



“Effectiveness of structured teaching program on knowledge regarding medication adherence among caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the city.”

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ABSTRACT

PROBLEM STATEMENT

—A study to assess the effectiveness of structured teaching program on knowledge regarding medication adherence among caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the city

BACKGROUND OF THE STUDY

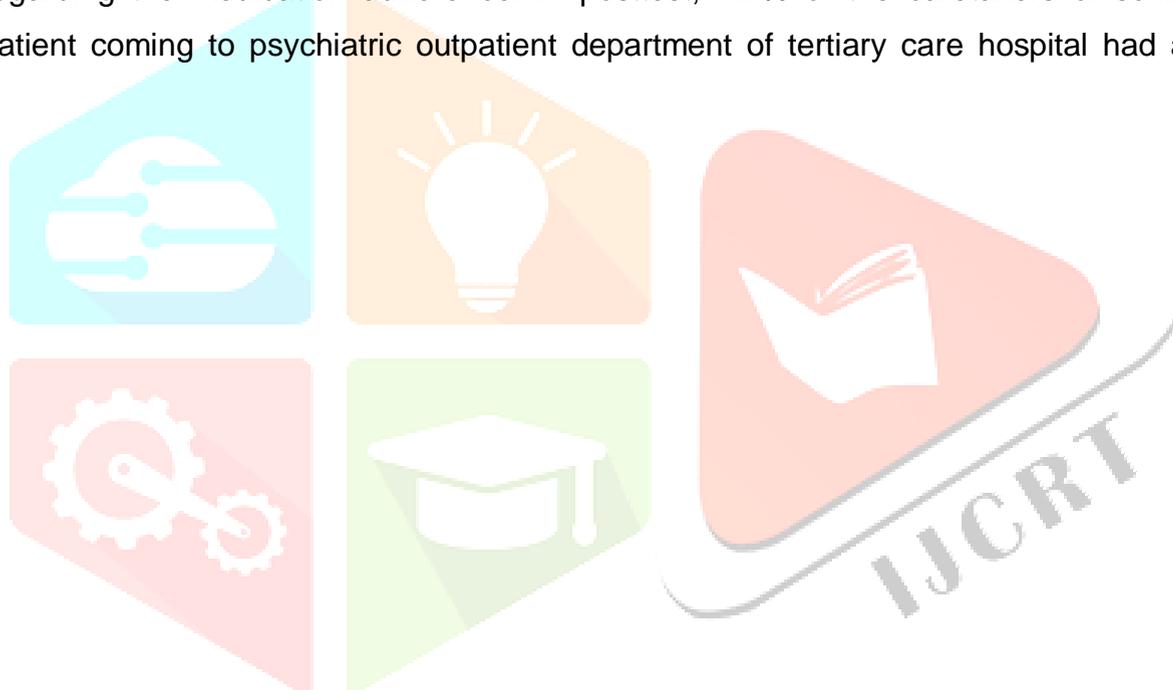
Medication adherence is the first and main determinant of treatment success. Non-adherence is a multi-factorial phenomenon that can result from five major interacting factors. These are health team and health system-related factors; patient-related factors; therapy-related factors; socio-economic factors; and condition-related factors. The prevalence of non-adherence in mental illness was found to be 40% to 60% worldwide. The most important and highly encountered form of medication non adherence is where a patient does not follow the recommended dose and frequency. The ratio of non adherence has been reported as 40%-60% for antipsychotics. Moreover, in studies evaluating medication adherence based on diagnosis, the ratio of non adherence to medication has been shown to be 11%-80% in patients with schizophrenia.

MATERIALS AND METHODS

The Research Method adopted for the present study is Quasi-experimental Approach, which is quantitative research design. Non probability convenient sampling technique is used. The study is aimed at assessing the effectiveness of structured teaching program knowledge regarding medication adherence among the caretakers of schizophrenic patient and determining its effectiveness statistically. Sample size is 60. Self- structured questionnaire was used as tool.

RESULT

In pretest, 16.7% of the caretakers of schizophrenic patient coming to psychiatric outpatient department of tertiary care hospital had poor knowledge (Score 0-8) and 71.7% of them had average knowledge (score 9-16) and 11.7% of them had good knowledge (score 17-25) regarding the medication adherence. In posttest, 1.7% of the caretakers of schizophrenic patient coming to psychiatric outpatient department of tertiary care hospital had average



knowledge (Score 9-16) and 98.3% of them had good knowledge (score 17-25) regarding the medication adherence.

CONCLUSION

The findings of the study suggest that the caretakers had inadequate knowledge about medication adherence during pre-test and there is significant increase knowledge regarding medication adherence after administration of structured teaching program. The present study also states that there is no significant association between knowledge regarding promotion of mental health and prevention of mental illness and demographic variables like age, gender, area of residence, type of family .This study could help in bringing about awareness on promotion of mental health and prevention of mental illness, leading to a healthy life ahead.

The result shoes that the demographic variables like relationship with the patient, occupation and total monthly income were found to have significant association with the knowledge regarding medication adherence among caretakers of schizophrenic patient coming to psychiatric outpatient department of the tertiary care hospital. The study could help to improve the knowledge regarding medication adherence and prevent relapse of illness.

KEY WORDS

Effectiveness, structured teaching program, knowledge, medication adherence, non-adherence, caretakers.

CHAPTER



CHAPTER - I

INTRODUCTION

—To care for those who once cared for us is one of the highest honours!!

-Tia Walker¹

Schizophrenia is a common severe mental disorder with a lifelong prevalence rate of 1%, which is mainly manifested in the disorder of mental and psychological processes such as thinking, perception, self-experience, cognition, will, emotion and behaviour and has the characteristics of high disability rate, repeated illness and prolonged course². Genetic susceptibility, abnormal neurotransmitter function and external factors may all contribute to the development of schizophrenia³.

The current treatment of schizophrenia is based on the administration of antipsychotic medications. Medication can control the condition of schizophrenic patients, which has been effective in the alleviation of positive symptoms, prevention of relapse and extension of life expectancy. It has been shown that effective management of schizophrenia requires continuous long term treatment in order to keep symptoms under control and prevent relapse⁴.

The extent to which patients follow the prescribed time intervals and dosage requirements is defined as medication adherence. A Low degree is considered as poor medication adherence. Medication non-adherence behaviors include not taking medication on time, not taking more or less medication according to the dose, stopping the medication and reducing medication by themselves⁵.

Good medication adherence is the key to the effectiveness of drug treatment. Poor medication adherence will cause many problems in schizophrenic patients. First, low medication compliance will lead to low efficacy and high relapse. Some articles pointed out that the symptoms of schizophrenia developed the fastest in the five years before the onset of schizophrenia, dosing on time and at the right dose is an important factor in the effectiveness of treatment, irregular medication is the key risk factor for relapse⁶.

About 75% of patients with schizophrenia discontinue their antipsychotic drug treatment within 18 months⁷. Antipsychotic drug treatment reduces the risk of relapse (RR = 0.35), and the risk of readmission (RR = 0.38). It also increases the risks of a movement disorder (RR = 1.55), sedation (RR = 1.50), and weight gain (RR = 2.07). In a systematic review, found that lack of illness insight, beliefs about the effectiveness of medication,

substance abuse, and the quality of the therapeutic relationship were important influencing factors. Enhancing patient motivation, by taking into account these factors, may be key to encouraging medication adherence⁸.

BACKGROUND OF THE STUDY

Schizophrenia is estimated to affect approximately 7 individuals out of 1000 in their lifetimes, with fifty percent of patients attempting suicide. However studies have shown that measuring medication adherence in caretakers of patients with schizophrenia is difficult and no gold standard currently exists. Without reliable and valid instruments to evaluate non-adherence in this population, research into strategies to improve adherence cannot move forward⁹.

Antipsychotic medications are powerful, mind-altering drugs that are prescribed to control psychotic symptoms. Right attitude of caregivers towards antipsychotic drugs is very important. It is also necessary to have a proper understanding of the expected side effects of atypical antipsychotics especially for the caregivers to develop positive attitude, as they are the people who should encourage and ensure that the patient is taking medications. Thus the relapse of the condition can be prevented, which will eventually improve the prognosis. The research design adopted was pre-experimental design, one group pre-test- post-test design. Totally 40 caregivers were selected by purposive sampling method. The study was conducted in psychiatric ward and new psychiatric ward in PSG Hospital. The data was collected through self-administered knowledge questionnaire. Subsequently structured teaching programme regarding antipsychotic drugs was given for 15-20 minutes. The post test was conducted by the same knowledge questionnaire after 7 days. The data collected was analysed by using descriptive statistics. Paired t test and chi-square analysis. During pre-test, none of them had adequate level of knowledge. 3 (7.5%) had moderately adequate knowledge and 37 (92.5%) had inadequate knowledge about antipsychotic drugs. After the structured teaching programme, the knowledge level of care givers after 7days of post test showed that 35 (87.5%) had adequate knowledge, and 5 (12.5%) had moderately adequate knowledge. There was significant difference found between before and after structured teaching programme. Thus the result showed that structured teaching programme regarding antipsychotic drug was highly effective. There was a marked difference in knowledge score of care givers ($t = 35.8$) after the structured teaching programme on antipsychotic drugs¹⁰.

Medication adherence is the first and main determinant of treatment success. It is

defined by world health organization as "the degree to which the person's behaviour



corresponds to the agreed recommendations from a health care provider". Non-adherence is a multi-factorial phenomenon that can result from five major interacting factors. These are health team and health system-related factors; patient-related factors; therapy-related factors; socio-economic factors; and condition-related factors. The prevalence of non-adherence in mental illness was found to be 40% to 60% worldwide. In developing countries, the magnitude of poor adherence is expected to increase. So this study aimed to assess medication adherence status and its associated factors among psychiatric patients in Asella Referral and Teaching Hospital in Oromia, Ethiopia ¹¹.

NEED OF THE STUDY

Caring for someone with a mental disorders can affects the dynamics of family. It takes up most of the career time and energy. The family responsibility is providing care for people with mental disorders has increased in past three decades. This has been mainly due to trend towards community care and de-hospitalization of psychiatry patient.

In India the reported rate of mental illness is 100 per thousand population. It has been estimated that 20% - 50% of any patient population is at least partially complaint and that in patients with schizophrenia and related psychotic disorders rates run as high as 70%-80%. The WHO is currently undertaking a global survey of 26 countries in all regions of the world, based on ICD and DSM criteria. The first published figures on the 14 country surveys completed to date, indicate that, of those disorders assessed, anxiety disorders are the most common in all but 1 country (prevalence in the prior 12-month period of 2.4% to 18.2%) and mood disorders next most common in all but 2 countries (12- month prevalence of 0.8% to 9.6%), while substance disorders (0.1% -6.4%) and impulse-control disorders (0.0%-6.8%) were consistently less prevalent. It has been estimated that of largest prevalence rate of psychiatric illness. In the U.S find the anxiety disorders affect 15.7 million people in united states each year¹².

The World Health Organization has reported the ratio of medication adherence as around 50% in people with a chronic disease. Non adherence to treatment is a major problem in psychiatric patients; a recent review has stated a ratio of 20%-60% in psychiatric patients Treatment non adherence can be in the form of not taking the medication at the recommended dose and frequency, not taking the medication at all and irregular attendanceto follow-up appointments or not attending at all. The most important and highly encountered form of medication non adherence is where a patient does not follow the recommended dose

and frequency. The ratio of non adherence has been reported as 40%- 60% for antipsychotics. Moreover, in studies evaluating medication adherence based on diagnosis, the ratio of non adherence to medication has been shown to be 11%-80% in patients with schizophrenia¹³.

PROBLEM STATEMENT

—A study to assess the effectiveness of structured teaching program on knowledge regarding medication adherence among caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the city

OBJECTIVES OF THE STUDY ARE:

1. To assess the demographic data of caretakers of schizophrenic patient coming to psychiatric outpatient department at the tertiary care hospital of the city.
2. To assess the pretest knowledge score of caretakers of schizophrenic patient coming to psychiatric outpatient department at the tertiary care hospital of the city.
3. To assess the posttest knowledge score of caretakers of schizophrenic patient coming to psychiatric outpatient department at the tertiary care hospital of the city.
4. To assess the effectiveness of structured teaching program on knowledge regarding medication adherence on caretakers of schizophrenic patient coming to psychiatric outpatient department at the tertiary care hospital of the city.
5. To evaluate the association between study finding with selected demographic variable.

OPERATIONAL DEFINITIONS

1) Effectiveness –

The assessment of the degree of success of a program in achieving its goals¹⁴.

(According to American Psychological Association dictionary)

In present study effectiveness means expected outcome which will increase after structured teaching program regarding medication adherence.

2) Medication adherence-

The degree to which the persons behavior corresponds with the agreed recommendations from a health care provider¹⁵.

(By WHO)

In present study it refers to whether the patient is taking prescribed medications on prescribed time and continuation of the medication without interruption.

3) Knowledge –

The state of being familiar with something or aware of its existence, usually resulting from experience or study¹⁶.

(According to American Psychological Association dictionary)

In present study knowledge is information related to medication adherence among the caregivers of Schizophrenic patient.

4) Schizophrenia –

Mental illness in which a person becomes unable to link thought, emotion and behavior, leading to withdrawal from reality and personal relationship¹⁷.

(According to American Psychological Association dictionary)

In present study Schizophrenia is disturbance in thinking, emotion, mood and sleep.

5) Caretakers –

A person who attends to the needs of and provides assistance to someone else who is not fully independent, such as an infant or an ill adult. A person who does the majority of the work is called the primary caregiver¹⁸.

(According to American Psychological Association dictionary)

In present study caregivers a person who is responsible for looking after a person who has been diagnosed with Schizophrenia.

SCOPE OF THE STUDY

1. Nursing Practice:

Nurse should enhance their professional knowledge in practice, since the basic nursing education provides the nurse in depth knowledge about Schizophrenia. The study can be used as evidenced based practice by a community health nurse in providing knowledge about Schizophrenia among the caregivers of patient with Schizophrenia.

2. Nursing Education: -

Nurse educators will emphasize on evidence-based practices while imparting nursing knowledge to nursing students. Including the entire nursing education programme that are Auxiliary Nurse Midwifery, General Nurse Midwifery, Basic B.Sc.Nursing and M.Sc.Nursing. The study can be used in the clinical teaching by the nursing teachers to teach the students about psycho education on Schizophrenia.

3. Nursing Administration:

The nursing administration can be using the study result to enhance the practical knowledge of staff nurse at in-service education.

4. Nursing Research:

The study will have further body of knowledge to nursing research and will help to carry out more such broad-based researches in the field of Psychiatry, and Community health nursing and various other fields to bring about overall view of Schizophrenia. The researcher can use this study as literature for his study. Study findings can be utilized as Review of Literature.

RESEARCH QUESTION

What is the effect of structured teaching program on knowledge of medication adherence among the caretakers of the schizophrenic patient coming to tertiary care hospital of the city?

HYPOTHESIS

Ho-There is no significant effect of structured teaching program on knowledge among caretakers of schizophrenic patient.

H1-There is slightly improvement in knowledge among caretakers of schizophrenic patient.

H2-There is significant association between study findings and knowledge among caretakers of schizophrenic patient.

LIMITATIONS

1. The study is limited only to urban area.
2. The study is limited to the population of 60 caretakers as result of calculation of sample size.

3. The study is limited to only caretakers of patient with Schizophrenia.



4. The study is limited to the Schizophrenia who are attending outpatient department of the tertiary care hospital.
5. The study is limited to caretakers of patient with Schizophrenia who were willing to participate.
6. There is no control over other extraneous variables.

ETHICAL ASPECTS:

Ethical committee:

The research problem with the synopsis was presented before the college ethics committee for approval at college level.

Authority permission:

A request letter was forwarded through the Principal of College, to the authority of selected area for conducting research and thus, permission was obtained from the respective authorities.

Informed consent:

A written informed consent was taken from each caretaker of patient with Schizophrenia (participant) under study after informing details regarding research Stud & its benefits before conducting a research study.

Ethical principles:

All the measures were taken in order to maintain autonomy, veracity, confidentiality, beneficences, justice, and non-maleficence with the participants under the study.

CONCEPTUAL FRAMEWORK

A framework is a brief explanation of theory or those portions of theory which are to be tested in a quantitative study. Theoretical and conceptual frameworks are commonly used in quantitative research studies, which help to organize the study and provide a context for the interpretation of the study results¹⁹.

A system is a set of interacting identifiable parts or components. The basic concepts of general system theory were proposed in the 1950s. one of its major proponents, Ludwig Von Bertalanfy (1980) introduced system theory as a universal theory that could be applied to many fields of study. She emphasized the function of this system is to convert information or data into an outcome to be used within the system, outside the system or both. This theory focuses on the arrangement of parts or elements and relationship between them, which

organizes them as a whole. It is based on the system theory approach it constitutes the way for explaining a unit as it relates and interacts with other systems.

A system depends on the quality and quantity of its input, throughput and feedback. A conceptual framework is divided in to:

- Input
- Throughput
- Output

Input:

It consists of information, material or energy that enters the system, it refers to any form of information which is collected by the investigator as a basic data of the study samples²⁰.

In present study there are two phases; the first phase refers to the development of tool and technique, validating by experts and second phase refers to data collection by using non probability convenience sampling, assessment of demographic variable includes age, religion, education, monthly income, type of family, length of stay with patient and relation with patient.

Throughput:

After the input is absorbed by the system, it is processed in a way useful to the system. The transformation is called throughput. It is process that occurs at some point between input and output processes. It enables the input to transfer in a way that can be used readily by the system where investigator administer the process by manipulating the existing status. For example: thinking, planning, decision making, constructing, sorting, sharing, meeting in groups, discussing, shaping, hammering, etc²⁰.

In present study throughput is:

Pre-test and post-test assessment level of knowledge regarding medication adherence among the caretakers of schizophrenic patient by self-structured questionnaire.

Administration of structured teaching program on the knowledge regarding medication adherence among the caretakers of schizophrenic patient coming to outpatient department of the tertiary care hospital of the city.

Output:

Output from a system is energy, matter or information given out by the system as a result of its processes. It refers to the end result of the product of the system. It is any information or material that is transformed to the environment²⁰.

In the present study, output refers to pre-test and post-test which can be either Output 1- Positive value or structured teaching program on the knowledge regarding medication adherence among the caretakers of schizophrenic patient.

Output 2- Negative value or structured teaching program on the knowledge regarding medication adherence among the caretakers of schizophrenic patient.

Feedback:

Feedback refers to the process by which a system monitors the internal and environment process to its behavior (output) and accommodates or adjusts itself. Feedback involves receiving and responding to the return of its own output. Feedback can be positive or negative. Positive feedback refers to the system information that moves the system away from equilibrium and towards change. Conversely negative feedback is information output that it returns to the system, promoting equilibrium and stability to the system.

In present study positive feedback refers to the increase in the knowledge regarding medication adherence among the caretakers of schizophrenic patient.

Conversely negative feedback refers to non-increase in knowledge regarding medication adherence among the caretakers of schizophrenic patient.

GENERAL SYSTEM THEORY:

General system theory is about broadly applicable concepts and principles, as opposed to concepts and principles applicable to one domain of knowledge. It distinguishes dynamic or active systems from static or passive systems. Active are activities structures or components that interact in behaviours and processes. Passive systems are structures and components that are being processed. Eg. A program is passive when it is a disc file and active when it runs in memory.

INTRODUCTION:

- System theory may be considered as a specialization of systems thinking and a generalization of systems science.
- First proposed by Ludwig von Bertalanffy (1901-1972) as General

System's theory.



- Systems theory has been applied in developing nursing theories and conducting nursing research.

PRINCIPLES OR LIMITS OF GENERAL SYSTEM THEORY ARE:

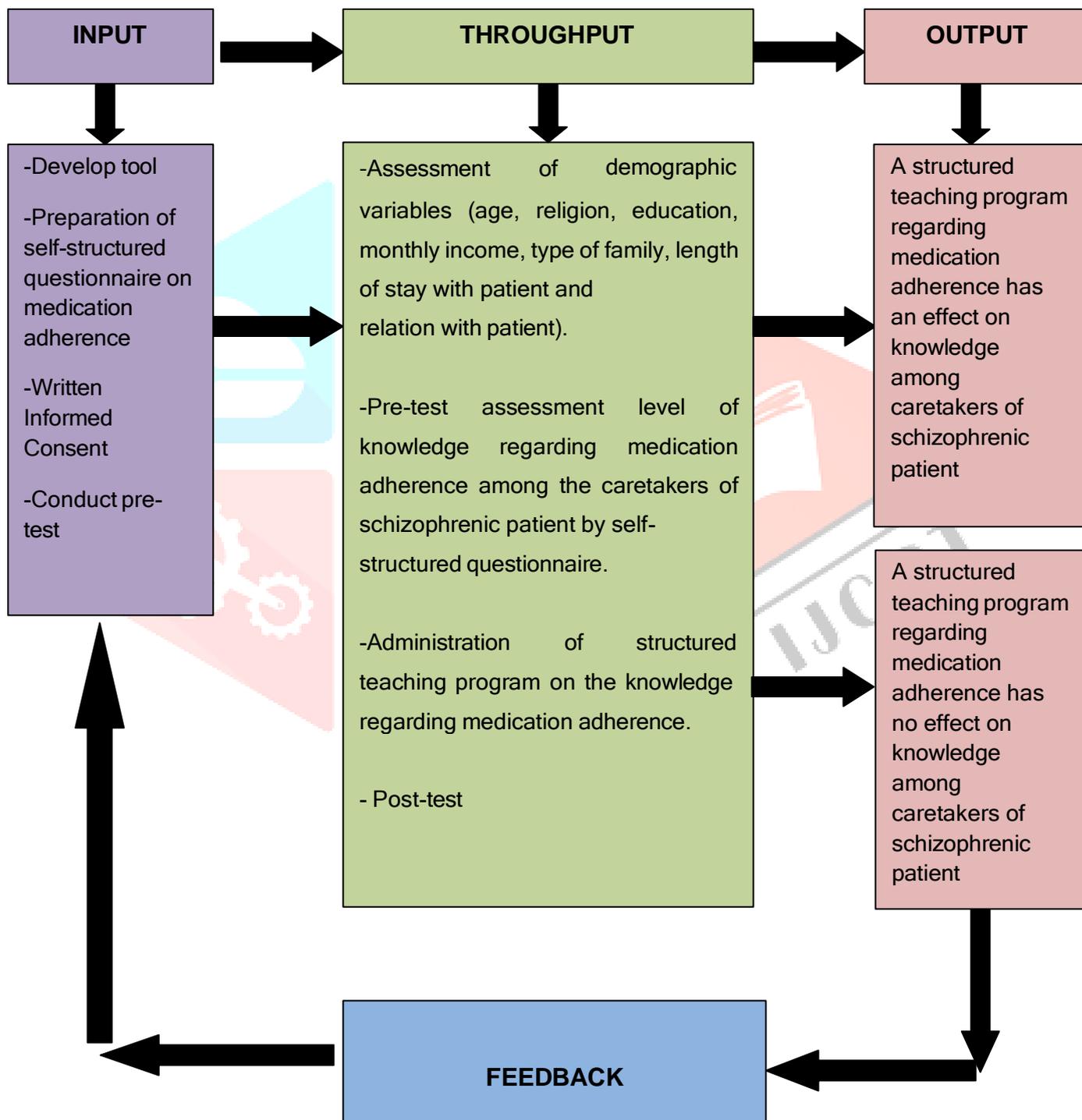
- Organismic concepts as against atomistic and isolable concepts.
- Components of the open systems are maintained constantly by exchanges in the environment.
- Components lower in the hierarchy of organization enter and leave the general system.
- There is dynamism e.g. Within the limits of its organization, it tends to maintain itself and does not stick to any specific state of equilibrium. It can be viewed as steady state.
- Without any direction from above, its members eliminate disruptions, and try to restore order. This is an inherent, dynamic and unending tendency.
- Its innate order is augmented by many other auxiliary components and resources, as part of homeostasis of feedback.

MAIN CONCEPTS:

'System' is the central and guiding concept of this theory. Other concepts relate to description of system, (b) regulation and maintenance of the system, (c) changes occurring in the system and (d) anomic and radical changes. The main thesis of this theory is to put all disciplines on some fundamental, uniform and universal basis. Systems studied by various disciplines may be different in terms of size, time, volume, material etc. But this perspective does not stop with surface or apparent uniformity or analogous appearance. It looks more than homology rather isomorphism. Its emphasis is more on uniformity underlying their principles of functioning and processes, and less on structural similarities. Therefore, general systems theorists explain the concept of 'system' at a higher level of abstraction. A system, according to Bertalanffy is 'asset of elements standing in interaction.' A.Hall and R.Fagen defined it as a set of objects together with relationship between the objects and between their attributes. Colin Cherry found it as a whole which is compounded of many parts - an ensemble of attributes'. Other find it as a group of objects or elements stemming in some characteristics structural relationships to one another and interaction on the basis of certain characteristics processes. For Easton it is set of interactions.

FIG NO. 1.1 GST MODIFIED GENERAL SYSTEM THEORY

(Ludwig Von Bertalanffy 1968)



SUMMARY

In this chapter, Introduction, background of the study, need for the study, problem statement, objectives of the study, operational definitions, scope, assumptions, research question hypothesis, limitations, ethical aspects and conceptual framework has been included. This chapter deals with the knowledge regarding medication adherence among the caretakers of schizophrenic patients.



