONG
NEGATIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	STRONG	STRONG	STRONG
POSITIVE	ABSENT	NON COMPLIANT	NONE	MILD	NONE	MILD	MILD	MILD	STRONG
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	MILD	MILD	NONE	NONE
POSITIVE	ABSENT	NON COMPLIANT	MILD	NONE	NONE	STRONG	STRONG	STRONG	STRONG
NEGATIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	NONE	STRONG	STRONG	STRONG
NEGATIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	MILD	STRONG	STRONG	STRONG
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE
POSITIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	STRONG	STRONG	STRONG	STRONG
POSITIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	MILD	STRONG	MILD	STRONG
NEGATIVE	ABSENT	NON COMPLIANT	NONE	MILD	MILD	NONE	STRONG	STRONG	MILD
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE
NEGATIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE

POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE
POSITIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	MILD	STRONG	STRONG	STRONG
NEGATIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	MILD	NONE	NONE	NONE
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE
NEGATIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	MILD	NONE	MILD
NEGATIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE
NEGATIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	MILD	MILD	NONE	NONE
NEGATIVE	PRESENT	COMPLIANT	STRONG	STRONG	MILD	NONE	MILD	NONE	NONE
POSITIVE	PRESENT	COMPLIANT	STRONG	MILD	STRONG	NONE	MILD	NONE	NONE
POSITIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	STRONG	STRONG	STRONG	STRONG
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	MILD
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE
NEGATIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	STRONG	STRONG	STRONG	STRONG
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	MILD	NONE	NONE
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE
NEGATIVE	ABSENT	NON COMPLIANT	MILD	NONE	MILD	MILD	MILD	STRONG	STRONG
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	MILD	MILD	NONE	NONE
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE
POSITIVE	PRESENT	COMPLIANT	MILD	STRONG	STRONG	NONE	MILD	MILD	MILD
NEGATIVE	ABSENT	NON COMPLIANT	NONE	NONE	NONE	STRONG	STRONG	STRONG	STRONG
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE
POSITIVE	PRESENT	COMPLIANT	STRONG	STRONG	STRONG	NONE	NONE	NONE	NONE

ACCESS TO T DISTRESS BY SUBSTAN STIGMA FAMILY | FEAR OF IDESIRE SEVERITY OF PANSS

NONE	MILD	MILD	MILD	<5000	NONE	STRONK	140
NONE	STRONG	NONE	STRONG	<5000	STRONG	NONE	138
NONE	MILD	NONE	NONE	<5000	STRONG	NONE	123
NONE	NONE	NONE	MILD	>5000	STRONG	NONE	76
NONE	NONE	NONE	MILD	<5000	STRONG	MILD	84
MILD	MILD	NONE	NONE	>5000	MILD	STRONK	86
MILD	NONE	NONE	MILD	>5000	STRONG	NONE	66
NONE	MILD	MILD	NONE	>5000	STRONG	NONE	90
MILD	STRONG	STRONG	STRONG	>5000	NONE	STRONK	140
NONE	NONE	NONE	MILD	>5000	MILD	MILD	80
NONE	NONE	NONE	MILD	>5000	MILD	MILD	86
NONE	MILD	MILD	NONE	>5000	MILD	STRONK	78
STRONG	STRONG	STRONG	STRONG	>5000	MILD	MILD	138
MILD	NONE	NONE	NONE	>5000	NONE	STRONK	86
NONE	NONE	MILD	NONE	>5000	STRONG	NONE	78
NONE	NONE	NONE	NONE	>5000	STRONG	NONE	64
NONE	NONE	NONE	NONE	<5000	MILD	MILD	84
STRONG	STRONG	STRONG	STRONG	<5000	MILD	MILD	128
STRONG	STRONG	STRONG	STRONG	<5000	MILD	MILD	142
NONE	MILD	NONE	MILD	>5000	STRONG	NONE	78
NONE	MILD	NONE	NONE	>5000	MILD	MILD	86
NONE	NONE	NONE	STRONG	>5000	STRONG	NONE	60
NONE	STRONG	NONE	STRONG	>5000	MILD	MILD	128
NONE	NONE	MILD	MILD	>5000	STRONG	NONE	86
NONE	MILD	NONE	MILD	<5000	STRONG	MILD	82
NONE	MILD	MILD	STRONG	>5000	STRONG	NONE	84
MILD	STRONG	STRONG	STRONG	<5000	NONE	STRONK	132
STRONG	STRONG	STRONG	STRONG	<5000	MILD	MILD	140
MILD	STRONG	NONE	MILD	>5000	NONE	STRONK	142
STRONG	STRONG	NONE	NONE	>5000	NONE	STRONK	138
MILD	NONE	NONE	NONE	>5000	STRONG	NONE	82
NONE	NONE	STRONG	NONE	>5000	STRONG	NONE	90
MILD	STRONG	STRONG	STRONG	>5000	MILD	NONE	138