CHAPTER



CHAPTER-II

REVIEW OF LITERATURE

The Review of Literature facilitates the accumulation of knowledge and awareness of the various aspects of the problem under study. Hence review of literature is important to a researcher in order to know what has been established and documented." Review of literature is a key step in research process. Review of literature refers to an extensive, exhaustive, and systematic examination of publications relevant to the research project. The Review of literature is defined as a broad, comprehensive in depth, systematic and critical review of scholarly publications, unpublished scholarly print materials, audio-visual materials, and personal communications³⁸.

The literature review of current study is divided among following headings-

- a) Literature related to prevalence of schizophrenia due to non-adherence
- b) Literature related to effectiveness of structured teaching program on medication adherence.
- c) Literature related to knowledge of caretakers on Schizophrenia.
- d) Literature related to knowledge regarding medication adherence among caretakers of Schizophrenia.

a) Literature related to prevalence of schizophrenia due to non-adherence.

Ivatury Sarath Chandra-2022 The study conducted at the out- patient Department of Psychiatry, Mamata Medical College and General Hospital, Khamma with the aim to find out the attitudes of patients toward medication and reasons for drug non-compliance in schizophrenia. The study result shows that out of the total 115 patients initially considered for the study 10 were excluded based on the fixed exclusion criteria. The final study sample was 105 (100%) of which 61 (58.1%) were compliant and 44 (41.9%) were non-compliant to the medication. There is a significant association between lower mean age (32.36 ± 7.59), unemployment (77.3%), lower mean age at the onset of illness (26.84 ± 5.5), higher mean scores (98.5 ± 8.0) on PANSS and higher mean scores (6.05 ± 0.74) of G12 domain of PANSS indicating poorer insight in to illness and non-compliance toward antipsychotics³⁹.

Pilon D, Patel C, Lafeuille MH, et al (2021), The study was conducted to estimate the prevalence, incidence, and economic burden of schizophrenia among Medicaid beneficiaries. The aim of the study was to estimate annual prevalence and incidence of schizophrenia among adult Medicaid beneficiaries. The economic burden of schizophrenia was also evaluated among young adults. Result of the study was the annual prevalence of schizophrenia ranged between 2.30% and 2.71% and annual incidence between 0.31% and 0.39%. In 2021, only states with the highest incidence and prevalence rates were higher (4.01%) and incidence (0.52%). For the economic burden, adults with schizophrenia had higher and incurred higher healthcare costs versus driven by \$4677 higher long-term care costs (all $p < .001$). Young adults with schizophrenia incurred \$14,945 higher healthcare costs versus controls, driven by \$3473 higher inpatient costs ($p < 0.001$). The study was concluded that Annual prevalence and incidence of schizophrenia varied by state but remained stable over time. Adults with schizophrenia incurred greater HRU and costs relative to adults without schizophrenia⁴⁰.

Kalucha S. Mishra K K, and Gedam SR- 2017, The study conducted in JNMC DMIMS Wardha. The study was aimed at assessing reasons for drug non-compliance among patients receiving neuroleptic medications. Objective to study socio-demographics variables of these non-compliant psychiatric patients. 180 consecutive non-compliant psychotic patients were interviewed using ROMI scale and socio-demographic proforma. The results of the study are most common reason for drug non-compliance was denial of illness, financial obstacles, side effects of medications, stigma of mental illness among others as accessed by ROMI scale. Age at onset of mental illness was significantly associated with mean scores for non-compliance of ROMI scale. The study concluded that psychosis has high chances of drug non-compliance. These are patient related, illness related and doctor related. This issues like denial of illness or financial obstacles need to be dealt with judiciously to improve compliance and quality of life⁴¹.

M.Sood-R. Chadda et-2015, A study conducted by all Department of Psychiatry, All India Institute of Medical Sciences, Delhi, India, in the year 2015. with objective of attitude toward antipsychotic medications and its correlation with psychopathology and insight in Schizophrenia. A cross-sectional sample of 361 patients with schizophrenia diagnosed as per DSM IV, were assessed on Positive

and Negative Syndrome Scale (PANSS). The subjects were also assessed on drug attitude inventory -30 (DAI-30) and schedule for assessment of insight (SAI) to evaluate insight. Result shows mean (SD) score on PANSS, SAI and DAI 56.38 (17.04), 8.27 (+2.76) and 18.95 (+6.83) respectively. Most (92.8%) of patients had a positive attitude towards antipsychotic medications. A negative correlation ($r=-3.78$, $p=0.00$) was observed between scores on DAI and PANSS and a positive correlation ($r=0.06$, $p=0.00$) was seen between scores on DAI and SAI. Final findings of the study stated that psychosis has high chances of drug non-compliance⁴².

M. S Karthik, NishaWarikoo- 2014, A study conducted at department of psychiatry, Postgraduate Institute of Medical Education & Research, Chandigarh, India with the objective to study attitude toward antipsychotic medications & it correlates among patients with schizophrenia either on first-generation (FGAS) or second-generation antipsychotic (SGAS) medications. The patients were selected from outpatient services of Post graduate Institute of Medical Education & Research, Chandigarh India. 120 patients diagnosed with schizophrenia, 89 on SGAS & 31 on FGAS. The attitude toward antipsychotics on FGAS & SGAS medications assessed by using structured instruments. A study concludes that there are positive attitudes toward antipsychotics were common among patients with schizophrenia⁴³.

Dr. Sandeep Grover, Oct-Dec.-2014, The study conducted at Department of Psychiatric, Post Graduate Institute of Medical Education and Research, Chandigarh, India with the objective to examine attitudes towards psychotropic medications among patients with chronic psychiatric disorders as well as their family caregivers by using factor analysis. The study included 200 patient and their family caregivers with chronic psychiatric disorders who are attending the psychiatric outpatient services. A self-designed 18 items self-rated questionnaire was used to evaluate the attitude towards psychotropic drugs & factor analysis was done to study the different models of attitudes. A study concludes that there are attitudes of patient with chronic psychiatric disorder & their caregivers towards psychotropic medications appear to be shaped by factors such as perceived efficacy or benefit from medicines, the necessity for taking treatment & concerns such as side-effects, harm, or expense⁴⁴.

Orrico-Sánchez A, López-Lacort M. (2020), The study was conducted on epidemiology of schizophrenia and its management in Spain. The aim of the study was to assess Epidemiology of schizophrenia and its management over 8-years period. Method used a retrospective cohort of subjects aged 15 to 64 years was followed-up using electronic healthcare databases of the Valencia region. Result of this study was the cohort included 3,976,071 subjects; 24,749 of them had a prevalent diagnosis of SD. The overall prevalence for SD was 6.2 per 1000 persons. SD was 76% more prevalent in men than women. IR in the subpopulation aged between 15 and 34 years was 50.25 per 100,000 person's years and was more than 2 times higher for men than for women. 83.4% of the overall outpatient visits from the cohort of patients were related to SD. The 21,095 overall hospitalizations with the SD code resulted in 286,139 days of hospitalization. This study concluded that the prevalence and IR of SD showed is greater than previously published and higher in men than in women⁴⁵.

Jung YS, Kim YE, et all (2021), The study was conducted to estimate the prevalence and incidence rate of schizophrenia, schizotypal, and delusional disorders (SSDD) in Korea and analysed the hospital admission rate, re-admission rate, and hospitalization period. Data were analysed using frequency statistics Material and method used from National Health Insurance Service (NHIS) of Korea was used as the primary source of data. Results showed that the 12-month prevalence rate of SSDD increased steadily from 0.40% in 2008 to 0.45%. Analysis of the three-year cumulative prevalence rate of SSDD showed an increase from 0.51% in 2011 to 0.54% The five-year cumulative prevalence rate was 0.61%, and the 10-year cumulative prevalence rate was 0.75%. The hospital admission rate among SSDD patients decreased from 2008 (30.04%) to 2017 (28.53%). The incidence of SSDD was 0.05% and no yearly change was observed. The proportion of SSDD inpatients whose first hospital visit resulted in immediate hospitalization was 22.4%. The study concluded that the annual prevalence of SSDD using NHIS database was higher than the previous prevalence rate obtained from the Survey of Mental Disorders in Korea⁴⁶.

Emile Barkhof 2013, The study conducted on the effectiveness of a motivational intervention on adherence and hospitalization rates in patients, with multi-episode schizophrenia or schizoaffective disorder, who have experienced a psychotic

relapse following medication nonadherence. Secondary aim is to evaluate whether motivational intervention is more effective in specific subgroups. They performed a randomized controlled study including 114 patients who experienced a psychotic relapse due to medication nonadherence in the past year. The results of the study were that MI improve medication adherence in previously nonadherent patients who experienced a psychotic relapse. However, MI resulted in reduced hospitalization rates for female patients (9% vs 63%, $P = .041$), non-cannabis users (20% vs 53%, $P = .041$), younger patients (14% vs 50%, $P = .012$), and patients with shorter illness duration (14% vs 42%, $P = .040$). The study concluded that targeted use of MI may be of benefit for improving medication adherence in certain groups of patients, although this needs further examination⁴⁷.

Dongfang Wang-2020, The study was conducted on non-intrusive way of measuring adherence to medication in order to improve the management of patients with schizophrenia. The current cross-sectional study evaluated the reliability of the Chinese (Mandarin) version of the MARS and explored clinical and demographic correlates to medication adherence in a large sample of patients affected by schizophrenia with an episodic course in China. 1198 patients were recruited from 37 different hospitals in 17 provinces/municipalities of China and evaluated with the Medication Adherence Rating Scale (MARS), Clinical Global Impression-Severity of Illness (CGI-SI) and Sheehan Disability Scale-Chinese version (SDS-C). The MARS showed good internal consistency; Cronbach's alpha of total MARS was 0.83. Among the cohort of patients affected by schizophrenia with an episodic course, 28.5% met the criteria of good adherence to antipsychotic medication; age, steady income, and severity of illness had significant effects on medication adherence. Medication adherence of patients affected by schizophrenia in mainland China was found to be relatively low, calling for urgent attention and intervention. Risk factors for non-adherence to medication among patients affected by schizophrenia with an episodic course include older age, unsteady income, being in the acute period of the disease, and severity of illness⁴⁸.

b) Literature related to effectiveness of structured teaching program on medication adherence.

Sandeep Garg, Arpan Pandya, Ravindra HN. (2019)- This study was conducted on Effectiveness of Structured Teaching Programme on Selected Common Behavioural Problems of Children. A one group pre-test post-test pre-experimental design and evaluative approach was adopted. The study was conducted among 60 primary school teachers conveniently selected from five primary schools. The results of the study showed that in pre-test primary school teachers were having on average 49.40% knowledge regarding selected common behavioural problems of children and mean score was 14.8213.372 and in post-test, average 75.83% knowledge regarding selected common behavioural problems of children and mean score was 22.75+2 802. T calculated value is 33.233 which is more than the tabulated value of 2.00 at 0.05 level of significance. This study concluded that structured teaching program is effective tools to improve the knowledge of primary school teachers regarding Selected Common Behavioural Problems of Children⁴⁹.

M S Razali -2019The compliance with drug regimens and follow-up visits of 225 known cases of relapsed schizophrenia was assessed. About 27% of the patients met the criteria for good compliance. The compliance was found to be significantly related to the patients' view of usefulness of the medication, treatment duration of less than 5 years, dosage schedule of once or twice per day and the supervision of medication at home. Patients with poor compliance who were prescribed drug dosage of not more than twice per day throughout follow-up and underwent counselling to enhance treatment compliance had a significantly lower relapse rate than the controlled group at the end of 1 year of follow-up. The importance of family support and understanding patients' cultural background in ensuring good compliance was highlighted⁵⁰.

Idah Theboral, G (2018), The study conducted on the effectiveness of structured teaching programme on knowledge regarding medication adherence among care givers of psychiatric patients in a tertiary care setting, Coimbatore. The research design adopted was pre-experimental design, one group pre-test- post-test design. Totally 40 care givers were selected by purposive sampling method. The data was collected through self-administered knowledge questionnaire. Subsequently structured teaching programme regarding medication adherence was given for 15-20 minutes. The post test

was conducted by the same knowledge questionnaire after 7 days. The



data collected was analysed by using descriptive statistics. Paired t test and chi-square analysis. The result of the study 3 (7.5%) had moderately adequate knowledge and 37 (92.5%) had inadequate knowledge about antipsychotic drugs. After the structured teaching programme, the knowledge level of care givers after 7 days of post-test showed that 35 (87.5%) had adequate knowledge, and 5 (12.5%) had moderately adequate knowledge. There was significant difference found between before and after structured teaching programme. The overall pre-test mean with SD was (11.90 ± 2.06) and post-test mean with SD was (25.30 ± 1.16) . Thus, the result showed that structured teaching programme regarding medication adherence was highly effective. The study concludes that the structured teaching programme was effective in enhancing the knowledge of care givers about medication adherence⁵¹.

S. Frangou 2014: The study conducted to assess the impact of structured teaching program on medication adherence on symptomatology and service use in patients with schizophrenia. A total of 108 schizophrenia patients were randomized into three equal groups according to the approaches used to assess medication adherence; self-report, pill counting, and telemonitoring. Tele mentoring was achieved through an innovative new platform called at home. This platform offers clinicians early warnings about impending nonadherence as well as information about the pattern of medication taking. Patient's adherence was observed over an 8-week period, during which patient's clinical status and service use were recorded. In comparison to the other two groups, patients using at home showed improvement in the Global Clinical Impression Scale and a significant reduction in emergency visits and medical appointments. The at home platform was highly acceptable by patients, caregivers, and professionals, and required minimal training for implementation. The results of the study suggest that the use of telemonitoring in psychiatric settings was both feasible and acceptable and may be associated with significant clinical and service-related benefits⁵².

Danladi J, Falang-2013, The study conducted on, to examine the medication adherence levels and its contributing factors in schizophrenic patients receiving antipsychotic drugs. This was a cross-sectional study administering a structured questionnaire to 231 patients. Adherence was measured through patient self-reporting. Association between independent variables and adherence to antipsychotics were measured through odds ratios (OR) in the univariate analysis while the best predictors of adherence were determined through the multiple logistic regression. The study

results where adherence level was found to be 65.8%. The following factors were identified to be associated with adherence in the univariate analysis: age (OR 1.088), sex (OR 1.231), employment (OR 0.366), marital status (singles, OR 0.022), drug adherence counselling (OR 11.641), twice a day frequency (OR 8.434), alcohol non-intake (OR 1.469), educational level (primary OR 1.9312, secondary OR 11.022, tertiary OR 4.771), occupation (public servant 6.273). In the multivariate analysis, age, three times a day frequency of drug intake, singles, and educational levels such as primary, secondary, or tertiary school, strongly affected adherence ($P < 0.05$). The study was concluded that although patient's adherence level was high (65.8%), there is a need to emphasize that pharmacists spend more time in counselling and educating patients, especially younger ones on drug adherence before any antipsychotic medications are dispensed. Furthermore, patients should be taught the use of adherence devices such as reminders so that adherence to antipsychotic medications can be optimized⁵³.

Sabah Mohamed Ebrahim, Faten Hasan Alam-2016, The study conducted on to evaluate the effect of structured teaching program on adherence to medications and quality of life of schizophrenic patients. A Quasi-experimental design (one group pretest post-test) was used. The study was conducted at Outpatient Clinics of The Psychiatric and Addiction Treatment Hospital in MIT-Khalaf at Menoufia, Egypt. Non-probability sampling of 50 schizophrenic patients from the previously mentioned setting was recruited. Tools of the study include a structured questionnaire, the Medication Adherence Rating Scale and the world health organization quality of life (WHOQOL-BRIEF) scale. The study illustrated that, there was a statistically significant improvement in attitude toward medication and quality of life of patients with schizophrenia after implementation of a psychiatric nursing intervention. In conclusion the structured teaching program was effective in improvement of medication adherence and quality of life of schizophrenic patients⁵⁴.

Wai Tong Chien-2015, The study was conducted on to evaluate the effectiveness of structured teaching program for outpatients with schizophrenia spectrum disorders. The method was a single-blind, randomized controlled trial with a repeated-measures, two parallel groups design was conducted in a random sample of 114 participants with schizophrenia spectrum disorders in one community psychiatric nursing service ($n = 57$

per group). Results with the attrition rate was 3.5 % and repeated-measures analysis of variance followed by Helmert's contrasts test indicated that the participants reported significantly greater improvements in their insight into illness and/or treatment, psychosocial functioning, symptom severity, number of re-hospitalizations, and medication adherence ($F = 5.01$ to 7.45 , $P = 0.007$ to 0.030) over six months follow-up, when compared with usual care. Concluded with structured teaching program on people with schizophrenia can be effective to reduce symptom severity and re-hospitalizations, and improve medication adherence, functioning, and insight⁵⁵

O. Omolabi, a. Adewuya, o. Adeoye, o. Famurewa, m. Bello-mojeeed, o. Omotoso, o. Oseji-2022, The study conducted on effectiveness of structured teaching program to improve medication adherence has been demonstrated to improve treatment outcome in patient with schizophrenia. The method used was an experimental study design, 100 outpatients were allocated to intervention (IG) and control groups (CG). The IG received 2 sessions of a brief SIPI, each lasting 15 minutes, and 2 weeks apart while the control group received only the usual non structured general mental health talk. The Brief Psychiatry Rating Scale (BPRS) assessed symptom reduction. Data was analysed with Chi-square and t-test. The result was no significant difference in age and sex. The IG reported a more positive attitude towards medication and had significant medication adherence. Structured teaching program proved to have an effect in symptom reduction in the IG. The study concluded that Brief SIPI may have a positive impact on patients' attitude, adherence to medication and symptom resolution. A larger randomized controlled trial may be done to test the impact of psychoeducation on medication adherence and symptoms reduction⁵⁶.

Ashish V. Saboo, Parth S. Deshmukh and Shrikant B. Deshmukh- 2015, The study conducted to identify the effect of structured teaching program on level of compliance and factors associated with non-compliance to treatment regimen in schizophrenic patients. This was a hospital based cross sectional study carried out in psychiatric ward and OPD. A total of 52 patients were included as study samples. Data was collected using self-developed, pre tested, structured teaching program. The result of the study was (69%) of the patients showed poor compliance. 27% of patients had medium compliance and only 4% showed high compliance rate. Possible contributory factors responsible for noncompliance include cost of medicine, chronic nature of illness perceived, transportation problem, medication related factors like side effects of drug

and lack of effectiveness, (relatives' insight toward illness), lack of



knowledge, misconception about psychiatric disorders and patient's insight towards illness with the conclusion that there were many factors which (Contributed) to non-compliance among patients with psychotic illness⁵⁷.

Ms. Vivitha A Sahaya-2017, This study was conducted to evaluate the effectiveness of structured teaching programme on expressed emotions and knowledge regarding relapse prevention among caregivers of patients with schizophrenia. The design adopted was pre -experimental one group pre- test post- test design. The non probability purposive sampling technique was used to select the 30 caregivers from SriGokulam Hospital. Data were analysed by using both descriptive and inferential statistical methods. The study finding revealed that during pre-test, 12 (40%) had low Expressed Emotions and 18 (60%) had high Expressed Emotions. Whereas during post-test, 23(76.67%) had low Expressed Emotions and 7 (23.33%) had high Expressed Emotions. During pre- test, 23 (76.67%) had inadequate knowledge and 7 (23.33%) had moderately adequate knowledge regarding relapse prevention. During post- test, 23 (76.67%) had adequate knowledge and 7 (23.33%) had moderately adequate knowledge regarding relapse prevention. This indicates that the structured teaching programme was effective in improving the level of knowledge regarding relapse prevention among caregivers of patients with schizophrenia⁵⁸.

c) Literature related to knowledge of caretakers on Schizophrenia.

Zhou Z, Wang Y (2021)-The study was conducted on caregiving knowledge and skills with caregiver burden, psychological well-being, and coping styles among primary family caregivers of people living with Schizophrenia in China. Aim of this study was to assess the associations of caregiving knowledge and skills with caregiver burden, psychological well-being, and coping styles among primary family caregivers of people living with Schizophrenia in China. Methods were used cross-sectional study. Sample size for this study was a total of 395 primary family caregivers. Results of this study was a higher level of caregiving knowledge and skills was positively correlated with less stress ($b=0.48, P<0.001$), anxiety ($b=-0.23, P=0.029$), depression ($b=-0.29, P=0.013$), and more caregiving rewarding feelings ($b=0.54, P<0.001$). Also, caregivers with more knowledge and skills were more inclined to adopt positive coping strategies ($b=0.44, P<0.001$). The study was concluded that Caregiving knowledge and skills are a reliable predictor of psychological well-being and active coping among the primary family caregivers of

PLSS⁵⁹.



Shinde M. Desai A. Pawar S (2021)- This study was conducted on knowledge, Attitudes and Practices among Caregivers of patients with Schizophrenia in Western Maharashtra. The aim of this study was to assess the knowledge, attitude, and practices among caregivers of schizophrenia patient in western Maharashtra. Setting and design of this study was Cross-sectional study design which was carried out in mental health institute. Methods was used a semi- structured questionnaire to obtain the required data from caregivers accompanying the schizophrenia patients. Convenient sample of 50 caregivers was selected. Result of this study was most of the caregivers (30%) had no prior knowledge about schizophrenia. The father (24%) and relatives (24%) were the major caregivers for the patients. Caregivers considered medical intervention to be the most important, but they also advocated supportive interventions such as counselling and family support. The study was concluded that the educational programme for the relatives of patients by developing psychoeducational intervention and sensitization campaigns are needed⁶⁰.

Tamizi Z, Fallahi-Khoshknab M (2020)-The study was conducted on Caregiving burden in family caregivers of patients with schizophrenia: A qualitative study was done with the aim to gain a better understanding of caregiving burden in family, caregivers of patients with schizophrenia and its related factors. Materials and methods were used for this qualitative study was based on 12 family caregivers of schizophrenia patients visiting a psychiatric hospital in Tehran in 2020. Sampling was carried out based on the purposive sampling method and was continued until data saturation. All interviews were recorded, transcript, and imported into the MAXQDA software. Then, qualitative content analysis was conducted based on Griesheim and Lundman's five-step method. Results of the study was the Perceived objective burden" as theme included two main categories: "Heavy involvement of caregivers" and "Challenges of the healthcare system. The study was concluded that the family caregivers of the patients with schizophrenia encounter many problems related to multiple responsibilities in the caring process and challenges in the provision of mental health-care services⁶¹.

Yasuma N, Sato S (2020)- The study was conducted on effects of brief family psychoeducation for caregivers of people with schizophrenia in Japan provided by visiting nurses: protocol for a cluster randomized controlled trial. The purpose of this study was to discover whether a brief FPE programme provided by visiting nurses

caring for people with schizophrenia will alleviate family burden through a cluster randomized controlled trial (cRCT). Methods and analysis of this study was a two- arm, parallel-group (visiting nurse agency) cRCT. Forty-seven visiting nurse agencies will be randomly allocated to the brief FPE group (intervention group) or treatment as usual group (control group). Caregivers of people with schizophrenia was recruited by visiting nurses using a randomly ordered list. The primary outcome was caregiver burden, measured using the Japanese version of Zarit Burden Interview. Outcome assessments was conducted at baseline, 1-month follow-up and 6-month follow-up. Multiple levels of three-way interactions in mixed models will be used to examine whether the brief FPE programme will alleviate the burden on caregivers relative to treatment as usual⁶².

Kaur P (2020)-The study was conducted on Effectiveness of Psychoeducation program on Knowledge of Schizophrenia among care givers of the patients with Schizophrenia, admitted in Selected Hospital of SGR. The aim of the study was to find the efficacy of psycho-education on knowledge regarding schizophrenia among care givers of patient. The design of this study was pre-experimental one group pre-test and post- test design. The sample was care- givers of schizophrenia patients admitted in psychiatric ward. The sample size was 50 care givers selected using purposive sampling technique. The study was conducted at the selected state govt. hospital IMHANS Srinagar J&K India. Data was collected using structured knowledge questionnaire. Family members was assessed in group of twenty-five. Result of the study was mean knowledge score at pre-test was 8.94±5.101 and 27.66±1.814 at post-test. There was significant difference in knowledge scores of pre- tests and post- test ($p < 0.001$). The study concluded that psycho education was effective in increasing the knowledge of care givers of schizophrenia patients⁶³.

Nevena Divac et al -(October 2019), A study conducted on Second-Generation Antipsychotics and Extra-pyramidal Adverse Effects. This study aimed at assessing knowledge of second-generation Antipsychotics and extra- pyramidal adverse effects. The study design used in this study was descriptive study design. The result of this study was that extra-pyramidal syndrome does occur with second generation agents, though in lower rates in comparison with first generation antipsychotics. From this study it was concluded that Extra-pyramidal syndrome remains clinically important even in the era of second-generation antipsychotics, The incidence and severity of

extrapyramidal syndrome differ amongst these antipsychotics, but the fact is that these drugs have not lived up to the expectation regarding their tolerability⁶⁴.

Joyce Fernandes, Sukesh Shetty, Nalini M (Oct-Dec 2020), (Indian Journal of Forensic Medicine & Toxicology. This study aimed at assessing the caregiver's knowledge on the adverse effect of antipsychotics. The study design was descriptive survey design. The sample size for this study were 100 participants. The samples were selected by using a purposive sampling technique. A Self-structured knowledge questionnaire was administered to the study participants. The caregiver's knowledge of the adverse effects of antipsychotics were assessed using descriptive statistics. The results of the study were that more than half of the caregivers (67%) had inadequate knowledge of the adverse effects and management of antipsychotics, while 33% of them had adequate knowledge. The conclusion of this study was that imparting knowledge to the caregivers with the help of psycho education or any other medium can cause an increasing change in the attitude and quality of care among the caregivers⁶⁵.

Adhikari S, Jha A. (2021), A study was conducted with the purpose of assessing and comparing the knowledge, perspectives, and practices regarding the mental illness of patients and caregivers visiting the Neuropsychiatric outpatient department. A cross sectional comparative study was carried out among 160 participants (80 patients and 80 caregivers) visiting neuropsychiatry outpatient department of a tertiary care hospital. Data was collected through semi-structured proforma and Attitude towards mental illness questionnaire (modified). Results of the study showed that about 75% from both the groups had good knowledge about mental illness. More than 70% from both groups had positive attitude regarding help-seeking with only significant difference in view about people with mental illness seeking help from psychiatrist. About 50% from both groups had positive attitude regarding care and treatment. Conclusion of the study was that with good knowledge and positive attitude/perception regarding mental illness, self-stigma persisted regarding some domains. Despite positive attitudes for help-seeking, ambivalent views regarding care and treatment into both groups necessitate easy accessibility and upgrading of mental health service⁶⁶.

Ediriweera HW, Fernando SM, Pai NB. (2012), The study was done as a preliminary look at how well-informed Sri Lankan caregivers of patients with schizophrenia and

depression were about mental health. Using vignettes modified from an existing mental health literacy survey, a cross-sectional descriptive study examined 119 caretakers of people with depression or schizophrenia who were visiting a community clinic. According to the study's findings, patient caregivers believe that their patients' problems are an indication of personal weakness. 16 percent of caregivers wished to steer clear of those who had such issues. The study's findings were discussed, including the stigmatizing beliefs that those who suffer from mental illness are weak and violent. A minority sought to stay away from those who had comparable issues, showing that preserving social the distance wasn't a big problem. The study found that there are certain gaps in the caregivers' knowledge of mental health. They see those who suffer 38 from mental illness with stigma⁶⁷.

Zhou Z, Wang Y (2012,) The study was conducted on Caregiving Knowledge and Skills with Caregiver Burden, Psychological Well-Being, and Coping Styles Among Primary Family Caregivers of People Living with Schizophrenia in China. Aim of this study was conducted on associations of Caregiving Knowledge and Skills with Caregiver Burden, Psychological Well-Being, and Coping Styles Among Primary Family Caregivers of People Living with Schizophrenia in China. Methods were used cross-sectional study. Sample size used for this study was a total of 395 primary family caregivers. Results of this study was a higher level of caregiving knowledge and skills was positively correlated with less stress ($b=-0.48$, $P < 0.001$), anxiety ($b = -0.23$, $P = 0.029$), depression ($b = -0.29$, $P = 0.013$), and more caregiving rewarding feelings ($b=0.54$, $P < 0.001$). Also, caregivers with more knowledge and skills were more inclined to adopt positive coping strategies ($b = 0.44$, $P < 0.001$) Despite these differences, caregivers with different levels of caregiving knowledge and skills reported comparable caregiver burden ($b=0.11$, $P=0.705$) and the use of a passive coping style ($b = 0.10$, $P = 0.169$). The study was concluded that Caregiving knowledge and skills are a reliable predictor of psychological well-being and active coping among the primary family caregivers of PLSS⁶⁸.

Shinde M. Desai A. Pawar S (2014), The study was conducted on knowledge. Attitudes and Practices among Caregivers of patients with Schizophrenia in Western Maharashtra. The aim of this study was to assessing the knowledge. attitude, and practices among caregivers of schizophrenia patients in western Maharashtra. Setting and design of this study was Cross-sectional study design was used which was carried

out in mental health institute. Methods was used a semi- structured questionnaire to obtain the required data from caregivers accompanying the schizophrenia patients. Convenient sample of 50 caregivers was selected. Result of this study was most of the caregivers (30%) had no prior knowledge about schizophrenia. The father (24%) and relatives (24%) were the major caregivers for the patients. Caregivers considered medical intervention to be the most important, but they also advocated supportive interventions such as counselling and family support. The study was concluded that the educational programme for the relatives of patients by developing psychoeducational intervention and sensitization campaigns are needed⁶⁹.

d) Literature related to knowledge of medication adherence among caretakers of Schizophrenia.

Department of psychiatry, college of health science and medicine, ARSI university, Asella, Ethiopia and Department of nursing, college of health science and medicine, Arsi university, Asella, Ethiopia. (2022)-The study was conducted on Medication adherence and associated factors among psychiatry patients at Asella Referral and Teaching Hospital in Oromia, Ethiopia. The study design used was cross sectional study. The study sample were outpatient psychiatric patients. The study sample technique used was simple random sampling technique and the study analyzed using the Statistical Package for Social Science (SPSS). The study result revealed that the most critical problem for not taking medication properly was a lack of insight, which accounted for 33% of the total. Still, this is the problem that most family members did not have a solution for (33%). While family members asked for possible solutions for their significant other to adhere to their medication, (40%) reported giving health information for the patient followed by free and enough medication from the hospital (33%) might help to solve the current non-adherence issue, according to the caregiver's opinion. The study concluded that prevalence of medication adherence among people with major mental illness was not satisfactory. Factors like alcohol use, belief in medication, having perceived stigma and insight were found to be associated with medication adherence status⁷⁰.

Supriya mushahary1, S Sarojini devi. (2022)-The study was conducted on the effectiveness of psychoeducation on knowledge of antipsychotics drugs among caregivers of schizophrenia patients at Guwahati medical college and hospital, Guwahati, Assam. The objective of study was to find out the effectiveness of

psychoeducation on knowledge of antipsychotics drugs among caregivers of



schizophrenia patients. The study design was quantitative research approach. The study sample were the Caregivers of schizophrenia patients admitted in psychiatric ward of GMCH. The study sample technique was purposive sampling technique. The study analysed with frequency and percentage distribution of demographic proforma. Association between pre-test knowledge score on antipsychotics drugs among caregivers of schizophrenia patients with their selected demographic variables. The study result revealed that Majority of the participants i.e., 53.3% have adequate knowledge on antipsychotics drugs and 46.7% have moderate knowledge on antipsychotics drugs and non-participants have inadequate knowledge on antipsychotics drugs. The study concluded that caregivers of schizophrenia patients should receive psychoeducation and improve the level of knowledge on antipsychotics drugs⁷¹.

Alex Kopelowicz, Roberto Zarate, Charles J Wallace, Robert Paul Liberman, Steven R Lopez-2012-The study was conducted on the ability of multifamily groups to improve treatment adherence in Mexican Americans with Schizophrenia. The study objective was to determine whether a culturally adapted, multifamily group (MFG) therapy would increase medication adherence and decrease psychiatric hospitalizations for Mexican Americans with schizophrenia. The study design was randomized controlled trial. The study sample were patients had a diagnosis of schizophrenia or schizoaffective disorder with a recent exacerbation of psychotic symptoms and nonadherence to medication before enrollment. The study sample technique was interview at baseline 4, 8, 12, 18, and 24 months. The study analyzed with the treatment compliance interview uses multiple sources of information to quantify medication adherence. The study result revealed that at the end of the 1-year treatment, MFG-adherence was associated with higher medication adherence than MFG-standard or treatment as usual. Increased adherence accounted for one-third of the overall effect of treatment on the reduced risk for psychiatric hospitalization. The study concluded on multifamily group therapy specifically tailored to improve medication adherence⁷².

Dr. Bhushan Chaudhari, Danial Saldanha, d Anan Kadiani, and Roma Shahani department of psychiatry, Dr DY Patil medical college, Pimpri,Pune.-The study was conducted on evaluation of treatment adherence in outpatients with schizophrenia. The study design used was cross-sectional study. The study sample

were those patients who were taking treatment for schizophrenia at least for the last 6 months were included in the study. The study sample technique was Semi-structured pro-forma consisting of sociodemographic details, information regarding illness and treatment history, (PANSS), and Morisky medication adherence scale-8 to assess medication adherence. Nonadherent patients were further assessed for their reasons for nonadherence. The study result revealed that among the patients, 52% were low adherers (no adherers). The study concluded on high proportion of nonadherence in patients with schizophrenia and brought out factors associated and reasons for nonadherence. Adequate psychoeducation of patients and their caretakers as well as psychosocial interventions, strengthening mental health infrastructure, and community mental health services will significantly improve treatment adherence⁷³.

Kurume med j-2019-The study was conducted on the effects of psychoeducation on long-term inpatients with schizophrenia and schizoaffective disorder the study objective was to examine the significance of intervention to improve medication adherence in long-term inpatients by providing psychoeducation. The study design was pre-experimental research design. The study sample were patients who had been hospitalized for more than 1 year after being admitted to a psychiatric hospital, had been diagnosed as F2 (schizophrenia, schizoaffective disorder) the study sample technique was simple random sampling. The study analyzed with Global assessment of functioning (GAF) score, drug attitude inventory-10 (DAI-10) score, and knowledge of illness and drugs inventory (KIDI) score. The amount of medication taken and GAF, DAI- 10, and KIDI scores were evaluated within 1 week of starting psychoeducation and within 1 week of completing psychoeducation. The study concluded that Psychoeducation produced improvement in some areas of knowledge and attitudes towards medication among long-term inpatients⁷⁴.

Eda Kalkan-2019, This study was conducted to identify the effect of insights on medication adherence in patients with schizophrenia This is a cross-sectional study conducted between June 2017 and June 2018 in the Elazig Mental Health and Diseases Hospital. The sample of the study was determined as 300 patients with schizophrenia with the power analysis. Descriptive Characteristics Form, Birchwood Insight Scale, and Morisky Medication Adherence Scale were used to collect the data. In the analysis of data, percentage, arithmetic mean, independent samples *t* test, the Kruskal Wallis test, analysis of variance, regression analysis, and post hoc-Tukey tests

were used. Approximately 69% of the patients had a moderate level of medication adherence and moderate insight. There was a statistically positive strong correlation between the insights and medication adherence of the patients ($P < .05$). The conclusion of the study were the patients with schizophrenia had low insight and moderate medication adherence and as their insight increased their medication adherence increased⁷⁵.

Gul Dikec-2015, This study used a quasi-experimental design with a pretest–post-test control group and follow-up to determine the efficacy of adherence therapy in patients with schizophrenia in Turkey, with the method the sample of this study consisted of patients with schizophrenia ($n = 30$). The Questionnaire Form, Medication Adherence Rating Scale, Internalized Stigma of Mental Illness Scale, and Beck Cognitive Insight Scale were used. The patients were assigned to experimental ($n = 15$) and control ($n = 15$) groups using the randomization method. The experimental group received adherence therapy in eight sessions. The results were When the scores of the patients in the experimental and control groups were compared at the pretest, post-test, and 3- and 6-months follow ups, a significant difference was only found in the Medication Adherence Rating Scale post-test scores, with the conclusion that Adherence therapy is effective in improving adherence to treatment but is not effective with regard to insight and internalized stigma in patients with schizophrenia⁷⁶.

Sagit Dahan-2016, This study conducted on an individualized integrative nursing intervention for improving attitude and adherence in patient with Schizophrenia. The sample included 60 patients, randomly assigned to an experimental or control group. Measures included The Visual Analog Scale for Assessing Treatment Compliance and the Drug Attitude Inventory (DAI- 10), with the results significant differences were found in attitude and reported adherence for the experimental group, before and after. Significant differences were found between the experimental and control group in the degree of change in attitude and reported adherence. The study concluded the benefit of integrative one-on-one tailor-made intervention versus routine care for improving attitude and adherence to drug therapy in patient with schizophrenia⁷⁷.

Ms. Elke Loots-2021, The study conducted on adherence to prescribed medication regimes improves outcomes for patients with severe mental illness such as

schizophrenia or bipolar disorders. The aim of this systematic review and meta-analysis was to compare the effectiveness among interventions to improve medication adherence in patients with schizophrenia or bipolar disorders. Interventions were categorised based on type, and the context and effectiveness of the interventions were described. Two review authors independently extracted and assessed data, following criteria outlined by the Cochrane Handbook for Systematic Reviews of Interventions. The GRADEPro (McMaster University, 2020, Ontario, Canada) was used for assessing the quality of the evidence. Twenty-three publications met the selection criteria. Different types of interventions aiming to improve adherence were tested: educational, behavioural, family-based, technological, or a combination of previous types. Meta-analysis could be performed for 10 interventions. When considered separately by subgroups based on intervention type, no significant differences were found in adherence among interventions ($p = 0.29$; $I^2 = 19.9\%$). This review concluded that successful interventions used a combination of behavioural and educational approaches that seem easy to implement in daily practice⁷⁸.

SUMMARY

In this chapter deals with the review of literature from the national and international books and journals related to medication adherence in caretakers of Schizophrenic patients.

CHAPTER



CHAPTER III

RESEARCH METHODOLOGY

INTRODUCTION

Research methodology is a way of explaining how a researcher intends to carry out their research. It's a logical, systematic plan to resolve a research problem. This chapter deals with methodology adopted by the investigator to conduct the proposed study. It includes research approach, research design, identification of target and accessible population, sampling technique, sampling size, inclusion and exclusion criteria, tool preparation, feasibility of the statement of the problem, objectives of the study, assumption which have been formulated, method used for data collection and the statistical method used for analysing study, validity, reliability and data collection. It is systematic way to solve the research problem. It may be understood as a science of studying the research is done scientifically. It contains the data and the logic behind it²¹.

The methodology of research indicates the general pattern for organizing the procedure for gathering valid and reliable data for an investigation. This chapter deals with the methodology adopted for development and evaluating the effect of structured teaching program on knowledge of Medication adherence among the caretakers Schizophrenic patient. It includes the description of research approach, research design, variables under study, setting, population sample and sampling technique, development of data collection instruments, development of Structured teaching program, and plan for data analysis to determine the effect of the Structured teaching program.

RESEARCH APPROACH:

Polit D F and Hungler BP (2003) Research approach is a systemic, objective method of discovery with empirical evidence and rigorous control. According to Polit and Hungler (1999) the research approach refers to the investigator's overall plan for obtaining answers to the research questions and for testing the research hypothesis. It spells out the strategies that the investigator adopts to develop information that is accurate, objective and interpretable. It is a set of flexible guide spots designed to keep the investigator in the right direction²².

Research approach indicates the procedure for conducting the study in order to accomplish the objectives of the study. The research approach helps the researcher to determine what data has to be collected and how to analyse it. It also suggests possible conclusions to be drawn from the data. Quantitative refers to measurement and analysis of causal relationship between

variables at a particular point of time.



Quantitative research is directed at the discovery of relationship as well as cause and effect. In this study Quantitative research approach was used. It helps the investigator in selection of participants, manipulation of independent variables, control, observation to be made and the type of statistical analysis to be used, to interpret the data²³.

The present study is aimed to determine "effectiveness of structured teaching program on knowledge regarding medication adherence among caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the city".

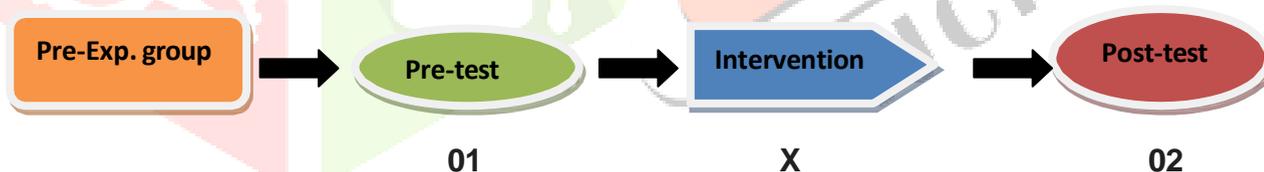
RESEARCH DESIGN:

Burns Na Grove (2003) define a research design as —a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings. Research design is the plan, structure and strategy of investigations of answering the research question is the plan or blueprint the researchers select to carry out their study²⁴.

Research design is defined as, "An investigator's overall plan for obtaining answers to the research question or for testing hypothesis²⁴.

It is the plan or blueprint for the investigator to select and carry out their study. According to Kerlinger, the design has two basic purposes: to provide answers to research questions and to control variance.

FIG NO.3.1 Pre- experimental one group pre-test post-test design



Pre-Exp. group = Pre-Experimental Group.

01 = Pre-test knowledge about medication adherence

X = Structured Teaching Program on medication adherence

02= Post-test knowledge about medication adherence

SETTING OF THE STUDY:

Setting is the location in which the research is conducted - it could be natural, partially controlled, or highly controlled. Natural or field setting is an uncontrolled real-life situation. In a partially controlled situation, environment is partially modified to control extraneous

variables, while in highly controlled situations; study environment is fully controlled to combat the effect of extraneous variables.

The study was conducted in tertiary care hospital of the city.

The approval for the study was granted by head of the tertiary care hospital of the city.

VARIABLES:

Attributes or characteristics that can have more than one value such as height or weight. In other words, variables are qualities, quantities, properties, or characteristics of people, things, or situations that change or vary²⁵.

There are two variables identified in this study. They are independent and dependent variables.

Dependent variable:

Variables that change as the independent variable was manipulated by the researcher; sometimes called the criterion variables²⁵.

In present study, the dependent variable is the knowledge of medication adherence among the caretakers of schizophrenic patient in tertiary care hospital of the city".

Independent variable:

Variables that are purposely manipulated or changed by the researcher; also called manipulated variables²⁵.

In present study administration of structured teaching program on medication adherence is the independent variable.

Demographic variables:

Age, education, religion, monthly income, type of family, area of living, length of stay with patient, history of psychiatric illness in family and source of information accessed²⁵.

IDENTIFICATION OF TARGET AND ACCESSIBLE POPULATION:

Population:

The entire set of individuals or objects having some common characteristic(s) selected for a research study²⁶.

Target population:

The entire population in which the researchers are interested and to which they would like to generalize the research findings²⁶.

In present study target population refers to the caretakers of schizophrenic patient in all over Maharashtra.

Accessible population:

The aggregate of cases which conform to designated inclusion or exclusion criteria and that are accessible as subjects of the study²⁶.

In present study accessible population refers to caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the city.

SAMPLE:

Sample is a small portion of a population for observation and analysis²⁷.

The samples for the study were caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the city. Only those who fulfilled the inclusion criteria were selected for the study.

SAMPLING TECHNIQUE:

The sampling technique will be used for the study is type of non- probability convenient sample technique. Non-probability convenient sampling is a technique in which the researcher selects samples based on the subjective judgement of the researcher rather than random selection. Non-probability convenient sampling method is used in which samples are selected from the population only because they are conveniently available to the researcher²⁸.

In present study, non-probability convenient sampling method was used to select 60 caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the city.

SAMPLE SIZE:

Sample size as the numerical value assigned to a subset of the population selected to participate in a study²⁹.

The sample size selected for this study is 60. Only those who fulfil the sampling criteria and who expressed willingness to participate in the study were selected.

Formula: -

Sample size calculated by using the difference of score. The means and SD difference of the score is 3.62 ± 2.69 . The sample size calculated by using following formula

$$N = \frac{Z_{\alpha}^2 \sigma^2}{d^2}$$

1) d = sample size

2) Z_{α} = standard normal variate for $\alpha = 0.05$ (95%ci) = 1.96

3) σ = SD of variable under interest = 2.69

4) D = margin of error for mean = 0.60

Substituting the values in the formula the minimum **sample size is 60**

Qualitative data variables will express by using frequency and percentage (%)

Quantitative data variables expressed by using Mean and SD etc ...

Fisher's exact test is used to find the association between qualitative data variable

Unpaired t-test used to compare mean (for quantitative data variable) for 2 independent qualitative variables.

P-value <0.05 considered as significant

- Duration of study: 1 years
- Duration of data collection: 1 month.

In present study total 60 caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the city.

CRITERIA FOR SAMPLE SELECTION:

Sampling criteria are those which specify the characteristics that the subject in the population must possess.

The following criteria are used in the present study to select the subject.

Inclusion Criteria: -

- a. Caretakers who's age between 20 to 60 years.
- b. Caretakers willing to participate in research study.
- c. Caretakers who are taking care of patient with schizophrenia at least more than 6 months.
- d. Able to understand Marathi language.

Exclusion Criteria; -

- a. Caretakers of patient with psychotic illness other than schizophrenia.
- b. Caretakers of schizophrenic patient who are admitted in hospital setting.
- c. Caretakers who are not willing to participate.

TOOL AND TECHNIQUE FOR DATA COLLECTION:

The tool of data collection translates the research objectives into specific questions/items, the response to which will provide the data required to achieve the research objectives. In order to achieve this purpose, each question / item must convey to the respondent the idea or group of ideas required by the research objectives, and each item must obtain a response which can be analysed for fulfilling the research objectives³⁰.

The tool used in research study for data collection is:

- Section A- Written informed consent
- Section B- Demographic data of caretakers of schizophrenic patient coming at outpatient department at selected tertiary care hospital.
- Section C- Questionnaire on knowledge regarding medication adherence among the caretakers of schizophrenic patients coming to outpatient department at tertiary care hospital of the city.
- Section D- Structured Teaching program

DESCRIPTION OF THE DATA COLLECTION TOOL:

Data collection tool is the procedures or instrument used by the investigator to observe or measure the key variables in the research problem³⁰.

The tool used in the present study was self- structured questionnaire which comprises of two sections. The questionnaire consists of close ended questions as they are easier to

administer, analyse and assess the knowledge of medication adherence among caretakers of schizophrenic patient. They can also be completed in given amount of time.

Review of literature provided adequate content for the tool preparation. The details of section are given below:

The tool consists of 4 sections:

Section A- Written informed consent form

Section B- Demographic data of caretakers of schizophrenic patient coming at outpatient department at selected tertiary care hospital.

This tool consists of 09 items on personal information to find out any association between selected demographic variables and study findings. It consists of background variables such as age, education, religion, occupation, income, type of family, duration of stay with patient, relation with patient, mental illness in family other than patient and source of knowledge about schizophrenia

Section C- Questionnaire on knowledge regarding medication adherence among the caretakers of schizophrenic patients coming to outpatient department at tertiary care hospital of the city.

It consisted of 25 items to assess the knowledge of medication adherence among caretakers of schizophrenic patient.

Questions were asked regarding:

- Meaning, causes and sign and symptoms of Schizophrenia
- Enlist the drugs used to treat Schizophrenia
- Side effects of antipsychotics
- Meaning of medication adherence
- Importance of medication adherence
- Causes of non-adherence
- Strategies for medication adherence

Section D- Structured Teaching program on medication adherence, its strategies, importance and role of caretakers in medication adherence.

Scoring-

The self-structured questionnaire was developed into, section A to assess the knowledge of medication adherence among caretakers of Schizophrenic patient. Section B of the questionnaire dealt with objective type (multiple choice questions) items. The scores of the Section B were based on worth of correct answers. The correct response was given '1' and the incorrect response was given '0'. Knowledge was graded from poor knowledge to excellent knowledge. In the self-structured questionnaire for each question, four options were given out of which 3 were distracters and one was the correct response. The highest score was 25.

TESTING OF THE TOOL:

The tool prepared for data collection was tested for its content validity, feasibility and reliability.

CONTENT VALIDITY:

Validity refers to the degree to which an instrument measures what it is intended to Measure³¹.

Content validity concerns the degree to which an instrument has an appropriate sample of items for the construct being measured and adequately covers the constructed domain.

To ensure the content validity, the tool was given to 15 experts from different fields along with objectives of the study, synopsis, evaluation criteria checklist and lesson plan of structured teaching program. The experts were comprised of include-

- Department of Mental Health Nursing Expert = 10
- Department of psychiatry MIMH Psychiatrist = 01
- Clinical Psychologist = 02
- Psychiatric Social Worker Expert = 01
- M.A. in Marathi = 01

RELIABILITY OF THE TOOL:

"The reliability of a measuring instrument is a major criterion for assessing its quality and accuracy." The reliability of an instrument is the degree of consistency with which it measures the attribute it is supposed to be measuring³¹.

Reliability of the tool is assessed by administering the tool to 06 caretakers of Schizophrenic patients. Test retest method was used to test the reliability of questionnaire and the tool was found reliable¹³².

In this study, the reliability was determined by administering self-structured knowledge questionnaire to 06 caretakers of Schizophrenic patients coming to outpatient department at tertiary care hospital of the city. The reliability was calculated by using the Karl Pearson's formula. The reliability was confirmed by using coefficient alpha test. The normal range of value is between 0.00 and +1.00 and higher values reflect a higher internal consistency.

The result was = **0.98** It shows that the tool was reliable.

Procedure for calculating reliability (stability) is as follows:

- Administration of research instrument to sample of subject on two different occasions.
- Score of the tool administered compared and
- Calculated by using following formula of correlation coefficient.
- Formula for Pearson's correlation coefficient is:

$$r = \frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2 \sum (y_i - \bar{y})^2}}$$

r = Pearson's correlation coefficient

x_i = values of the test scores of the ith sample

x = mean of the values of the test scores

y_i = values of the retest scores of the ith sample

y = mean of the values of the retest scores

Table No. 3.1 Values for calculating reliability

Sample	test	retest	test-mean	retest-mean	(test-mean) x (retest-mean)	(test-mean) x (test-mean)	(retest-mean)x (retest-mean)
1	15	16	4.2	5.0	20.8	-17.4	-25.0
2	11	11	0.2	0.0	0.0	0.0	0.0
3	16	15	5.2	4.0	20.7	-26.7	-16.0
4	7	8	-3.8	-3.0	11.5	-14.7	-9.0
5	3	4	-7.8	-7.0	54.8	-61.4	-49.0
6	13	12	2.2	1.0	2.2	-4.7	-1.0
	10.8	11.0			18.3	-20.8	-16.7

$$r = 18.3 / \sqrt{(-20.8 \times -16.7)} = 18.3 / 18.62 = 0.98$$

- This reveals the magnitude and directions of relationship between scores generated by a research instrument at two separate occasions.
- Interpretation of results: the result of correlation coefficient range between 1.00 through 0.0 and +1.00,
 - +1.00 score = Indicates perfect reliability
 - 0 score = Indicates no reliability
 - 0.70 and above score = Indicates acceptable level of reliability.