NONE	MILD	NONE	MILD	<5000	STRONG	MILD	84
STRONG	STRONG	STRONG	MILD	<5000	NONE	STRONG	142
MILD	MILD	NONE	NONE	>5000	NONE	STRONG	84
MILD	NONE	NONE	MILD	<5000	MILD	STRONG	82
MILD	NONE	MILD	MILD	>5000	STRONG	NONE	64
NONE	NONE	NONE	MILD	>5000	STRONG	NONE	90
NONE	NONE	NONE	MILD	>5000	STRONG	NONE	84
MILD	MILD	MILD	NONE	>5000	STRONG	NONE	76
NONE	NONE	NONE	MILD	>5000	STRONG	MILD	74
NONE	NONE	NONE	NONE	>5000	MILD	MILD	80
STRONG	STRONG	STRONG	NONE	<5000	NONE	STRONG	146
STRONG	STRONG	MILD	STRONG	>5000	MILD	MILD	140
MILD	STRONG	STRONG	STRONG	<5000	NONE	STRONG	86
MILD	STRONG	STRONG	MILD	<5000	NONE	STRONG	138
MILD	MILD	MILD	MILD	<5000	MILD	MILD	142
NONE	MILD	MILD	NONE	<5000	STRONG	NONE	88
NONE	NONE	NONE	NONE	>5000	STRONG	NONE	90
STRONG	STRONG	STRONG	STRONG	<5000	NONE	STRONG	148
NONE	NONE	NONE	NONE	<5000	STRONG	NONE	78
NONE	MILD	NONE	NONE	>5000	STRONG	NONE	90
MILD	MILD	NONE	NONE	>5000	MILD	MILD	132
NONE	MILD	NONE	NONE	<5000	MILD	MILD	86
MILD	STRONG	STRONG	STRONG	<5000	MILD	MILD	140
STRONG	STRONG	MILD	MILD	>5000	NONE	STRONG	146
NONE	NONE	NONE	NONE	>5000	MILD	MILD	86
MILD	NONE	NONE	NONE	>5000	MILD	MILD	138
MILD	NONE	MILD	MILD	>5000	NONE	STRONG	84
MILD	STRONG	MILD	NONE	>5000	STRONG	NONE	132
STRONG	STRONG	MILD	STRONG	<5000	NONE	STRONG	144
STRONG	MILD	MILD	MILD	>5000	MILD	MILD	146
NONE	NONE	NONE	MILD	>5000	NONE	STRONG	68
NONE	NONE	MILD	MILD	>5000	NONE	STRONG	76
NONE	NONE	NONE	MILD	<5000	NONE	STRONG	98
STRONG	STRONG	STRONG	STRONG	<5000	NONE	STRONG	144