The reliability of the tool has been established using test- retest method on 06 samples. The score was entered on a data sheet and total means and variance calculated using Pearson's correlation coefficient formula. The resulting coefficient of reliability section B (Questionnaire on knowledge regarding medication adherence among caretakers of schizophrenic patient) is 0.98.

PILOT STUDY:

"Pilot study is small scale preliminary investigation of the same general character as a major

study³³."



The pilot study was conducted in tertiary care hospital of the city. The pilot study was conducted on subjects. The aim, objectives and nature of the study was explained to the subjects. Confidentiality was assured to all the subjects and written informed consent was obtained from them. They were selected for the pilot study by using non-probability convenient sampling method.

The data was collected through,

Section A- Written informed consent form

Section B- Demographic data of caretakers of schizophrenic patient coming at outpatient department at selected tertiary care hospital.

Section C- Questionnaire on knowledge regarding medication adherence among the caretakers of schizophrenic patients coming to outpatient department at tertiary care hospital of the city.

Section D- Structured Teaching program on medication adherence, its strategies, importance and role of caretakers in medication adherence

On day 1 Pre-test was administered to selected samples followed by structured teaching program and on same day Post-test was conducted on the same samples. The data analyzed shown a difference between pre-test and post-test. In the pilot study, tool was found satisfactory in terms of simplicity, clarity and feasible to conduct the main study.

FEASIBILITY OF THE STUDY:

"The feasibility of the study addresses the various practical concerns about the availability of the resources, the organizational climate, the need for and availability of external assistance and the potential for the clinical evaluation." The investigator found that this research study was feasible by conducting the pilot study. Tool was tested for 06 samples that were selected to check the feasibility of the tool and sample. The investigator found that tool and sample was feasible³⁴.

DATA COLLECTION PROCESS:

Before the actual data collection, the investigator had completed the following formalities:

1. Approval from the research committee member & written permission from head of the institution to conduct research.

2. The investigator introduced self, explained the study of the purpose to caretakers of schizophrenic patient coming at outpatient department at selected tertiary care hospital of the city.

The data was collected .Prior the data collection permission was obtained from the authorities. The purpose of the study and method of data collection was explained to the subjects for getting true responses. The assurance was given regarding the confidentiality of the information. An informed consent was obtained from the respondents indicating their willingness to participate in the study. The subjects who fulfill the sampling criteria were taken for the study. Total 60 samples were selected by Non-probability convenient sampling method. The data was collected from the caretakers of schizophrenic patient coming to outpatient department at selected tertiary care hospital of the city.

Investigator administered self-structured questionnaire on knowledge of medication adherence among caretakers of Schizophrenic patient to obtain pre-test score and investigator conducted structured teaching program on knowledge of medication adherence as intervention, later post test was conducted with the same questionnaire. After the data gathering process the investigator thanked all the study subjects as well as the authority persons for their cooperation.

The total 60 caretakers were divided according to their convenience. On day one, pre-test taken and structured teaching program was administered and on same day post test was conducted.

PLAN FOR DATA ANALYSIS:

"Data analysis is the systemic organization of research data and testing of research hypotheses using that data. It includes descriptive and inferential statistics³⁵.

Data analysis performed by using SPSS 25.0 (Statistical Package for Social Sciences) ³⁶.

Descriptive Statistics:

Demographic variables of caretakers of Schizophrenic patient and levels of pre-test and post-test scores are mentioned in frequencies with their percentages. Pre-test and post-test average scores are mentioned using mean and standard deviation.

Inferential Statistics: Pre-test and post-test differences of knowledge regarding medication adherence among caretakers of Schizophrenic patient are analyzed by using paired t-test. Association between levels of post-test scores with demographic variables is analyzed by Fisher's exact test.

- a) Paired t-test:** This is applied to find the significant difference between two means. Paired data of independent observations made on the same sample before and after the intervention.

Formula:

$$t = \frac{\sum d}{\sqrt{n(\sum d^2) - (\sum d)^2/n-1}}$$

d = difference between the 1st and 2nd paired observations.

$\sum d$ = sum of the calculated difference

d^2 = square of difference

- b) Fisher's exact test:** This is used to know the association between knowledge regarding medication adherence among caretakers of schizophrenic patient coming to psychiatric OPD of the tertiary care hospital with selected demographic variables³⁷.

Plan for data collection and data analysis:

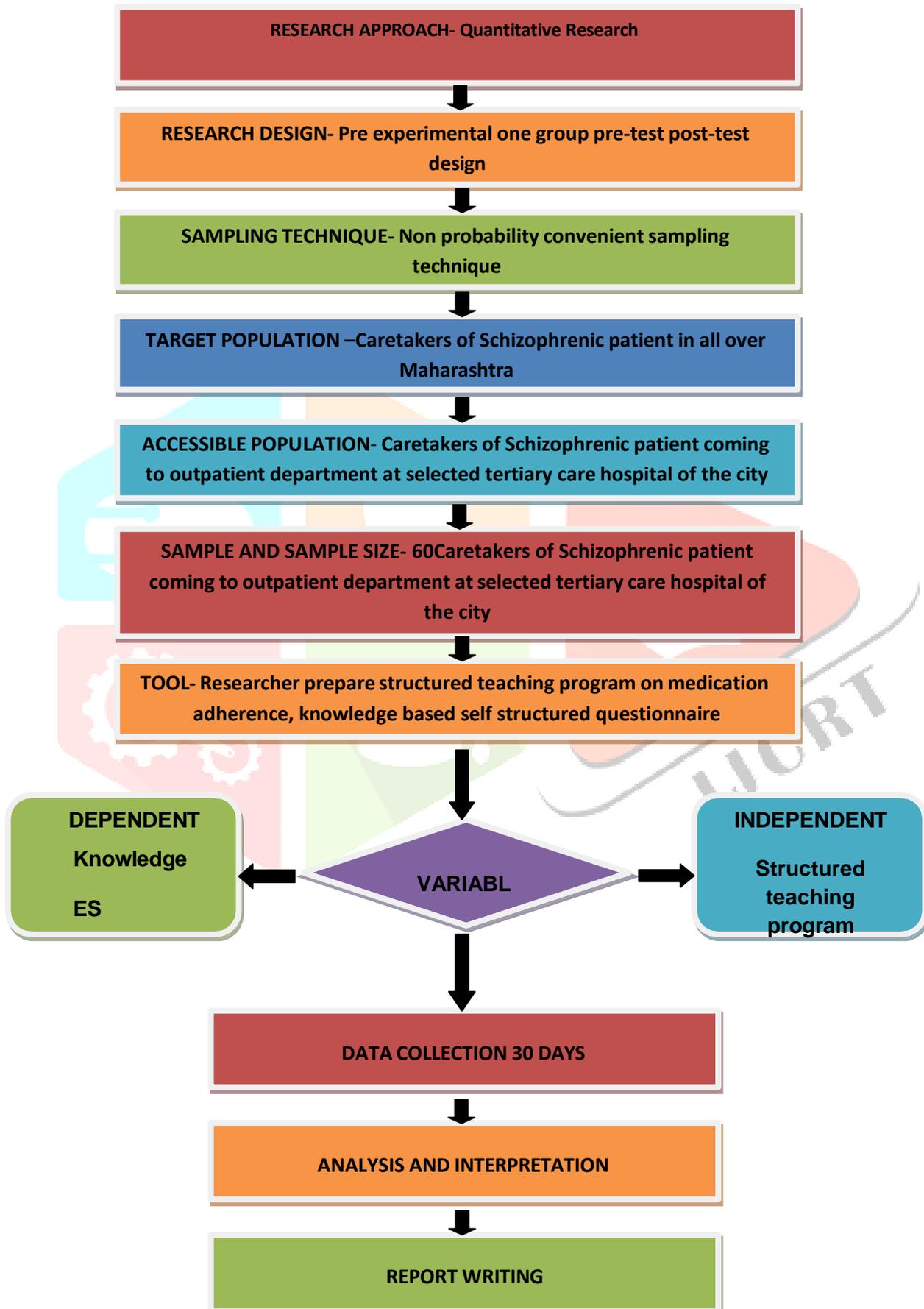
A prior formal permission is obtained from the concerned authority for conducting study, which is from head of tertiary care hospital the city. Tool section A and B are executed in pre-test and post-test in study group.

- **Self structured knowledge questionnaire:** A score of '1' is awarded to a correct response while a score of '0' is awarded to an incorrect response of questionnaire. Paired t-test for testing effectiveness of structured teaching program and research hypothesis.
- Fisher's exact test is used to find association between knowledge and demographic variables for testing the research hypothesis.

Table No. 3.2 Statistical methods will be used in the study

Sr. No.	Objectives	Data Analysis	Method
1.	To assess the knowledge regarding medication adherence among caretakers of schizophrenic patient coming to outpatient department at the tertiary care hospital of the city.	Descriptive Statistics	<ul style="list-style-type: none"> • Frequency • Percentage • Mean • Standard deviation
2.	To assess the effectiveness of structured teaching program on knowledge regarding medication adherence among caretakers of schizophrenic patient coming to outpatient department at the tertiary care hospital of the city.	Inferential Statistics	Paired t-test
3.	To find association between study findings with demographic variables.	Inferential Statistics	Fisher's exact test

Figure no. 3.2 Schematic presentation of pre-experimental research designed in study



SUMMARY

This chapter deals with the methodology adopted for the research study and includes descriptions of the research approach, design, setting and sample, sampling technique, data collection and actual data collection. The data was planned to be analysed in terms of descriptive and inferential statistics.

The research methodology of this study is discussed in detail in this chapter. Quantitative research approach is adopted for the research study and it includes description of the research approach. A pre- experimental one group pre-test post- test design, a study conducted on caretakers of Schizophrenic patients coming to outpatient department at tertiary care hospital of the city. The sample size is 60. Using the self -structured questionnaire, the knowledge of caretakers is assessed.



CHAPTER

IV



CHAPTER: IV

Data are just summaries of thousands of stories – tell a few of those stories to help make the data meaningful.

- Chip & Dan Heath

DATA ANALYSIS AND INTERPRETATION:

According to Polit D. F. and Hungler B.P. analysis is defined as —the categorizing, organizing, manipulation and summarizing of the data in order to reduce it to an intelligible and interpretable form, so that the research problem can be studied and tested, including the relation between the variables.

This chapter dealt with the analysis and interpretation of data collected for the present study. Its main purpose was to summarize and organize the data in a meaningful way, so as to interpret and provide answers to the questions raised in the study.

Statistical procedure enables the researcher to reduce, summarize, organize, evaluate, interpret and communicate numerical information. In this research statistical methods were used for rendering quantitative information into meaningful and intelligible facts and figures. This chapter deals with the analysis and the interpretation of the data. After the data is collected it is important that the data is categorized and analyzed using appropriate scientific techniques. Statistical analysis of the obtained data is done by using statistical software.

Data management is done by using Microsoft Access software and analysis of data is done by using SPSS.

On the basis of the results of the analysis, interpretations could then be made and inferences drawn, thus adding, meaning and clarity to the purpose of the study. Analysis and interpretation was done based on objectives of study.

STATEMENT OF THE PROBLEM

—A study to assess the effectiveness of structured teaching program on knowledge regarding medication adherence among caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the city

OBJECTIVES OF THE STUDY ARE:

1. To assess the demographic data of caretakers of schizophrenic patient coming to psychiatric outpatient department at the tertiary care hospital of the city.
2. To assess the pretest knowledge score of caretakers of schizophrenic patient coming to psychiatric outpatient department at the tertiary care hospital of the city.
3. To assess the posttest knowledge score of caretakers of schizophrenic patient coming to psychiatric outpatient department at the tertiary care hospital of the city.
4. To assess the effectiveness of structured teaching program on knowledge regarding medication adherence on caretakers of schizophrenic patient coming to psychiatric outpatient department at the tertiary care hospital of the city.
5. To evaluate the association between study finding with selected demographic variable.

HYPOTHESIS

Ho-There is no significant effect of structured teaching program on knowledge among caretakers of schizophrenic patient.

H1-There is slightly improvement in knowledge among caretakers of schizophrenic patient.

H2-There is significant association between study findings and knowledge among caretakers of schizophrenic patient.

Analysis is the appraisal of the data, interpretations and the incidences that emerge from the study findings. The data collected has been analyzed as per the objectives of the study, using frequency; percentage. It is presented in the form of tables and graphs.

Tool was prepared with 25 items and a scoring key of tool was prepared to evaluate the knowledge and demographic variables

Three grades as such poor, average, good were used on the basis of scores obtained for knowledge

SCORE	GRADE
Poor	0-8
Average	9-16
Good	17- 25

DATA INTERPRETATION, ORGANIZATION OF DATA:

TABLES, FIGURES AND GRAPHS:

The data collected of the study was classified, organized and analyzed under following sections:-

SECTION I

Deals with analysis of description of samples (schizophrenic patient coming to psychiatric outpatient department of tertiary care hospital) based on their personal characteristics

SECTION II

Deals with Analysis of data related to the pretest knowledge score of caretakers of schizophrenic patient coming to psychiatric outpatient department of tertiary care hospital of the city

SECTION III

Deals with analysis of data related to the posttest knowledge score of caretakers of schizophrenic patients coming to psychiatric outpatient department of tertiary care hospital of the city

SECTION IV

Deals with analysis of data related to the effectiveness of structured teaching program on knowledge regarding medication adherence among caretakers of schizophrenic patient coming to psychiatric OPD of the tertiary care hospital of the city.

SECTION V

Deals with analysis of data related to the association between knowledge regarding medication adherence among caretakers of schizophrenic patient coming to psychiatric OPD of the tertiary care hospital with selected demographic variables.

SECTION I -

Description of samples (schizophrenic patient coming to psychiatric outpatient department of tertiary care hospital) based on their personal characteristics

Table 1: Description of samples (schizophrenic patient coming to psychiatric outpatient department of tertiary care hospital) based on their personal characteristics in terms of frequency and percentage

N=60

Demographic variable	Freq	%
Age of care taker		
20-30 years	4	6.7%
31-40 years	10	16.7%
41-50 years	22	36.7%
51-60 years	24	40.0%
Relationship with the patient		
Father	11	18.3%
Mother	16	26.7%
Spouse	17	28.3%
Sibling	16	26.7%
Educational status		
Primary	32	53.3%
Secondary	22	36.7%
Higher secondary	2	3.3%
Graduation	4	6.7%
Religion		
Hindu	54	90.0%
Muslim	6	10.0%
Occupation		
Housewife	20	33.3%
Professional	13	21.7%
Business	14	23.3%
Agriculture	13	21.7%
Total monthly income		

Less than Rs. 6000	14	23.3%
Demographic variable	Freq	%
Rs. 6001 to 10000	34	56.7%
Rs. 10001- to 20000	7	11.7%
Above Rs. 20000	5	8.3%

Type of family

Joint	6	10.0%
Nuclear	37	61.7%
Separated	3	5.0%
Extended	14	23.3%

Length of stay with patient

1- 5 years	1	1.7%
6-10 years	2	3.3%
Above 10 years	57	95.0%

History of psychiatric illness in family member other than the patient

Yes	7	11.7%
No	53	88.3%

6.7% of the caretakers of schizophrenic patients had age 20-30 years, 16.7% of them had age 31-40 years, 36.7% of them had age 41-50 years and 40% of them had age 51-60 years.

18.3% of them were fathers of patients, 26.7% of them were mothers, 28.3% of them were spouse and 26.7% of them were siblings of patients.

53.3% of the caretakers had primary education, 36.7% of them had secondary education, 3.3% of them had higher secondary education and 6.7% of them had graduation.

90% of them were Hindu and 10% of them were Muslim.

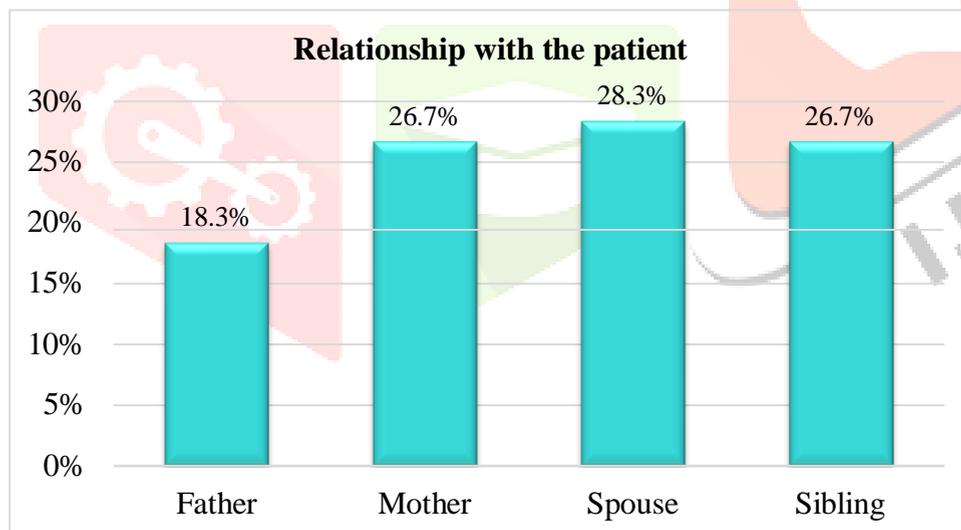
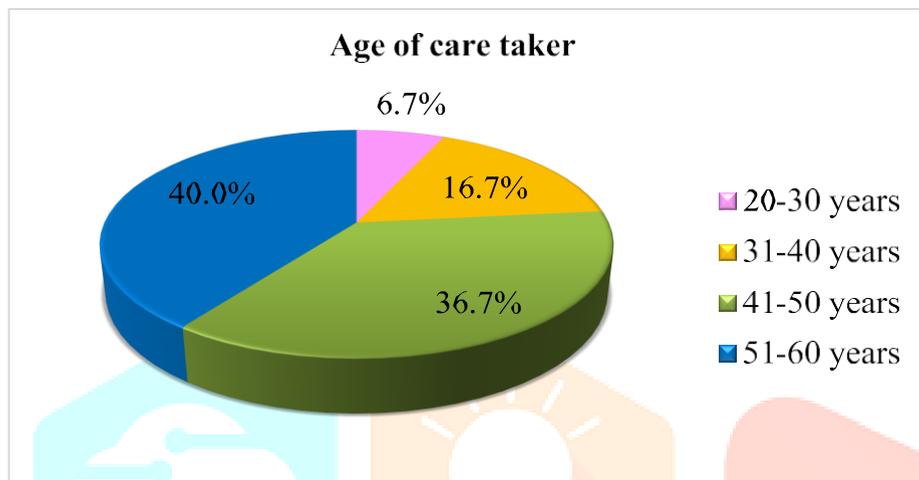
33.3% of them were housewives, 21.7% of them were professionals, 23.3% of them had business and 21.7% of them were farmers.

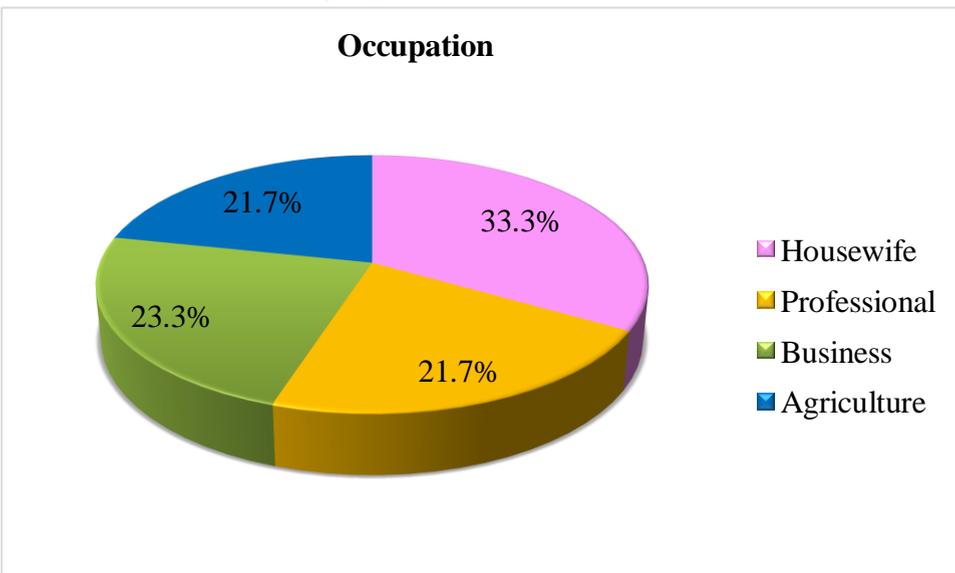
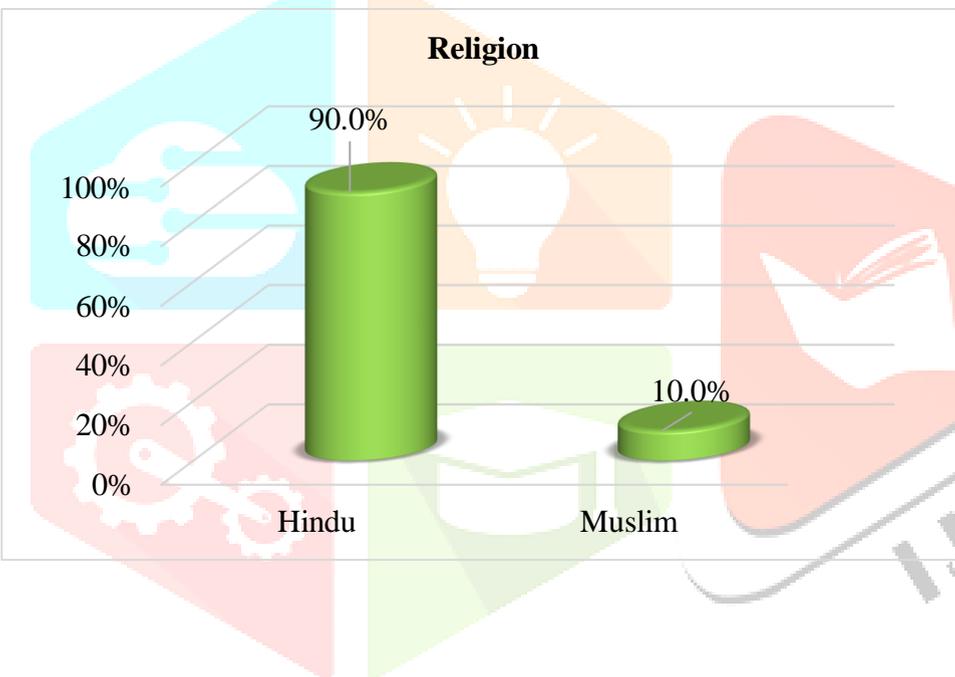
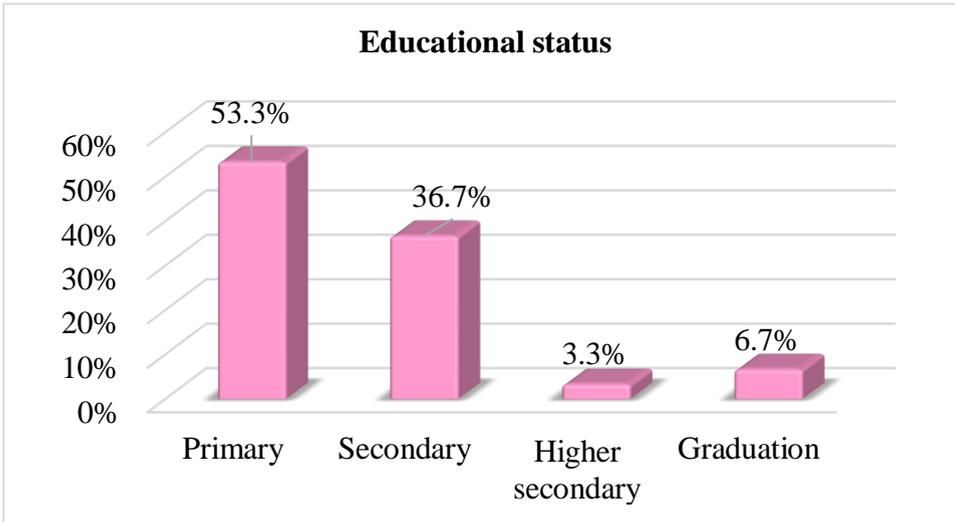
23.3% of them had monthly income less than Rs.6000, 56.7% of them had monthly income Rs.6001-10000, 11.7% of them had monthly income Rs.10001-20000 and 8.3% of them had monthly income above Rs. 20000.

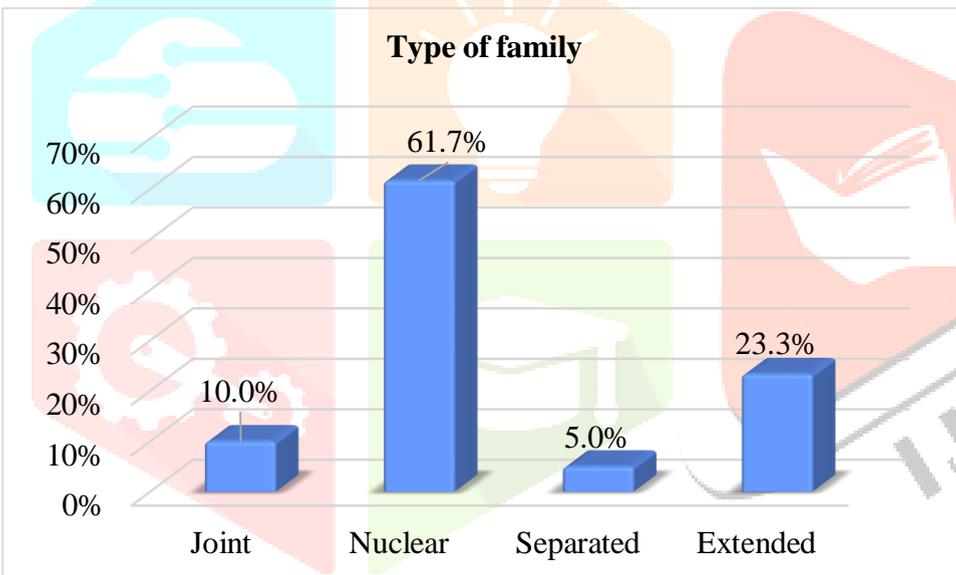
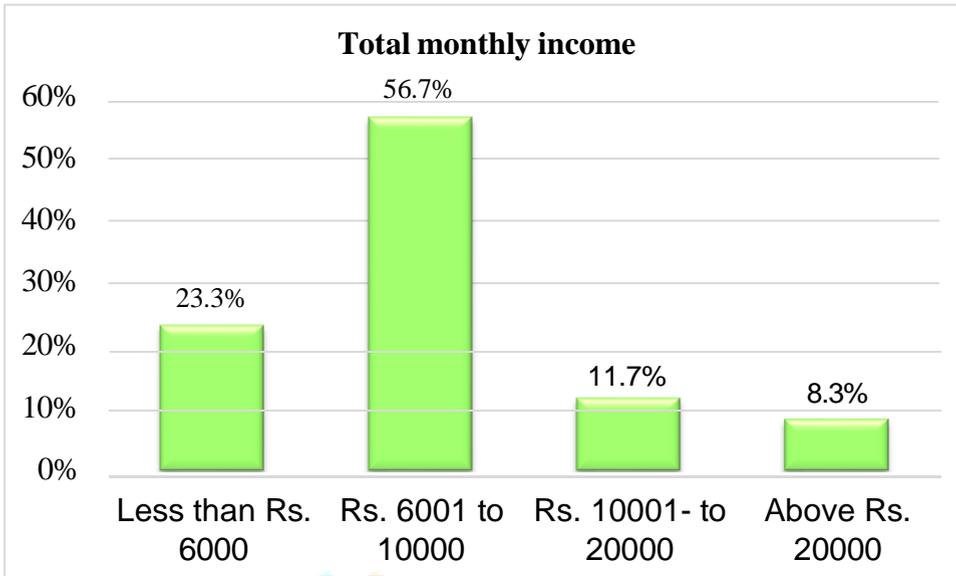
10%% of them had joint family, 61.7% of them had nuclear family, 5% of them had separated family and 23.3% of them had extended family.

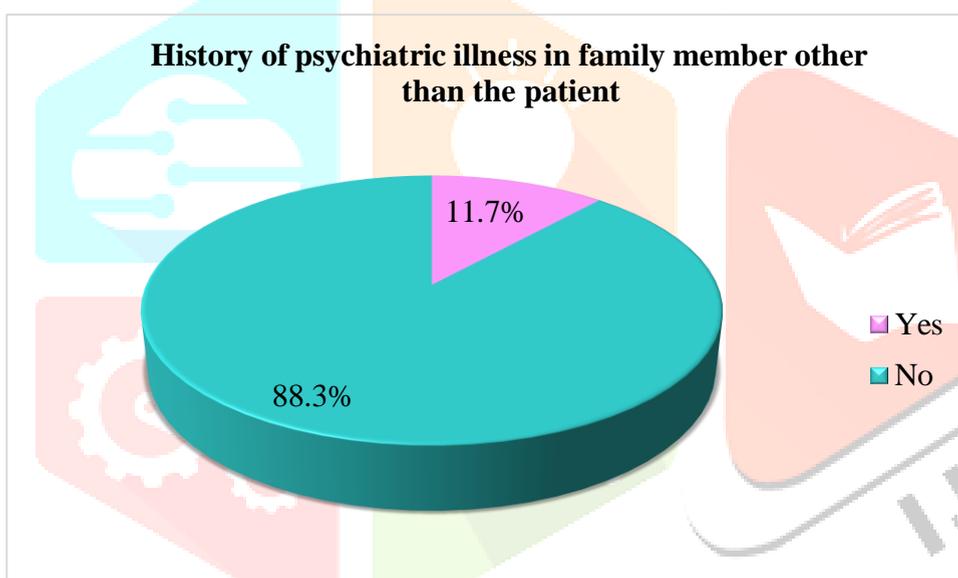
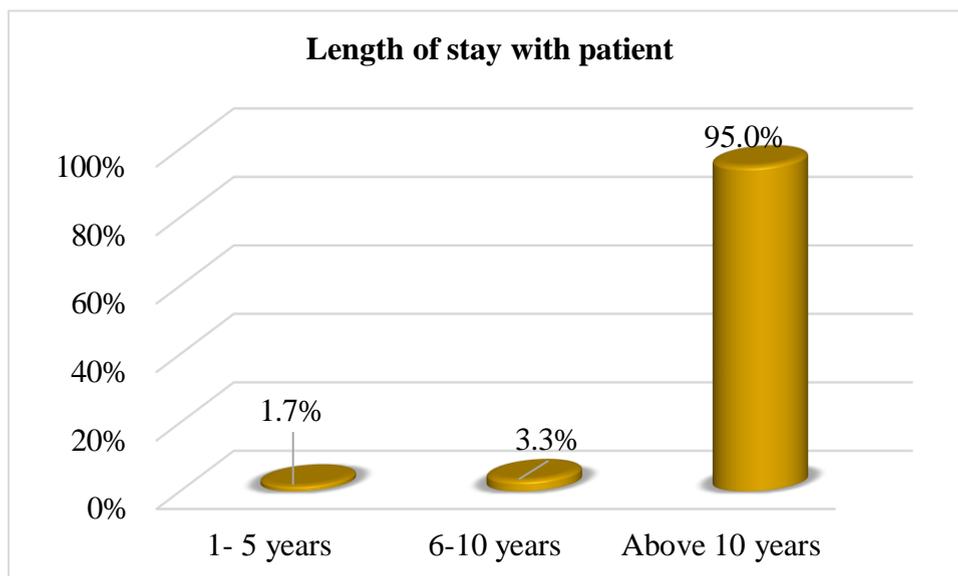
1.7% of them were staying with patient for 1 to 5 years, 3.3% of them were staying for 6 to 10 years with patient and 95% of them were staying with patient for more than 10 years.

11.7% of them had history of psychiatric illness in family member other than the patient.









SECTION II -

Analysis of data related to the pretest knowledge score of caretakers of schizophrenic patient coming to psychiatric outpatient department of tertiary care hospital of the city

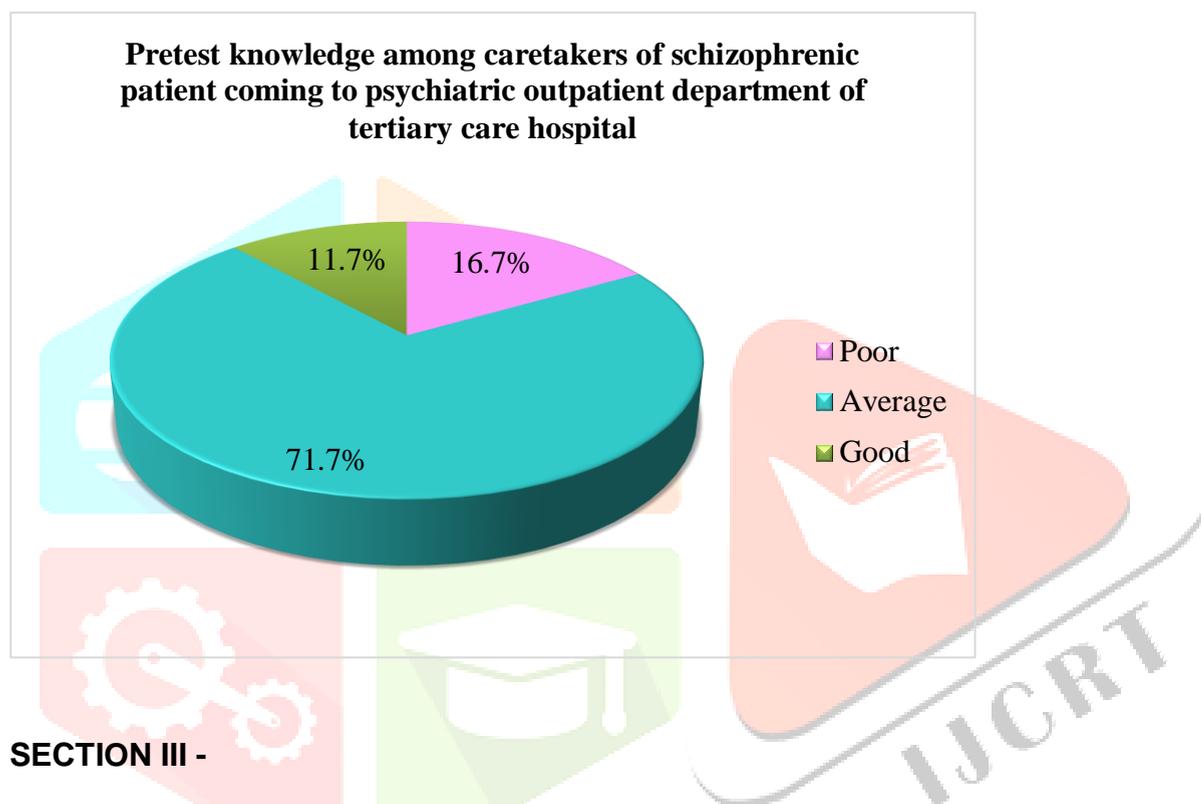
Table 2: pretest knowledge score of caretakers of schizophrenic patient coming to psychiatric outpatient department of tertiary care hospital of the city

N=60

Knowledge	Pretest	
	Freq	%
Poor (score 0-8)	10	16.7%

Average (score 9-16)	43	71.7%
Good (score 17-25)	7	11.7%

In pretest, 16.7% of the caretakers of schizophrenic patient coming to psychiatric outpatient department of tertiary care hospital had poor knowledge (Score 0-8) and 71.7% of them had average knowledge (score 9-16) and 11.7% of them had good knowledge (score 17-25) regarding the medication adherence.



SECTION III -

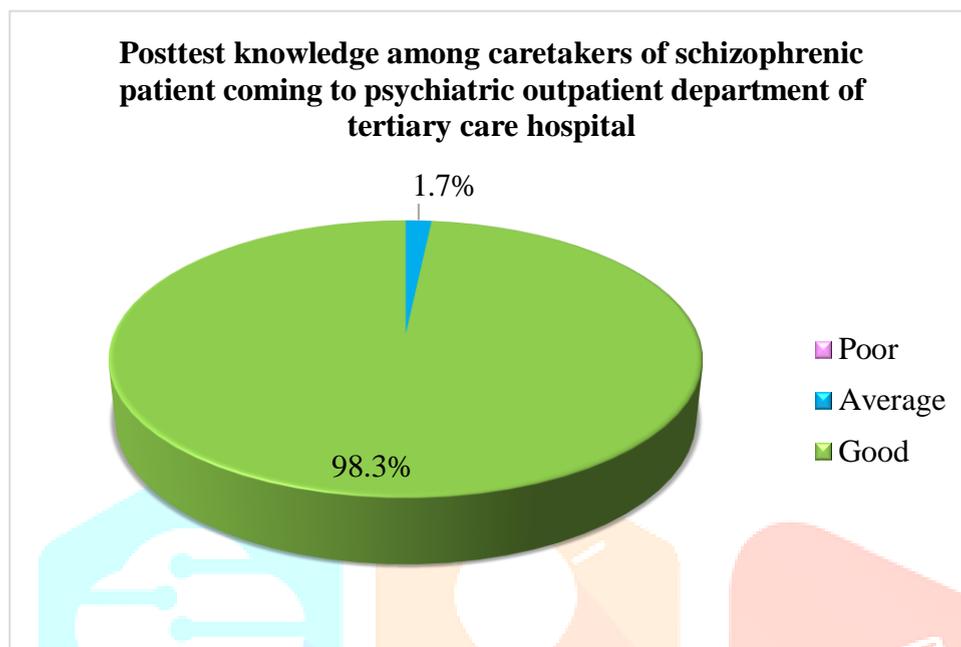
Analysis of data related to the posttest knowledge score of caretakers of schizophrenic patients coming to psychiatric outpatient department of tertiary care hospital of the city

Table 3: Posttest knowledge score of caretakers of schizophrenic patients coming to psychiatric outpatient department of tertiary care hospital of the city

N=60

Knowledge	Posttest	
	Freq	%
Poor (score 0-8)	0	0.0%
Average (score 9-16)	1	1.7%
Good (score 17-25)	59	98.3%

In posttest, 1.7% of the caretakers of schizophrenic patient coming to psychiatric outpatient department of tertiary care hospital had average knowledge (Score 9-16) and 98.3% of them had good knowledge (score 17-25) regarding the medication adherence.



SECTION IV -

Analysis of data related to the effectiveness of structured teaching program on knowledge regarding medication adherence among caretakers of schizophrenic patient coming to psychiatric OPD of the tertiary care hospital of the city

Table 4: Effectiveness of structured teaching program on knowledge regarding medication adherence among caretakers of schizophrenic patient coming to psychiatric OPD of the tertiary care hospital of the city

Knowledge	Pretest		Posttest	
	Freq	%	Freq	%
Poor (score 0-8)	10	16.7%	0	0.0%
Average (score 9-16)	43	71.7%	1	1.7%
Good (score 17-25)	7	11.7%	59	98.3%

In pretest, 16.7% of the caretakers of schizophrenic patient coming to psychiatric outpatient department of tertiary care hospital had poor knowledge (Score 0-8) and 71.7% of them had average knowledge (score 9-16) and 11.7% of them had good knowledge (score 17-25)

regarding the medication adherence. In posttest, 1.7% of the caretakers of schizophrenic patient coming to psychiatric outpatient department of tertiary care hospital had average knowledge (Score 9-16) and 98.3% of them had good knowledge (score 17-25) regarding the medication adherence.

This indicates that the knowledge regarding medication adherence among caretakers of schizophrenic patient coming to psychiatric OPD of the tertiary care hospital of the city improved remarkably after structured teaching program.

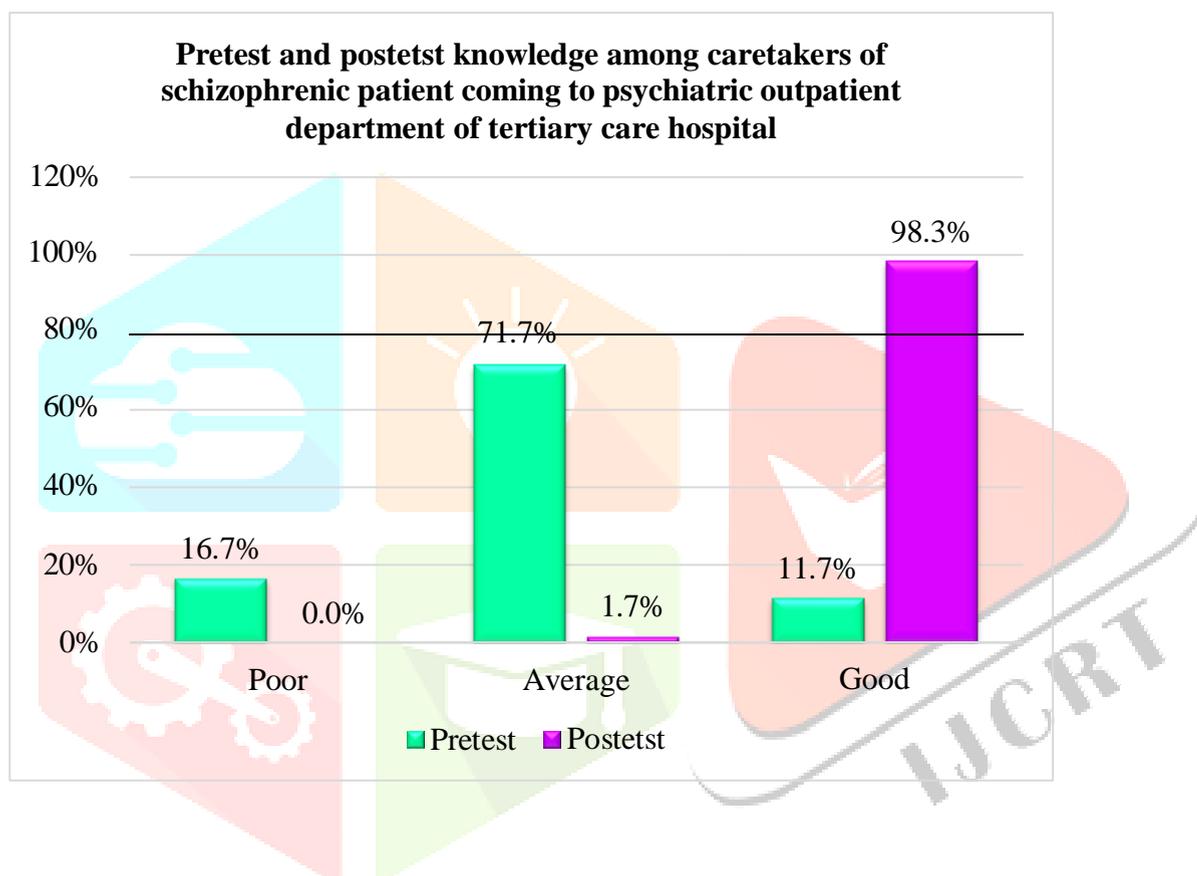
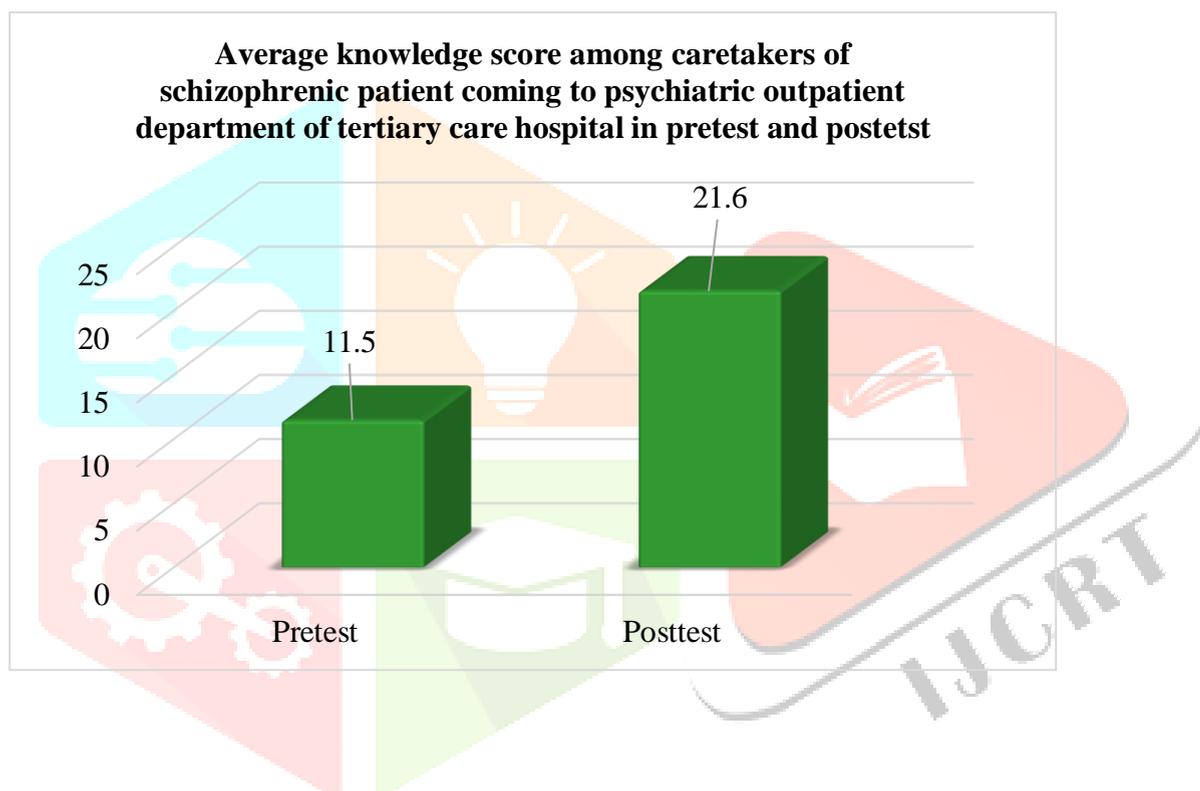


Table 5: Paired t-test for the effectiveness of structured teaching program on knowledge regarding medication adherence among caretakers of schizophrenic patient coming to psychiatric OPD of the tertiary care hospital of the city

N=60

	Mean	SD	T	df	p-value
Pretest	11.5	3.4	21.0	59	0.000
Posttest	21.6	2.0			

Researcher applied paired t-test for the effectiveness of structured teaching program on knowledge regarding medication adherence among caretakers of schizophrenic patient coming to psychiatric OPD of the tertiary care hospital of the city. Average knowledge score in pretest was 11.5 which increased to 21.6 in posttest. T-value for this test was 21 with 59 degrees of freedom. Corresponding p-value was small (less than 0.05), the null hypothesis is rejected. Average knowledge score in posttest was significantly higher than that in pretest. It is evident that the structured teaching program is significantly effective in improving the knowledge regarding medication adherence among caretakers of schizophrenic patient coming to psychiatric OPD of the tertiary care hospital of the city.



SECTION V -

Analysis of data related to the association between knowledge regarding medication adherence among caretakers of schizophrenic patient coming to psychiatric OPD of the tertiary care hospital with selected demographic variables

Table 6: Fisher's exact test for the association between knowledge regarding medication adherence among caretakers of schizophrenic patient coming to psychiatric OPD of the tertiary care hospital with selected demographic variables

N=60

Demographic variable		Knowledge			p-value
		Poor	Average	Good	
Age of care taker	20-30 years	1	3	0	0.788
	31-40 years	1	7	2	
	41-50 years	4	17	1	
	51-60 years	4	16	4	
Relationship with the patient	Father	3	8	0	0.015
	Mother	5	9	2	
	Spouse	0	12	5	
	Sibling	2	14	0	
Educational status	Primary	6	24	2	0.238
	Secondary	3	16	3	
	Higher secondary	0	2	0	
	Graduation	1	1	2	
Religion	Hindu	7	40	7	0.087
	Muslim	3	3	0	
Occupation	Housewife	5	15	0	0.000
	Professional	5	6	2	
	Business	0	9	5	
	Agriculture	0	13	0	
Total monthly income	Less than Rs. 6000	2	10	2	0.014
	Rs. 6001 to 10000	3	28	3	
	Rs. 10001- to 20000	4	1	2	
	Above Rs. 20000	1	4	0	
Type of family	Joint	3	1	2	0.058
	Nuclear	6	28	3	
	Separated	0	3	0	
	Extended	1	11	2	
Length of stay with patient	1- 5 years	1	0	0	0.340
	6-10 years	0	2	0	
	Above 10 years	9	41	7	
History of psychiatric illness in family member other than the patient	Yes	0	5	2	0.194
	No	10	38	5	

Since p-values corresponding to demographic variables Relationship with the patient, occupation and total monthly income were small (less than 0.05), the demographic variables relationship with the patient, occupation and total monthly income were found to have significant association with the knowledge regarding medication adherence among caretakers of schizophrenic patient coming to psychiatric OPD of the tertiary care hospital.

CONCLUSION

In this chapter,

SECTION I

Deals with analysis of description of samples (schizophrenic patient coming to psychiatric outpatient department of tertiary care hospital) based on their personal characteristics.

SECTION II

Deals with Analysis of data related to the pretest knowledge score of caretakers of schizophrenic patient coming to psychiatric outpatient department of tertiary care hospital of the city.

SECTION III

Deals with analysis of data related to the posttest knowledge score of caretakers of schizophrenic patients coming to psychiatric outpatient department of tertiary care hospital of the city.

SECTION IV

Deals with analysis of data related to the effectiveness of structured teaching program on knowledge regarding medication adherence among caretakers of schizophrenic patient coming to psychiatric outpatient department of the tertiary care hospital of the city.

SECTION V

Deals with analysis of data related to the association between knowledge regarding medication adherence among caretakers of schizophrenic patient coming to psychiatric outpatient department of the tertiary care hospital with selected demographic variables.

The researcher concludes that the H_0 was rejected and the structured teaching program on knowledge regarding medication adherence among the caretakers of

schizophrenic patient to improve the knowledge was effective.