NONE	NONE	NONE	STRONG	<5000	STRONG	NONE	86
NONE	NONE	NONE	MILD	>5000	STRONG	NONE	85
STRONG	STRONG	NONE	NONE	<5000	NONE	STRONG	143
STRONG	STRONG	STRONG	NONE	>5000	NONE	MILD	135
MILD	STRONG	MILD	STRONG	<5000	NONE	STRONG	78
STRONG	MILD	NONE	NONE	>5000	MILD	NONE	89
STRONG	STRONG	STRONG	NONE	<5000	MILD	MILD	143
NONE	NONE	NONE	NONE	>5000	STRONG	NONE	78
STRONG	STRONG	STRONG	MILD	>5000	MILD	MILD	156
MILD	STRONG	MILD	MILD	<5000	NONE	STRONG	144
NONE	MILD	NONE	MILD	<5000	STRONG	MILD	87
STRONG	STRONG	STRONG	STRONG	>5000	MILD	MILD	138
NONE	NONE	NONE	MILD	>5000	STRONG	NONE	87
STRONG	STRONG	STRONG	MILD	>5000	NONE	STRONG	146
NONE	MILD	NONE	NONE	<5000	MILD	MILD	86
MILD	NONE	NONE	NONE	<5000	NONE	STRONG	78
STRONG	STRONG	STRONG	NONE	<5000	MILD	MILD	127
NONE	NONE	NONE	MILD	<5000	STRONG	NONE	90
NONE	NONE	NONE	NONE	<5000	STRONG	NONE	84
MILD	MILD	MILD	NONE	<5000	MILD	NONE	87
STRONG	STRONG	STRONG	MILD	<5000	NONE	STRONG	137
STRONG	STRONG	STRONG	MILD	<5000	NONE	STRONG	86
MILD	STRONG	STRONG	STRONG	>5000	MILD	MILD	144
NONE	NONE	NONE	NONE	<5000	STRONG	NONE	87
STRONG	STRONG	STRONG	NONE	<5000	NONE	STRONG	132
STRONG	STRONG	STRONG	STRONG	<5000	NONE	STRONG	124
STRONG	STRONG	STRONG	MILD	<5000	NONE	STRONG	132
NONE	NONE	NONE	MILD	<5000	MILD	MILD	86
STRONG	STRONG	STRONG	MILD	>5000	NONE	STRONG	123
MILD	STRONG	STRONG	MILD	>5000	NONE	STRONG	140
STRONG	MILD	STRONG	NONE	<5000	NONE	STRONG	142
NONE	NONE	NONE	NONE	<5000	STRONG	NONE	90
NONE	NONE	NONE	NONE	<5000	STRONG	NONE	86
NONE	NONE	NONE	NONE	<5000	STRONG	NONE	65

NONE	NONE	NONE	MILD	<5000	STRONG	NONE	76
STRONG	STRONG	STRONG	MILD	<5000	MILD	MILD	134
NONE	NONE	NONE	NONE	<5000	STRONG	NONE	78
NONE	NONE	NONE	NONE	<5000	MILD	MILD	82
NONE	NONE	NONE	MILD	<5000	MILD	MILD	78
NONE	MILD	NONE	NONE	<5000	MILD	MILD	90
NONE	NONE	NONE	MILD	<5000	MILD	MILD	77
NONE	NONE	NONE	MILD	<5000	STRONG	NONE	83
NONE	NONE	NONE	MILD	<5000	STRONG	NONE	80
NONE	NONE	MILD	MILD	<5000	STRONG	NONE	86
MILD	MILD	STRONG	STRONG	>5000	STRONG	NONE	143
MILD	MILD	NONE	NONE	>5000	STRONG	NONE	78
NONE	NONE	NONE	NONE	>5000	MILD	MILD	87
STRONG	STRONG	STRONG	NONE	>5000	MILD	MILD	143
MILD	NONE	NONE	MILD	>5000	STRONG	NONE	87
NONE	NONE	NONE	MILD	>5000	NONE	STRONG	90
STRONG	STRONG	STRONG	NONE	>5000	NONE	MILD	145
NONE	NONE	NONE	NONE	<5000	STRONG	NONE	87
NONE	NONE	NONE	NONE	<5000	STRONG	MILD	83
MILD	MILD	MILD	MILD	<5000	STRONG	MILD	82
STRONG	STRONG	NONE	STRONG	>5000	NONE	STRONG	145
NONE	MILD	NONE	NONE	>5000	MILD	MILD	78
NONE	NONE	NONE	NONE	>5000	MILD	MILD	86