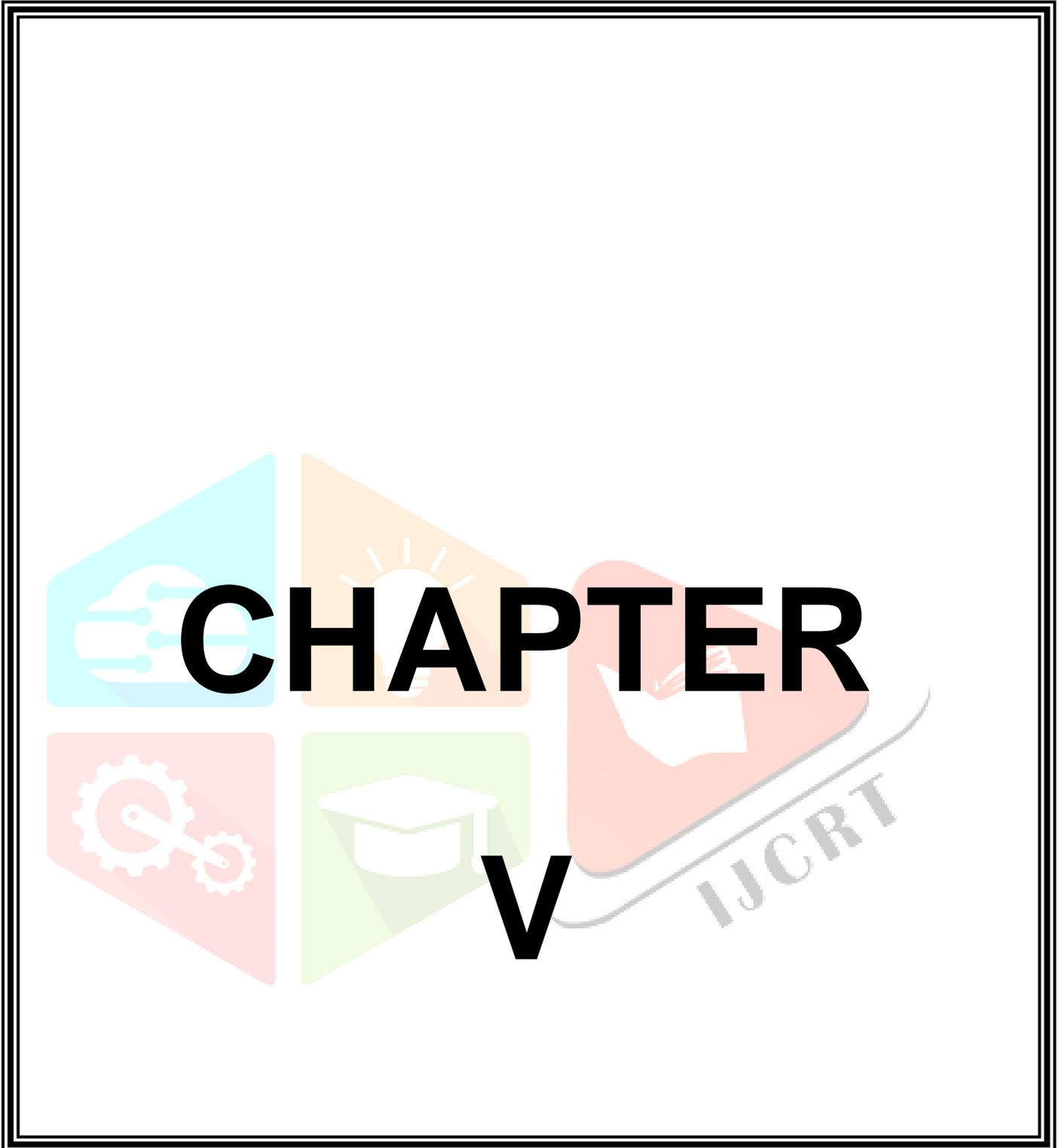


SUMMARY

During the research study collection of data, tabulation of data & analysis of data is very lightening experience. Slowly each of the steps making task very much easy & understanding After complete analysis of data using statistical methods it is clearly seen that structured teaching program on knowledge regarding medication adherence among the caretakers of schizophrenic patient to improve the knowledge was effective.

Throughout the study there were no any regrets or avoidance or negative feedback from the samples for data collection which is principle aspect of positive result.





CHAPTER V

SUMMARY, IMPLICATIONS, RECOMANDATIONS. MAJOR FINDINGS OF THE STUDY AND DISCUSSION

The analysis of the demographic data of the study samples gave an idea about the general characteristics of the caretakers. The following are the major findings of the study.

SECTION –I

Demographic variables

Distribution of subjects in relation to the occupation

As expected by the researcher, majority (33.3%) of caretakers participated in the study were housewives. 21.7% of them were professionals, 23.3% of them had business and 21.7% of them were farmers.

Distribution of subjects in relation to the monthly income

The majority (56.7%) of caretakers participated in this study had monthly income Rs.6001-1000.that is low socio-economic status. 11.7% of them had monthly income Rs.10001- 20000 and 8.3% of them had monthly income above Rs. 20000.

Distribution of subjects in relation to type of family

As many families are staying in urban areas which is away from their native places due to the jobs, 10% of them had joint family, The majority of caretakers participated in this study 61.7% of them had nuclear family, 5% of them had separated family.

Distribution of subjects in relation to relationship to the patients

Caretakers participated in this study had 18.3% of them were fathers of patients, 26.7% of them were mothers, 28.3% of them were spouse and 26.7% of them were siblings of patients.

Distribution of the subjects according to educational status

Caretakers participated in this study, majority 53.3% of the caretakers had primary education, 36.7% of them had secondary education, 3.3% of them had higher secondary education and 6.7% of them had graduation.

Distribution of the subjects according to age

Caretakers participated in this study 6.7% of the caretakers of schizophrenic patients had age 20-30 years, 16.7% of them had age 31-40 years, 36.7% of them had age 41-50 years and 40% of them had age 51-60 years. As expected by the researcher's majority of caretakers are between the age group of 41-50 years

SECTION-II

Section II fulfil the first objective of the study-

General assessments of Knowledge-

To assess the pre-test and post-test knowledge score of the caretakers of schizophrenic patient coming to psychiatric outpatient department at the tertiary care hospital of the city. For the assessment of knowledge regarding medication adherence among caretakers of schizophrenic patient the score of the pre- test and post- test was divided in to three groups like poor (score 0-8), average (score 9-16) and good (score 17-25). As all the caretakers are in phase of basic qualification, majority (71.7%) of caretakers were having average knowledge. As only 11.7% of subjects were having good knowledge and 16.7% in the poor knowledge scores in pre- test regarding medication adherence among caretakers of schizophrenic patient caretakers requires more education regarding the same. Whereas as expected by the researcher, majority (98.3%) of subjects were significantly having good post-test knowledge scores, only 1.7% were having average knowledge and 0.0% in the poor knowledge category. It means the teaching that executed through this study seems to be effective.

SECTION-III

Section III fulfil the second objective of the study

To assess the effectiveness of structured teaching program on knowledge regarding medication adherence among caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the city.

Comparison of the pre- and post- test Knowledge

The comparisons of the pre- test and post- test average score of the knowledge were done by the two tailed paired t' test.

There are majority (71.7%) of samples having average knowledge in Pre- test scores that has hiked to (98.3%) good knowledge scores in post- test after teaching. 1.7% of subject were having average and 0.0% were having poor knowledge in post-test. There was a marked increase in post teaching knowledge scores. This indicates that the knowledge regarding medication adherence among caretakers of schizophrenic patient coming to outpatient patient department at the tertiary care hospital of the city improved remarkably after structured teaching program The test statistics value of the paired t test was 21 with p value 0.00. Shows significant difference in the average knowledge scores.

Concludes, that structured teaching program on knowledge regarding medication adherence among caretakers of schizophrenic patient was effective.

SECTION IV

Section IV going to fulfil the third objectives of the study.

To find out the association between knowledge regarding medication adherence among caretakers of schizophrenic patient and selected demographic variables.

Association of knowledge score in relation to demographic variables

Fisher's exact test– Comparison of group wise average knowledge score

Fisher's exact test was conducted to check the significant difference in the group wise average knowledge scores with the demographic variables.

Association for the variables like age, relationship with the patient, educational status, occupation, total monthly income, type of family, and family income was assessed using Fisher's exact test, the p' value of the Pearson's association test with knowledge was equal or less than 0.05 in few variables like occupation, total monthly income and relationship with the patient which Concludes that, there was a significant association of these demographic variables with knowledge of Caretakers, whereas the p' value of the Pearson's association test with knowledge was more than 0.05 in all other variables like area of age of caretaker, religion, educational status, and length of the stay with patient,

which indicates that, there was no significant association of these demographic variables with knowledge of caretakers of selected tertiary care hospital of the city.

Association for the variables like age, type of family, education, relationship with patient and monthly income was assessed using Chi-square test, the p' value of the Pearson's association test with knowledge was equal or less than 0.05 in few variables like occupation, monthly income and type of family which Concludes that, there was a significant association of these demographic variables with knowledge of caretakers , whereas the p' value of the Pearson's association test with knowledge was more than 0.05 in all other variables like age, education, and length of stay with patient, which indicates that, there was no significant association of these demographic variables with knowledge of adolescents of selected school of community in the city.

Discussion in relation to other studies

The discussion is the most interesting part of the dissertation. The finding of the study was discussed in the light of previous studies. The discussion section is devoted to a thoughtful and insightful analysis of the finding, leading to a discussion of their clinical and theoretical utility.

In this section, major findings of study were discussed with reference to the result obtained by other investigators.

- The present study shows that maximum 40% of caretakers participated in the study belonged to age group of 51 to 60 years and remaining study 6.7% of the caretakers of schizophrenic patients had age 20-30 years, 16.7% of them had age 31-40 years, 36.7% of them had age 41-50 years age group. The majority of caretakers participated in this study 61.7% of them had nuclear family, 10% of them had joint family, 5% of them had separated family. The majority (56.7%) of caretakers participated in this study had monthly income Rs.6001-1000.that is low socio-economic status. 11.7% of them had monthly income Rs.10001-20000 and 8.3% of them had monthly income above Rs. 20000, majority (33.3%) of caretakers participated in the study were housewives. 21.7% of them were professionals, 23.3% of them had business and 21.7% of them were farmers
- The study findings are supported by study conducted by Kaur P in 2020 Effectiveness of Psychoeducation on Knowledge of medication adherence among Care Givers of the Patients with Schizophrenia, Admitted in Selected Hospital of SGR. reveals that the majority 30 (60%) of the respondents were in the age group less than 50 yrs. and 20

(40%) were aged belong to the age group of more than 50 years, Majority 21 (42%) were having higher secondary education. 36 (72%) were having higher income. 4 (8%) were father 9 (18%) were mother and spouse, 22 (44%) were children and 6 (12%) were sibling. Majority 22(44%) were house wives.

- The present study shows that, in pretest, In pretest, 16.7% of the caretakers of schizophrenic patient coming to psychiatric outpatient department of tertiary care hospital had poor knowledge (Score 0-8) and 71.7% of them had average knowledge (score 9-16) and 11.7% of them had good knowledge (score 17-25) regarding the medication adherence. In posttest, 98.3% of them had good knowledge (score 17-25) regarding the medication adherence, and 1.7% of them had average knowledge (score 9-16) regarding medication adherence. Mean knowledge score in pretest was 11.5 which was increased to 21.6 in posttest. This indicates that the knowledge regarding medication adherence among caretakers of schizophrenic patient improved remarkably after structured teaching program.
- The study findings are supported by study conducted by Idah Theboral ,G(2018), a study was conducted to assess the effectiveness of structured teaching program on knowledge regarding medication adherence among caregivers of psychiatric patients in tertiary care setting, Coimbatore. Major findings of the study showed that in pretest 92.5 % had inadequate knowledge where as in post-test 87.5%had adequate knowledge and 12.5% had moderately adequate knowledge on medication adherence.The study concludes that the structured teaching program was effective in enhancing the knowledge of caregivers about medication adherence⁵¹.
- The present study shows the demographic variables relationship with the patient, occupation, and total monthly income were found to have significant association with the knowledge regarding medication adherence among caretakers of schizophrenic patient coming to psychiatric OPD of the tertiary care hospital.

IMPLICATION OF THE STUDY

The finding of study has implication for nursing practice in hospital, nursing education, nursing administration and nursing research.

Nursing service-

- Present study emphasizes the need of knowledge regarding medication adherence amount caretakers of schizophrenic patient coming to psychiatric outpatient department at the tertiary care hospital of the city. Nursing includes preventive, promotive, curative, and rehabilitative services. They can play a vital role in early detection of mental disorders, promotion of mental health and prevention of mental illness.
- The knowledge regarding medication adherence plays a vital role in prevention of relapse, prevent prolong hospital stay and early recovery. This study finding would help the staff nurses involved in care of schizophrenic patient
- This study will help to understand that nurses have good amount of knowledge towards medication adherence for promotion of mental health and prevention of mental illness.
- Nurse should enhance their professional knowledge in practice, since the basic nursing education provides the nurse in depth knowledge about Schizophrenia.
- The study can be used as evidenced based practice by a community health nurse in providing knowledge about Schizophrenia among the caregivers of patient with Schizophrenia.

Nursing education-

- More emphasis must be placed in the regular and periodical teaching sessions on importance of medication adherence in mental illness, promotion of mental health and prevention of mental illness among nurses, students, and community.
- Nurses can be motivated to organize discussion and teaching programs to enhance the knowledge of importance of medication adherence. Encourage the students nurse to participate actively in training programs held regarding importance of medication adherence in mental illness for better outcome, early recovery, and prevention of relapse.
- In service education must emphasize on education to nurses and students regarding same.
- The education curriculum must include imparting knowledge of medication adherence for early recovery and prevention of relapse of mental illness using various audio-visual aids and teaching strategies.

- Nursing teachers can use the result of the study as an informative illustration for the students. Nursing education should help in inculcating values and a sense of responsibilities in the students to educate the individuals regarding importance of medication adherence regarding better outcome, early recovery and prevention of relapse and promotion of mental health
- Nursing education is developing rapidly in India and nurses are expected to provide care through base of scientific nursing education. Information can be given through, Seminar and Conference, workshops and other measures which are organized by nursing department of hospital or as a part of study.
- Finding of this study can be used by the teaching faculty to illustrate the importance of teaching such topic to students who will be working as staff nurse in future.
- Nurse educator can incorporate this finding of the study in her in-service education programme that will help in improvement in knowledge of staff nurse. Nursing students should be posted in Psychiatric outpatient department and clinics control unit during his/ her clinical posting.
- Nurse educators will emphasize on evidence-based practices while imparting nursing knowledge to nursing students. Including the entire nursing education programme that are Auxiliary Nurse Midwifery, General Nurse Midwifery, Basic B. Sc. Nursing and M. Sc. Nursing. The study can be used in the clinical teaching by the nursing teachers to teach the students about psycho education on Schizophrenia.

Nursing administration:

- Nurse administrator can develop their own hospital policy for imparting the health education and leaflet for people and nursing personnel on importance of medication adherence for early recovery and prevention of relapse.
- Nurse administrators can arrange Seminars, conferences, workshops etc. For imparting knowledge to different departments of hospital care unit. The nurse administrator should organize activities to train her subordinates regarding importance of medication for early recovery
- Nurse administrator must organize educational programs for the hospital staff and community on regarding medication adherence in mental illness, its importance, and strategies.
- Necessary administrative support has to be provided to conduct educational

programme on importance of medication adherence, its strategies for early recovery at primary health centre, village level & other community nurses with appropriate A.V Aids, mass media, posters and role plays, drama and puppet show.

- The nursing administration can be using the study result to enhance the practical knowledge of staff nurse at in-service education.

Nursing Research

- This research study covered the assessment of knowledge regarding medication adherence among caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the city.
- The study finding can be used as review of literature for future research study. Nurse researcher can use this research study finding as source of information of nursing research. The methodology, tools and finding of this study can add to nursing literature. Future research can be done to strengthen this study.
- The finding of the research can be utilized for further research in same area on larger scale. Extensive research studies can be undertaken in different fields to quantify the magnitude of deficiency of knowledge regarding medication adherence among caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the city.
- The study will have further body of knowledge to nursing research and will help to carry out more such broad-based researches in the field of Psychiatry, and Community health nursing and various other fields to bring about overall view of Schizophrenia. The researcher can use this study as literature for his study. Study findings can be utilized as Review of Literature.

RECOMMENDATIONS FOR FUTURE STUDY

1. A similar study can be conducted on large sample.
2. A comparative study can undertake to assess the knowledge regarding medication adherence among caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the city
3. A comparative study can be conducted between government and private institutions regarding medication adherence among caretakers of schizophrenic

patient coming to outpatient department at tertiary care hospital of the city.



4. A same study can be conducted for assessment of knowledge and plan training program on medication adherence among caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the city and other health conditions also.

LIMITATION

1. There was difficulty in getting permission.
2. The results cannot be generalized due to small number of samples and restricted time period.
3. Study is limited to population of only selected outpatient department at tertiary care hospital of the city
4. Limited time was available for the study. In this study focus was to improve the knowledge only.
5. As caretakers were lacking in time, it was difficult to coordinate with them.

SUGGESTIONS FOR IMPROVING THE PRESENT STUDY

- The larger samples could be taken in the study for the purpose of generalization.
- A control group in same setting could be beneficial for result analysis.
- Regular in-service education is very much necessary.

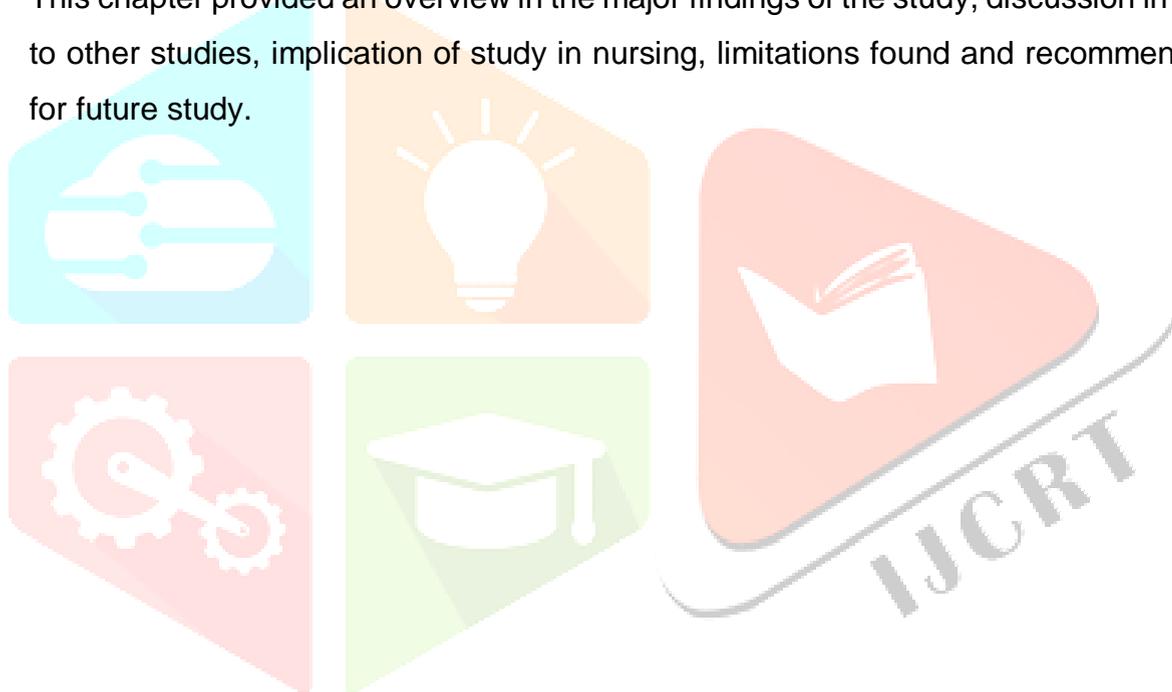
PERSONAL EXPERIENCE

- We had a very enlightening experience during the study, due to the timely suggestions and expert opinion of my guide. We were able to move in right direction in our study. Although, initially we were very clear regarding how to conduct the study, our guide gave us the direction and constantly encouraged us.
- Because of this study we got opportunity to identify the realistic condition of selected caretakers, unawareness of knowledge regarding medication adherence. This study allowed interacting with different caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the city. We got to know their existing knowledge, unavailability of resources. And their knowledge after giving them structured teaching program. We really got opportunity to interact, assessment of their existing knowledge and postknowledge after giving them teaching.

- They all were really satisfied with the teaching. We are grateful to all the participants in the study who cooperated well during the research. The study has helped us not only in the professional way but also personally, especially regarding working confidently. Due to educational and personal experiences the study was rich and varied clinically. Our guide has helped us in sailing across successfully through the challenging times during the study. At the end of the study the feeling of satisfaction in helping the need of society through our study, and a sense of gaining wonderful experience gives us immense pleasure.

SUMMARY

This chapter provided an overview in the major findings of the study, discussion in relation to other studies, implication of study in nursing, limitations found and recommendations for future study.



PROBLEM STATEMENT

—A study to assess the effectiveness of structured teaching program on knowledge regarding medication adherence among caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the cityll

OBJECTIVES

1. To assess the demographic data of caretakers of schizophrenic patient coming to psychiatric outpatient department at the tertiary care hospital of the city.
2. To assess the pretest knowledge score of caretakers of schizophrenic patient coming to psychiatric outpatient department at the tertiary care hospital of the city.
3. To assess the post-test knowledge score of caretakers of schizophrenic patient coming to psychiatric outpatient department at the tertiary care hospital of the city.
4. To assess the effectiveness of structured teaching program on knowledge regarding medication adherence on caretakers of schizophrenic patient coming to psychiatric outpatient department at the tertiary care hospital of the city.
5. To evaluate the association between study finding with selected demographic variable.

HYPOTHESIS

Ho-There is no significant effect of structured teaching program on knowledge among caretakers of schizophrenic patient.

H1-There is slightly improvement in knowledge among caretakers of schizophrenic patient.

H2-There is significant association between study findings and knowledge among caretakers of schizophrenic patient.

CRITERIA FOR SAMPLE SELECTION:

Inclusion Criteria: -

1. Caretakers who's age between 20 to 60 years.
2. Caretakers willing to participate in research study.
3. Caretakers who are taking care of patient with schizophrenia at least more than 6 months.

4. Able to understand Marathi language.

Exclusion Criteria; -

1. Caretakers of patient with psychotic illness other than schizophrenia.
2. Caretakers of schizophrenic patient who are admitted in hospital setting.
3. Caretakers who are not willing to participate.

CONCLUSION

Present study focuses on assessment of the knowledge of caretakers and effect of structured teaching program on knowledge regarding medication adherence. From this study researcher concluded that the structured teaching program was effective to improve the knowledge of caretakers regarding medication adherence.

Total 60 caretakers selected as sample at the time pre- test knowledge scores, 11.7% of subjects were having good knowledge, 71.7% were having average knowledge and 16.7% in the poor knowledge category.

At the time of post- test knowledge scores, 98.3% of subjects were having good knowledge, 1.7% were having average knowledge and only 0% were in the poor knowledge category.

The relationship of knowledge with demographic variable calculated by using fisher, Since p-values corresponding to demographic variables Relationship with the patient, occupation and total monthly income were small (less than 0.05), the demographic variables relationship with the patient, occupation and total monthly income were found to have significant association with the knowledge regarding medication adherence among caretakers of schizophrenic patient coming to psychiatric OPD of the tertiary care hospital

REFERENCES

1. www.goodreads.com
2. Nuevo, R. et al. The continuum of psychotic symptoms in the general population: a cross national study. *Schizophr. Bull.*38,475-485(2015) [PubMed](#), [Google Scholar](#)
3. Owen, M.J. Sawa,A. & Mortensen, P.B. Scizophrenia. *Lancet* 388, 86-97(2016) [PubMed](#), [PubMed Central](#), [Google Scholar](#)
4. Fountoulakis, K.N. et al. The report of the joint WPA/CNP workgroup on the use and usefulness of antipsychotic medication in the treatment of schizophrenia. *CNS Spectr*, 22, 1- 25(2020) [Google Scholar](#)
5. Wens, J., Vermeire, E., Van Royen,P. & Hearnshaw,H.A systematic review of adherence with medication of schizophrenia 27, 2284-2285(2004) [PubMed](#), [Google Scholar](#)
6. Clifford, L., Crabb,S., Turnbull, D., Hahn, L. & Gattely, C. A qualitative study of medication adherence amongst people with schizophrenia, *Arch. Psychiatr. Nurs.*34, 194-199(2020) [PubMed](#), [Google Scholar](#)
7. Joubert, A. F., Providing quality care to patients with schizophrenia. *Psychiatr. Clin, N, Am.* 26, 213-230(2003) [PubMed](#), [Google Scholar](#)
8. Lieberman JA, Stroup TS, McEvoy JP, Swartz MS, Rosenheck RA, Perkins DO, et al. Effectiveness of antipsychotic drugs in patients with chronic schizophrenia. *N Engl J Med.* 2005;353:1209-23. [Article PubMed CAS Google Scholar](#)
9. Indian journal of public health research and development , November 2020, volume 2, no 2.
10. <http://repository-tnmgrmu.ac.in/id/eprint/11655>
11. Dinkinesh Begna Gudeta, Published online 2023 Apr 13. doi: 10.1371/journal.pone.0283829
12. Sayali Devidas Dambhe, Muniyandi S. Effectiveness of Planned Teaching about Knowledge regarding medication adherence of Typical Antipsychotics among the Primary care givers of Psychiatric Patient in selected Hospital. *Asian J. Nursing Education and Research*, 2018; 8(1):81-93. doi: 10.5958/2349-2996.2018.00019.8
13. *International Journal of Midwifery and Nursing practice* 2000;1(2):07-10
14. APA Dictionary of psychology <http://dictionary.apa.org>effectiveness>
15. <http://www.ncbi.nlm.nih.gov.pmc>
16. APA Dictionary of psychology <http://dictionary.apa.org>knowkedge>

17. Bharat Pareek, Sandeep Arya, textbook of Mental Health & Psychiatric Nursing, 2nd Edition, Vision Health Science Publishers 2020, page no. 154
18. APA Dictionary of psychology <http://dictionary.apa.org>>caretaker
19. Suresh K. Sharma, Nursing Research & Statistics, 3rd Edition, Elsevier publications 2020, page no.141
20. [http://www.researchgate.net/figure/input-throughput-output-process_331073211\(12](http://www.researchgate.net/figure/input-throughput-output-process_331073211(12) August, 2023)
21. <http://www.indeed.com.research> methodology
22. Polit, D F and Hungler, P.B.(1999) Nursing Research: Principles and methods, 6th edition, Lippincott Williams & Wilkins, Philadelphia, PA.
23. Suresh K. Sharma, Nursing Research & Statistics, 3rd Edition, Elsevier publications 2020, page no.170- 192
24. Unisa Institutional Repository 2003 <http://uir.unisa.ac.za.handle>
25. Suresh K. Sharma, Nursing Research & Statistics, 3rd Edition, Elsevier publications 2020, page no.80-87
26. Suresh K. Sharma, Nursing Research & Statistics, 3rd Edition, Elsevier publications 2020, page no.44
27. Suresh K. Sharma, Nursing Research & Statistics, 3rd Edition, Elsevier publications 2020, page no.274
28. <http://www.questionpro.com/blog/non-probability-sampling/#:text=definition%3A%20Non%2Dprobability%20sampling%20is>
29. National Institute of Standards and Technology (NIST)/SEMATECH.7.2.4.2. Sample sizes required, e-handbook of Statistical Methods, March 3,1901
30. Dr.Roger Sapsford, Book of Data collection and Analysis, ISBN Agency,1970 isbn-international.org
31. Edward G. Carmines and Richard A. Zeller, Reliability and validity assessment,17th edition, Sage publications, page no 20-28
32. Suresh K. Sharma, Nursing Research & Statistics, 3rd Edition, Elsevier publications 2020, page no.338-341.
33. Leiniger,M.(Ed),Qualitative research in nursing,1985, N Grune & Stratton.
34. Aston Acton,Issues in Nursing research,training,and Practice,2011 edition, Scholarly edition,e-book, www.ScholarlyEditions.com

35. Bharat Pareek and Shivani Sharma, A text book of Nursing Research AND Statistics, 5th edition, Pee Vee publications, page no 440.
36. <http://libguides.library.kent.edu/SPSS/OneSampleTest>.
37. Suresh K. Sharma, Nursing Research & Statistics, 3rd Edition, Elsevier publications 2020, page no.501
38. B.T Basvanthappa, Nursing research, Jaypee brothers, New Delhi 2003; 304 to 306.
39. Chandra IS, Kumar KL, Reddy MP, Reddy CM. Attitudes toward medication and reasons for non-compliance in patients with schizophrenia. Indian journal of psychological medicine. 2014 Jul;36(3):294-8.
40. Pilon D, Patel C, Lafeuille MH, Zhdanova M, Lin D, Côté-Sergent A, Rossi C, Joshi K, Lefebvre P. Prevalence, incidence and economic burden of schizophrenia among Medicaid beneficiaries. Current Medical Research and Opinion. 2021 Oct 3;37(10):1811-9..
41. Datta Meghe, Institute of Medical Sciences University, Volume 12, Issue 1, January-March 2017 <http://www.journaldmims.com>.
42. M. Sood, R. Chadda, R. Kukreti, S. Kalpana, A. Mishra, Attitude Toward Antipsychotic Medications and Its Correlation with Psychopathology and Insight in Schizophrenia, European Psychiatry, Volume 30, Supplement 1, 2015, Page 1707, ISSN 0924-9338 (<https://www.sciencedirect.com/science/article/pii/S0924933815313109>)
43. Karthik MS, Warikoo N, Chakrabarti S, Grover S, Kulhara P. Attitudes towards antipsychotics among patients with schizophrenia on first-or second-generation medications. Indian Journal of Psychological Medicine. 2014 Jul;36(3):288-93.
44. Grover S, Chakrabarti S, Sharma A, Tyagi S. Attitudes toward psychotropic medications among patients with chronic psychiatric disorders and their family caregivers. Journal of neurosciences in rural practice. 2014 Oct;5(04):374-83. <https://doi.org/10.1186/s12888-020-02538-8>
45. Orrico-Sánchez A, López-Lacort M, Muñoz-Quiles C, Sanfélix-Gimeno G, Díez-Domingo J. Epidemiology of schizophrenia and its management over 8-years period using real-world data in Spain. BMC psychiatry. 2020 Dec;20:1-9.
46. Jung YS, Kim YE, Go DS, Yoon SJ. The prevalence, incidence, and admission rate of diagnosed schizophrenia spectrum disorders in Korea, 2008–2017: A nationwide population-based study using claims big data analysis. PLoS One. 2021 Aug 12;16(8):e0256221.

47. Barkhof E, Meijer CJ, de Sonnevile LM, Linszen DH, de Haan L. The effect of motivational interviewing on medication adherence and hospitalization rates in nonadherent patients with multi-episode schizophrenia. *Schizophrenia bulletin*. 2013 Nov 1;39(6):1242-51.
48. Wang D, Ross B, Xi C, Pan Y, Zhou L, Yang X, Wu G, Ouyang X, Si T, Liu Z, Hu X. Medication adherence and its correlates among patients affected by schizophrenia with an episodic course: A large-scale multi-center cross-sectional study in China. *Asian Journal of Psychiatry*. 2020 Oct 1;53:102198.
49. Sandeep Garg, Arpan Pandya, Ravindra HN, IOSR Journal of Nursing and Health Science (IOSR-JNHS) e-ISSN: 2320-1959 p- ISSN: 2320-1940 Volume 3, Issue 6 Ver. 1 (Nov.-Dec. 2014), PP 08-12 www.tosrjournals.org
50. Razali MS, Yahya H. Compliance with treatment in schizophrenia: a drug intervention program in a developing country. *Acta Psychiatrica Scandinavica*. 1995 May;91(5):331-5.
51. Idah Theboral, G (2018) Masters thesis, PSG College of Nursing, Coimbatore. <http://repository-tnmgrmu.ac.in/id/eprint/11655>
52. Frangou S, Sachpazidis I, Stassinakis A, Sakas G. Telemonitoring of medication adherence in patients with schizophrenia. *Telemedicine Journal & E-Health*. 2005 Dec 1;11(6):675-83. <http://doi.org/10.1089/tmj.2005.11.675>
53. Danladi J, Falang KD, Barde RA, Jimam NS, Dangiwa DA, Jimoh HO. Pharmaceutical care and medication adherence in management of psychosis in a Nigerian tertiary hospital. *Journal of Research in Pharmacy Practice*. 2013 Apr;2(2):83.
54. Eshkaraev S, Turaev K, Eshkoraev S. Influence of Pesticides on Increasing Soil Radioactivity. *World*. 2021;6(4):49-54
55. Chien WT, Mui JH, Cheung EF, Gray R. Effects of motivational interviewing-based adherence therapy for schizophrenia spectrum disorders: a randomized controlled trial. *Trials*. 2015 Dec;16:1-4. <https://doi.org/10.1186/s13063-015-0785-z>
56. Omolabi O, Adewuya A, Adeoye O, Famerewa O, Bello-Mojeeed M, Omotoso O, Oseji O. The impact of Psychoeducation on Medication Adherence among Patients with Schizophrenia in a Tertiary Hospital in Lagos, Nigeria. *Nigerian Journal of Psychiatry*. 2022 Jan 1;20(1):30-7.
57. Ashish V., et al. Study on non-compliance in patients of schizophrenia. *Journal of Evolution of Medical and Dental Sciences*, vol. 4, no. 47, 11 June 2015.
58. Vivitha AS. A study to evaluate the effectiveness of structured teaching programme on expressed emotions and knowledge regarding relapse prevention among caregivers of

patients with schizophrenia in a selected hospital, Salem. International Journal of Nursing Education and Research. 2017;5(1):1-5.

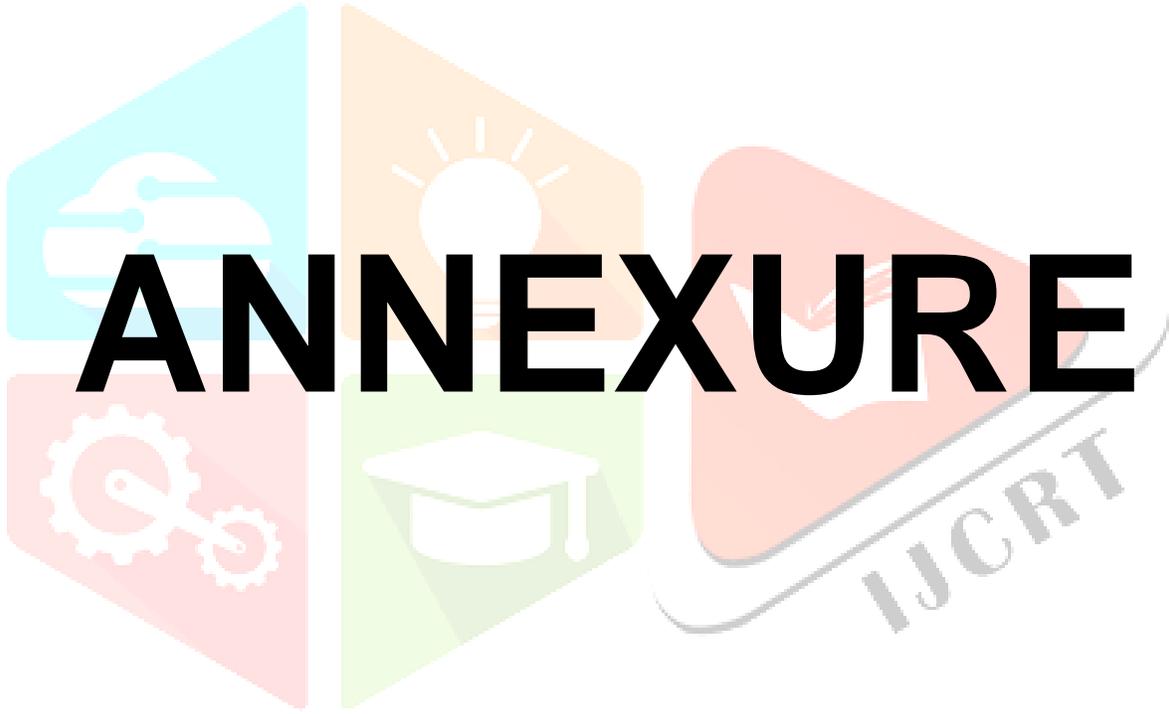
59. Divac N, Prostran M, Jakovcevski I, Cerovac N. Second-generation antipsychotics and extrapyramidal adverse effects. *BioMed research international*. 2014 Oct;2014.
60. Fernandes J, Shetty S, Nalini M. Assess the Caregiver's Knowledge on the Adverse Effect of Antipsychotics in the Selected Psychiatric unit of South India. *Indian Journal of Forensic Medicine & Toxicology*. 2020 Oct 1;14(4).
61. Gurung S, Singh R, Wagle B, Jha BR, Khatri K, Jacobsen D. Macroinvertebrate assemblages in mountain tributaries of glacial-fed and rain-fed rivers in eastern Nepal. *Nepal Journal of Environmental Science*. 2021 Dec 27;9(2):45-55.
62. Ediriweera HW, Fernando SM, Pai NB. Mental health literacy survey among Sri Lankan carers of patients with schizophrenia and depression. *Asian journal of Psychiatry*. 2012 Sep 1;5(3):246- 50.
63. Zhou Z, Wang Y, Feng P, Li T, Tebes JK, Luan R, Yu Y. Associations of caregiving knowledge and skills with caregiver burden, psychological well-being, and coping styles among primary family caregivers of people living with schizophrenia in China. *Frontiers in psychiatry*. 2021 May 26;12:631420.
64. Shinde M, Desai A, Pawar S. Knowledge, attitudes and practices among caregivers of patients with schizophrenia in Western Maharashtra. *Int J Sci Res*. 2014;3(5):516-22.
65. Gudeta DB, Leta K, Alemu B, Kandula UR. Medication adherence and associated factors among psychiatry patients at Asella Referral and Teaching Hospital in Oromia, Ethiopia: Institution based cross sectional study. *Plos one*. 2023 Apr 13;18(4):e0283829.
66. Supriya Mushahary¹, S Sarojini Devi² *International Journal of Science and Research (IJSR)* ISSN: 2319-7064 SJIF (2022): 7.942 www.IJSR.net
67. Kopelowicz A, Zarate R, Wallace CJ, Liberman RP, Lopez SR, Mintz J. The ability of multifamily groups to improve treatment adherence in Mexican Americans with schizophrenia. *Archives of General Psychiatry*. 2012 Mar 5;69(3):265-73.
68. Chaudhari B, Saldanha D, Kadiani A, Shahani R. Evaluation of treatment adherence in outpatients with schizophrenia. *Industrial psychiatry journal*. 2017 Jul;26(2):215.
69. Yanagida N, Uchino T, Uchimura N, The Effects of Psychoeducation on Long-term Inpatients

with Schizophrenia and Schizoaffective Disorder.

70. Kalkan E, Kavak Budak F. The effect of insights on medication adherence in patients with schizophrenia. *Perspectives in Psychiatric Care*. 2020 Jan;56(1):222-8.
71. Dikec G, Kutlu Y. Effectiveness of adherence therapy for people with schizophrenia in Turkey: A controlled study. *Archives of psychiatric nursing*. 2016 Apr 1;30(2):249-56.
- <https://www.sciencedirect.com/science/article/pii/S0883941715002630>
72. Dahan S, Behrbalk P, Stolovy T, Greenberger C. Improving adherence in hospitalized patients diagnosed with schizophrenia: an integrative one-on-one intervention. *Archives of Psychiatric Nursing* 2016 Dec 1;30(6):660-5.
- <https://www.sciencedirect.com/science/article/pii/S0883941716000790>
73. Loots E, Goossens E, Vanwesemael T, Morrens M, Van Rompaey B, Dilles T. Interventions to improve medication adherence in patients with schizophrenia or bipolar disorders: a systematic review and meta-analysis. *International Journal of Environmental Research and Public Health*. 2021 Sep 28;18(19):10213.
74. Zhou Z, Wang Y, Feng P, Li T, Tebes JK, Luan R, Yu Y. Associations of caregiving knowledge and skills with caregiver burden, psychological well-being, and coping styles among primary family caregivers of people living with schizophrenia in China. *Frontiers in psychiatry*. 2021 May 26;12:631420.
75. Shinde M, Desai A, Pawar S. Knowledge, attitudes and practices among caregivers of patients with schizophrenia in Western Maharashtra. *Int J Sci Res*. 2014;3(5):516-22.
76. Tamizi Z, Fallahi-Khoshknab M, Dalvandi A, Mohammadi-Shahboulaghi F, Mohammadi E, Bakhshi E. Caregiving burden in family caregivers of patients with schizophrenia: A qualitative study. *Journal of education and health promotion*. 2020;9.
77. Yasuma N, Sato S, Yamaguchi S, Matsunaga A, Shiozawa T, Tachimori H, Watanabe K, Imamura K, Nishi D, Fujii C, Kawakami N. Effects of brief family structured teaching program for caregivers of people with schizophrenia in Japan provided by visiting nurses: protocol for a cluster randomised controlled trial. *BMJ Open*. 2020 Apr 9;10(4):e034425. doi: 10.1136/bmjopen-2019-034425. PMID: 32276953; PMCID: PMC7170625.

78. Kour P. Effectiveness of Psychoeducation Programme on Knowledge of Schizophrenia among Care Givers of the Patients with Schizophrenia, Admitted in Selected Hospital of SGR. Trends in Nursing Administration and Education (2348-2141). 2020 Dec 30;9(2):1-6.





ANNEXURE

ANNEXURE-I

(Letter for seeking permission to conduct the study)

TO

.....

.....

Subject: Letter for seeking permission to conduct the study.

Respected Sir/Madam,

This is to introduce students from Post Basic Diploma in Psychiatric Nursing of Maharashtra Institute of Mental Health. Student requires submitting the research study to Maharashtra Institute of Mental Health, Pune in the non-dissertation fulfilment for the Post Basic Diploma In Psychiatric Nursing degree, The topic undertaken for the study is **—A study to assess the effectiveness of structured teaching program on knowledge regarding medication adherence among caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the city.** Student requires your esteemed help and permission to conduct the study. May, I thereforerequest you to kindly extend co-operation to work on the proposed study at your esteemed area.

The student will furnish further information in this regard. If required personally.

Thanking you.

Yours

sincerely,

Research Co-ordinator

Course Co-ordinator

ANNEXURE – II
(Letter for request for content validation of research tool)

Maharashtra Institute of Mental Health, Pune

**Letter seeking experts opinion & suggestion for the content validity of the
researchtool**

From,

Investigators of Research,

To,

SUBJECT: Expert opinion for content validation of Research Tool

Dear Sir/Madam

This is to introduce above maintain students have selected the following topic,

—A study to assess the effectiveness of structured teaching program on knowledge regarding medication adherence among caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the cityll for the research project to be submitted to MIMH, Pune.

We would be obliged if you would kindly validate our tool, by giving your expert opinion and suggestions,

Thanking you,

Enclosures:

Brief research

synopsisResearch tool

Student Signature

Guide Signature

Principal Signature



ANNEXURE III

CRITERIA FOR VALIDATION

Dear Sir/Madam,

Kindly go through the content and place the right marks against questionnaire in the following ranging from relevant to non relevant. When for modification is observed kindly give your opinion in the remark column.

SECTION A : Demographic data of the caretakers

SECTION B: Self structured knowledge questionnaire

SR.NO.	ITEM	RELEVANT	NOT RELEVANT	NEED MODIFICATION	REMARK
1	What is mean by Schizophrenia?				
2	What are the causes of Schizophrenia?				
3	Which are the social causes for Schizophrenia?				
4	What are the signs and symptoms of Schizophrenia?				
5	What is mean by Antipsychotic medication?				
6	What are the common Antipsychotic drugs used for the treatment of Schizophrenia?				

7	Which is one of the common side effects of antipsychotic drugs?				
8	What is means by EPS (Extra pyramidal Symptom)?				
9	How to identify EPS?				
10	What to do after occurrence of EPS?				
11	How will EPS get treated?				
12	What is medication adherence?				
13	What is Nonadherence?				
14	What are the main causes for nonadherence?				
15	How will you encourage the patient to take regular medicines?				
16	What will you do to take medication on time?				
17	How will you cut off the cost of medication?				

18	How will you modify patients' behavior regarding adherence?				
19	How will you improve medication adherence?				
20	What are the advanced techniques can be used for monitoring the adherence?				
21	What you do if patient forgot to take medication?				
22	How will you improve medication adherence with the help of aids?				
23	How will you convert the complex regimen of treatment to a simple regimen?				
24	How will you involve the patient in the treatment?				
25	What is role of caretakers in the medication adherence?				

Suggestions if any

Date and place

Signature and seal of the expert

Name and designation

ANNUXURE IV

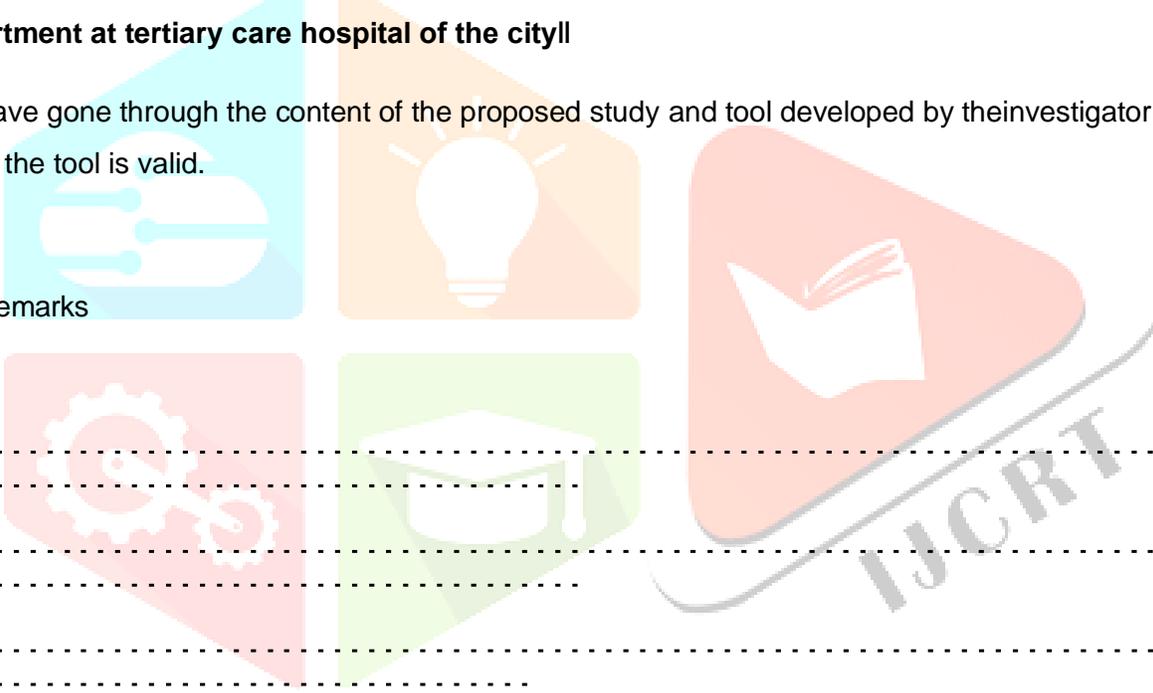
CERTIFICATE OF VALIDATION

This is to certify that.....Post
Basic Diploma In Psychiatric Nursing, students of Maharashtra Institute of Mental Health,Pashan Pune,
conducting a research non dissertation entitled-

—A study to assess the effectiveness of structured teaching program on knowledge regarding medication adherence among caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the cityll

We have gone through the content of the proposed study and tool developed by theinvestigator and found the tool is valid.

Remarks



.....

.....

.....

.....

Date:

Signature

Place:

(Name of the Expert)

Seal:

Designation



ANNEXURE V**LIST OF EXPERTS**

SR.NO.	DEPARTMENT	NUMBER OF EXPERTS
1	Psychiatrist	01
2	Experts in Psychiatric nursing	10
3	Clinical Psychologist	02
4	Statistician	01
5	Psychiatric social worker	01
6	M.A. Marathi	01

ANNEXURE – VI**REQUEST CONSENT FROM PARTICIPANTS ENGLISH AND MARATHI****Consent form (English)****Code No.**

I.....hereby give my consent for the participation in the study titled as –

—A study to assess the effectiveness of structured teaching program on knowledge regarding medication adherence among caretakers of schizophrenic patient coming to outpatient department at tertiary care hospital of the cityll

I have been explained that all information will be kept confidential and will be used for research study purpose. I have been explained in the language that I understand the best. I am willing to participate in this study.

Signature of participant

Date-

विभाग - ४ सहभागींच्या संमतीची विनंती

सूचित लिखित संमती

कोड क्रमांक _____

या शीर्षकाच्या अभ्यासात सहभागी होण्यासाठी मी माझी संमती देते.
"शहरातील तृतीयक केअर हॉस्पिटलमध्ये बाह्यरुग्ण विभागात येणाऱ्या
स्किझोफ्रेनिक रुग्णांच्या काळजीवाहूमध्ये औषधांच्या पालनासंबंधीच्या
जानावरील संरचना शिकवण्याच्या कार्यक्रमाच्या प्रभावीतेचे मूल्यांकन
करण्यासाठी एक अभ्यास."

मला समजावून सांगण्यात आले आहे की सर्व माहिती गोपनीय ठेवली
जाईल आणि ती संशोधन अभ्यासासाठी वापरली जाईल. मला उत्तम
समजेल अशा भाषेत समजावून सांगितले आहे.

मी या अभ्यासात सहभागी होण्यास इच्छुक आहे.

काळजीवाहू व्यक्तीची स्वाक्षरी
मोबाइल नंबर
दिनांक

ANNEXURE VII

RESEARCH TOOL FOR STUDY ENGLISH AND MARATHI

DEMOGRAPHIC VARIABLES

INSTRUCTION:

- 1) Kindly fill the following information honestly possible.
- 2) Each question is compulsory.
- 3) Kindly tick(√)with pen whenever applicable.

1) Age of care taker in years

- | | |
|---------------|--------------------------|
| a) 20-30years | <input type="checkbox"/> |
| b) 31-40years | <input type="checkbox"/> |
| c) 41-50years | <input type="checkbox"/> |
| d) 51-60years | <input type="checkbox"/> |

2) Relationship with the patient

- | | |
|-----------------|--------------------------|
| a) Father | <input type="checkbox"/> |
| b) Mother | <input type="checkbox"/> |
| c) Spouse | <input type="checkbox"/> |
| d) Sibling | <input type="checkbox"/> |
| e) Grandparents | <input type="checkbox"/> |

3) Educational status

- | | |
|----------------------------|--------------------------|
| a) Primary education | <input type="checkbox"/> |
| b) Secondary education | <input type="checkbox"/> |
| c) Higher secondary | <input type="checkbox"/> |
| d) Graduation | <input type="checkbox"/> |
| e) Post-graduate and above | <input type="checkbox"/> |

4) Religion

- | | |
|--------------|--------------------------|
| a) Hindu | <input type="checkbox"/> |
| b) Muslim | <input type="checkbox"/> |
| c) Christian | <input type="checkbox"/> |

d) Other

()



5) Occupation:

- a) Housewife ()
- b) Professional ()
- c) Business ()
- d) Agriculture ()
- e) Labor work ()

6) TOTALMONTHLYINCOME

- a) Less than 6000/- ()
- b) 6001/-to10000/- ()
- c) 10001/-to20000/- ()
- d) Above20000/- ()

e) 7)Typeof family:

- a) Joint family ()
- b) Nuclear family ()
- c) Separated family ()
- d) Extended family ()

8) Length of stay with patient:

- a. Less than 1 year ()
- b. 1- 5 years ()
- c. 6-10years ()
- d. Above10years ()

9) History of psychiatric illness in family member other than the patient

- a. Yes ()
- b. No ()

c. If yes then specify

()



SECTION-B

**SELF- STRUCTURED QUESTIONNAIRE ON KNOWLEDGE
REGARDING SCHIZOPHRENIA**

READ THE FOLLOWING QUESTIONS AND TICK (✓) THE CORRECT RESPONSES

1. What is Schizophrenia?

- a) Cardiovascular illness
- b) Psychiatric illness
- c) Respiratory illness
- d) Gastrointestinal illness

2. What is the cause of Schizophrenia?

- a) Genetic factors
- b) Dietary habits
- c) Head injury
- d) Alcohol use

3. Which are the social causes for Schizophrenia?

- a) Demons a god's curse
- b) Supernatural powers
- c) Stressful events
- d) Black magic

4. What are the signs and symptoms of Schizophrenia?

- a) Headache
- b) Hallucinations, delusions and thought disorders
- c) Pain in abdomen

d) Fever



5. Antipsychotic medication is used..... ?

- a) To control blood pressure
- b) To treat headache
- c) To treat mental illness
- d) To monitor heart rate

6. What are the common Antipsychotic drugs used for the treatment of Schizophrenia?

- a) Paracetamol
- b) Pain killer
- c) Gellusil
- d) Olanzapine, Risperidone

7. Which is common side effect of antipsychotic drugs?

- a) Confusion, agitation, and memory loss
- b) Dyspnea
- c) Bleeding from nose
- d) Decrease blood pressure

8. What is EPS (Extra pyramidal Symptom)?

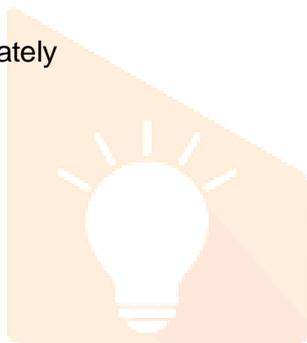
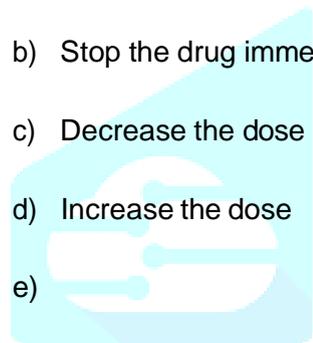
- a) Effect after cessation of Antipsychotic drugs
- b) Side effect of Antipsychotic drugs
- c) Worsening of disease condition
- d) Drug is not suited

9. How to identify EPS?

- a) Fever with chills
- b) Tremors , slurred speech
- c) Insomnia
- d) Loss of appetite

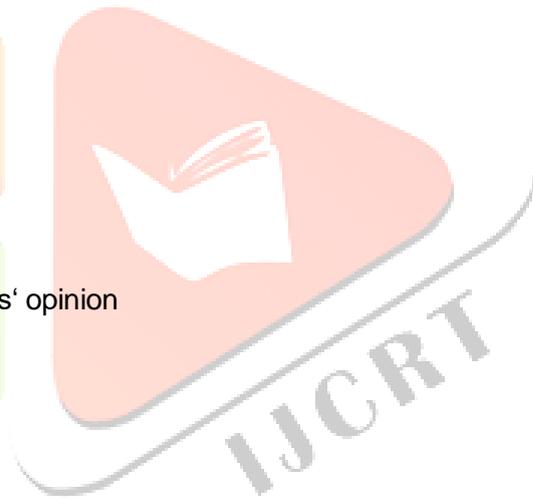
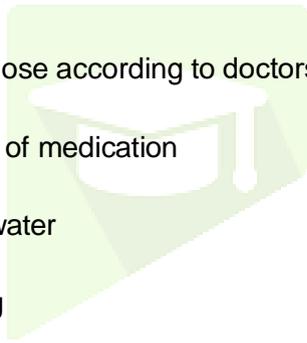
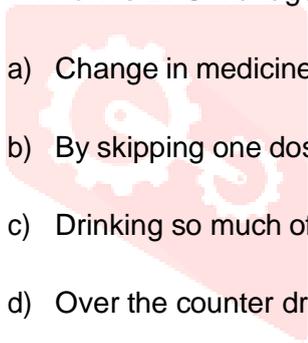
10. What to do after occurrence of EPS?

- a) Quick medical advice
- b) Stop the drug immediately
- c) Decrease the dose
- d) Increase the dose
- e)



11. How is EPS managed?

- a) Change in medicine dose according to doctors' opinion
- b) By skipping one dose of medication
- c) Drinking so much of water
- d) Over the counter drug



12. What is medication adherence?

- a) To stop medication when feels better
- b) Continue to take prescribed medication without interruption
- c) Not to take medicine
- d) Decrease dose of medication when there is no symptom

13. What is Nonadherence?

- a) Partial change of daily dose
- b) Treatment refusal
- c) Irregular use
- d) All of the above

14. What are the main causes for nonadherence?

- a) Due to side effects, stigma, poor insight, and long term treatment
- b) Negligence
- c) Cost of medication
- d) All of the above

15. How will you encourage the patient to take regular medicines?

- a) Reminders on phone, text messages and written information
- b) To consider the patient will take medication on his own
- c) Shouting and forcing the patient
- d) Ignoring the patient

16. What will you do to take medication on time?

- a) Use of pill box
- b) Keeping the medication at easy reach
- c) Setting alarm in mobile or in clock
- d) All of above

17. How will you cut off the cost of medication?

a) Using generic medicine and follow up in Government hospitals



- b) Taking medicines from medical representative
- c) Irregular purchasing of medicine
- d) Taking medicines from private medical

18. How will you modify patients' behavior regarding adherence?

- a) Force the patient to take medicine
- b) Leave the patient on his/her condition
- c) No need to change the behavior
- d) Giving rewards, praising his behavior, telling patient the importance of medicines

19. How will you improve medication adherence?

- a) Talk with patient about medication importance and its side effects
- b) Blame the patient for his behavior
- c) Give patient freedom to take medicine
- d) Ignore the patient

20. What are the advanced techniques used for monitoring the adherence?

- a) Pill count
- b) Direct observation treatment
- c) Electronic monitoring and stamping the time of opening bottle
- d) Don't know

21. What will you do if patient forgets to take medication?

- a) To give medicine as soon as remembered
- b) To skip the dose
- c) Blame to the patient

d) No need to do anything

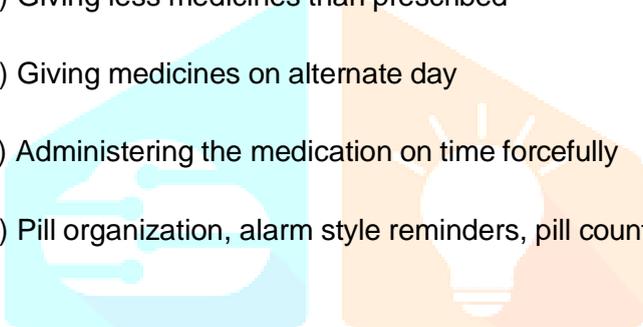


22. How will you improve medication adherence with the help of aids?

- a) By asking the patient whether he took medicine or not
- b) Forcing the patient to take medicines
- c) Providing medication calendar or drug chart, Direct giving medicines under observation
- d) Don't know

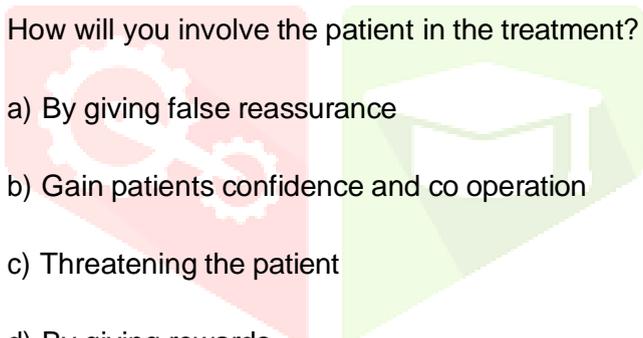
23. How will you convert the complex regimen of treatment to a simple regimen?

- a) Giving less medicines than prescribed
- b) Giving medicines on alternate day
- c) Administering the medication on time forcefully
- d) Pill organization, alarm style reminders, pill count



24. How will you involve the patient in the treatment?

- a) By giving false reassurance
- b) Gain patients confidence and co operation
- c) Threatening the patient
- d) By giving rewards



25. What is role of caretakers in the medication adherence?

- a) Care with patience and empathy
- b) Isolate the patient
- c) Criticize the patient
- d) Over protectiveness

ANSWER KEY FOR SEMI-STRUCTUED QUESTIONNAIRE ON KNOWLEDGE REGARDING MEDICATION ADHERENCE AMONG CARETAKERS OF SCHIZOPHRENIC PATIENT

QUESTION NUMBER	ANSWER
1)	B
2)	A
3)	C
4)	B
5)	C
6)	D
7)	A
8)	B
9)	B
10)	A
11)	A
12)	B
13)	D
14)	D
15)	A
16)	D
17)	A
18)	D
19)	A
20)	C
21)	A
22)	C
23)	D
24)	B
25)	A

1. $\frac{1}{2}x + \frac{1}{3}x = 10$ എന്ന സമവാക്യത്തിന്റെ പരിష్കരണം?

- a. $x = 6$
- b. $x = 12$
- c. $x = 15$
- d. $x = 18$

2. $\frac{1}{2}x + \frac{1}{3}x = 10$ എന്ന സമവാക്യത്തിന്റെ പരിഷ്കരണം?

- a. $x = 6$
- b. $x = 12$
- c. $x = 15$
- d. $x = 18$

3. $\frac{1}{2}x + \frac{1}{3}x = 10$ എന്ന സമവാക്യത്തിന്റെ പരിഷ്കരണം?

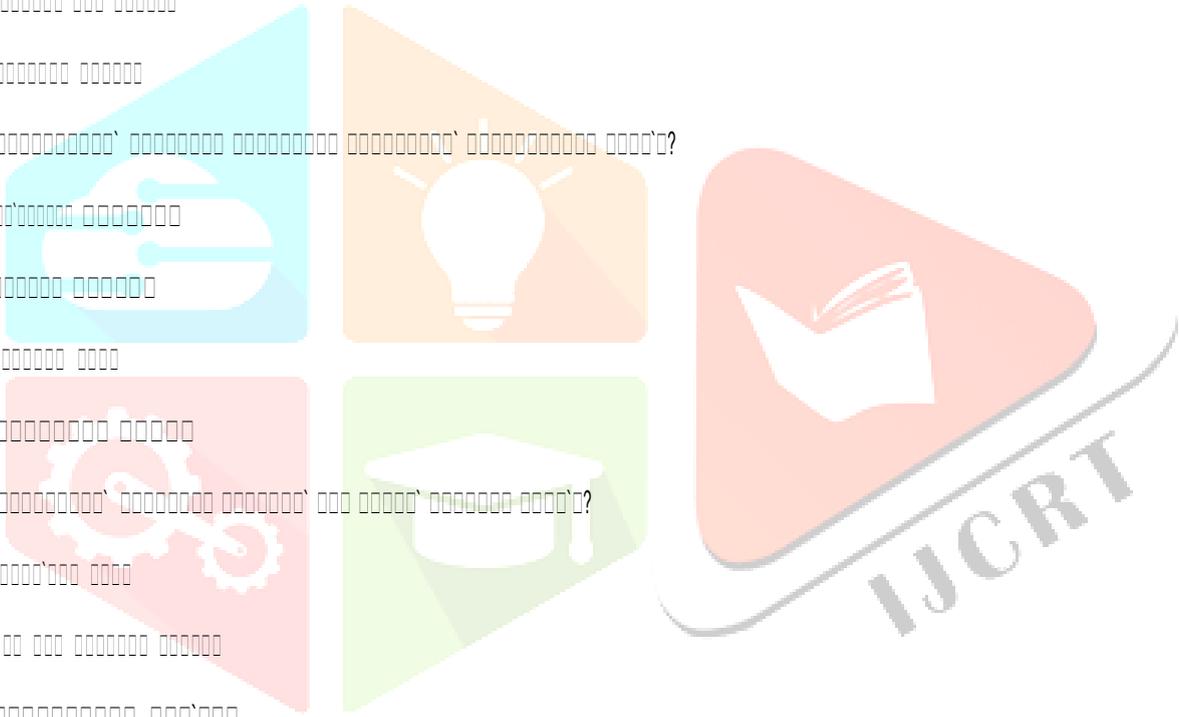
- a. $x = 6$
- b. $x = 12$
- c. $x = 15$
- d. $x = 18$

4. $\frac{1}{2}x + \frac{1}{3}x = 10$ എന്ന സമവാക്യത്തിന്റെ പരിഷ്കരണം?

- a. $x = 6$
- b. $x = 12$
- c. $x = 15$
- d. $x = 18$

5. $\frac{1}{2}x + \frac{1}{3}x = 10$ എന്ന സമവാക്യത്തിന്റെ പരിഷ്കരണം?

- a. $x = 6$
- b. $x = 12$
- c. $x = 15$
- d. $x = 18$



11. EPS ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?

- a. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?
- b. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?
- c. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?
- d. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?

12. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?

- a. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?
- b. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?
- c. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?
- d. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?

13. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?

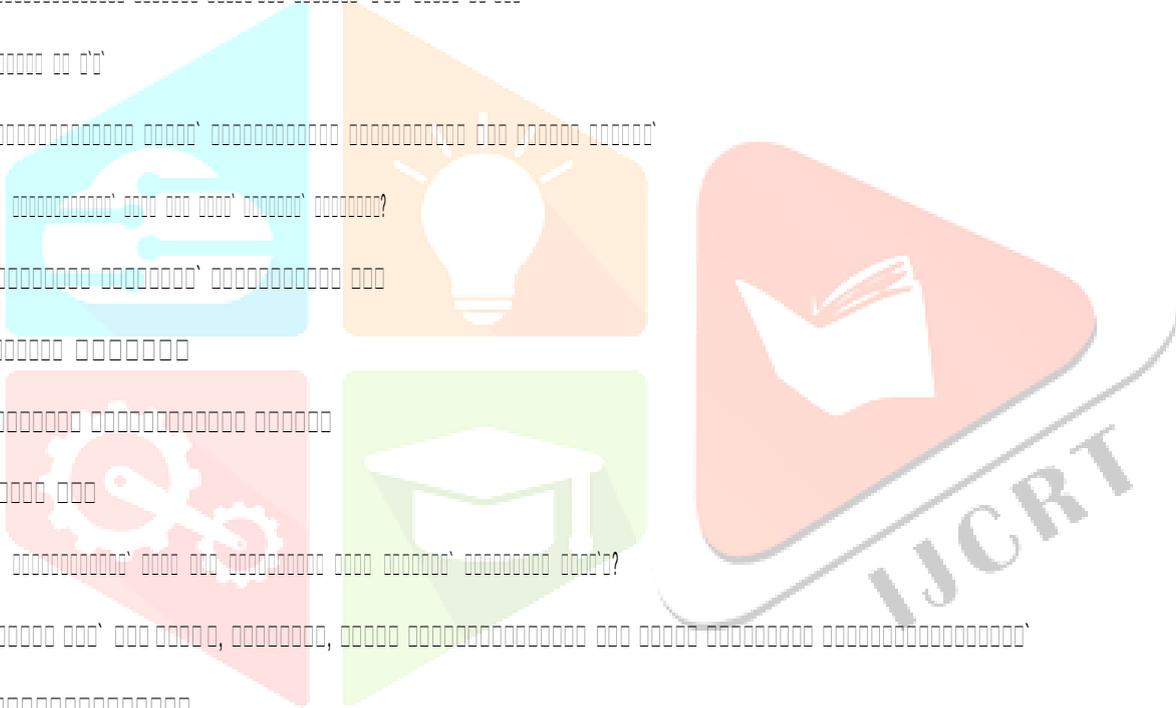
- a. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?
- b. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?
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- d. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?

14. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?

- a. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?
- b. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?
- c. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?
- d. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?

15. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?

- a. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?
- b. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?
- c. ಉದ್ದೇಶವೇನು? ಅದರ ಮೂಲಭೂತ ತತ್ವವೇನು?



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LESSON PLAN

AIM-

At the end of this practical teaching the caretakers of schizophrenic patient will gain in depth knowledge about Medication adherence strategies

SPECIFIC OBJECTIVES -

At the end of this practice teaching student will be able to –

- 1) Define Schizophrenia and its prevalence.
- 2) Enumerate the causes of schizophrenia.
- 3) Explain the signs and symptoms of schizophrenia.
- 4) Enlist the types of Schizophrenia.
- 5) Enlist the drugs used in Schizophrenia.
- 6) Explain the side effects of antipsychotics in patient with Schizophrenia.
- 7) Explain the meaning of adherence and non-adherence.
- 8) Enlist the causes of nonadherence to the treatment.
- 9) Elaborate the strategies to maintain medication adherence.
- 10) Role of caretakers in medication adherence.

Time	Specific objectives	Content	AV aids	Teaching learning activities	Evaluation
3 min	Define Schizophrenia and its prevalence.	<p><u>Definition of Schizophrenia-</u></p> <p>Mental illness in which a person becomes unable to link thought, emotion, and behaviour, leading to withdrawal from reality and personal relationship.</p> <p>(According to American Psychological Association dictionary)</p> <p><u>Prevalence of Schizophrenia-</u></p> <p>About three to four per 1000 in every community suffer from schizophrenia. About one percent of the general population stand the risk of developing this disease in their lifetime.</p> <p>The prevalence is 2% of the population.</p> <p>Schizophrenia is equally prevalent in male and female. The peak age is 15 to 25 years in male and 25 to 35 for women.</p>	Lcd Projector Power point presentation	Lecture- cum discussion Student teacher gives the introduction of topic Students listens carefully	Student understood the topic

Time	Specific objectives	Content	AV aids	Teaching learning activities	Evaluation
3 min	Explain the causes of schizophrenia.	<p><u>Causes of schizophrenia-</u></p> <p>1. Biochemical Factors</p> <p>2. Genetic Factors-</p> <ul style="list-style-type: none"> • The disease is more common among people born of consanguineous marriages. • Identical twins affected-50% • Fraternal twin affected-15% • Brother and sister affected-10% • One parent affected-15% • Both parents affected-35% <p>3. Perinatal risk factors-</p> <ul style="list-style-type: none"> • Maternal influenza. • Birth during late winter or early spring. • Complications of pregnancy particularly during labour and delivery. 	Lcd Projector Power point presentation	Lecture- cum discussion Student teacher gives the introduction of topic Students listens carefully	<u>Student understood the topic</u>

Time	Specific objectives	Content	AV aids	Teaching learning activities	Evaluation
		<p data-bbox="719 472 965 504">4. Family Factor-</p> <ul data-bbox="443 528 1279 948" style="list-style-type: none"><li data-bbox="443 528 1279 724">• <u>Mother-child relationship</u>: Early theorists characterized the mothers of schizophrenics as cold, over-protective, and domineering, thus retarding the ego development of the child.<li data-bbox="443 751 1279 836">• <u>Dysfunctional family system</u>: Hostility between parents can lead to a schizophrenic daughter<li data-bbox="443 863 1279 948">• <u>Double-bind communication</u>-Parents convey two or more conflicting and incompatible messages at the same time. <p data-bbox="719 971 965 1003">5. Social Factor-</p> <ul data-bbox="443 1027 864 1118" style="list-style-type: none"><li data-bbox="443 1027 864 1059">• Low socio-economic class.<li data-bbox="443 1086 864 1118">• Stressful life events			

Time	Specific objectives	Content	AV aids	Teaching learning activities	Evaluation
3 min	Explain the signs and symptoms of	<u>Signs and symptoms -</u> <ul style="list-style-type: none">Delusions of various kinds i.e., delusions of persecution delusions of grandeur delusions of reference (being			



	schizophrenia.	<p>referred to by others); delusions of control</p> <p><u>Disorders of Perception</u></p> <ul style="list-style-type: none"> • Auditory hallucinations • Visual hallucinations may sometimes occur along with auditory hallucinations; tactile, gustatory, and olfactory types are far less common. <p><u>Disorders of Affect</u></p> <ul style="list-style-type: none"> • These include apathy, emotional blunting, emotional shallowness, anhedonia and inappropriate emotional response. <p><u>Disorders of Motor Behaviour</u></p> <ul style="list-style-type: none"> • There can be either an increase or a decrease in psychomotor activity. Mannerisms, stereotypes, decreased self-care. 			
<u>Time</u>	<u>Specific objectives</u>	<u>Content</u>	<u>AV aids</u>	<u>Teaching learning activities</u>	<u>Evaluation</u>

		<p><u>Cognitive Symptoms</u></p> <ul style="list-style-type: none"> • Poor executive functioning - Inability to understand information to make decisions • Poor working memory - Inability to use information immediately after learning. 			
2 min	Enlist the types of Schizophrenia.	<p>Types of Schizophrenia -</p> <ul style="list-style-type: none"> • Paranoid • Hebephrenic (disorganized) • Catatonic • Residual • Undifferentiated • Simple • Post-schizophrenic depression 			

<u>Time</u>	<u>Specific objectives</u>	<u>Content</u>	<u>AV aids</u>	<u>Teaching learning activities</u>	<u>Evaluation</u>
5 min	Enlist the drug used in Schizophrenia	<p><u>Antipsychotic drugs-</u></p> <p>Antipsychotic drugs are the psychotropic drugs which are used for the treatment of mental illness. Antipsychotic medications can not cure the illness but they can take away many of the symptoms or make them milder.</p> <p><u>Commonly used drugs-</u></p> <ul style="list-style-type: none"> • Chlorpromazine • Haloperidol • Trifluoperazine • Aripiprazole (Abilify) • Clozapine (Clozaril) • Olanzapine • Quetiapine (Seroquel) 	Lcd Projector Power point presentation	Lecture- cum discussion Student teacher gives the introduction of topic Students listens carefully	<u>Student understood the topic</u>

<u>Time</u>	<u>Specific objectives</u>	<u>Content</u>	<u>AV aids</u>	<u>Teaching learning activities</u>	<u>Evaluation</u>
		<p><u>Extra pyramidal symptoms-</u> EPS is the serious neurologic symptoms and major side effects of Antipsychotic drugs.</p> <p><u>Neuroleptic induced parkinsonism-</u></p> <ul style="list-style-type: none"> • Rigidity, tremors, bradykinesia, stooped posture, drooling, ataxia, etc. <p><u>Acute dystonia-</u></p> <ul style="list-style-type: none"> • Dystonia movements are the involuntary movements of neck, jaw, tongue and the entire body. • There is also involvement of eyes leading to upward lateral movement. <p><u>Akathisia-</u></p> <ul style="list-style-type: none"> • It is the feeling of muscular discomfort that can cause patients to be agitated, restless, and feel dysphoric. <p><u>Tardive dyskinesia-</u></p> <ul style="list-style-type: none"> • It is abnormal, irregular, choreoathetoid movements Of the muscles of the head, limbs and trunk. 			

<u>Time</u>	<u>Specific objectives</u>	<u>Content</u>	<u>AV aids</u>	<u>Teaching learning activities</u>	<u>Evaluation</u>
3 min	Explain the medication adherence and nonadherence.	<p><u>Treatment for EPS at home-</u></p> <ol style="list-style-type: none"> 1. Do not be afraid. 2. Immediately consult to your doctor. 3. Adjust the doses of antipsychotics as per physicians advice. 4. Do not stop the drug by your own. <p><u>Medication adherence-</u></p> <p>The degree to which the persons behaviour correspondswith the agreed recommendations from a health care provider. (By WHO)</p> <p>OR</p> <p>Medication adherence means continuation of taking prescribed medication without interruption.</p>			

<u>Time</u>	<u>Specific objectives</u>	<u>Content</u>	<u>AV aids</u>	<u>Teaching learning activities</u>	<u>Evaluation</u>
3 min	Enlist the causes of nonadherence to the treatment.	<p><u>Meaning of non-adherence-</u> Non adherence is a resulting condition in which patient refuses to adhere(stick or stay with) of prescribed therapeutic regimen.</p> <p>OR</p> <p>Non adherence means partial change of daily dose along with treatment refusal by patient and irregular use of medication.</p> <p><u>Causes of nonadherence to treatment-</u> <u>1)Treatment related-</u> Side effects Efficacy Lack of clinical awareness Complexity of regimen</p>	<p>Lcd Projector Power point presentation</p> <p>Lcd Projector Power point presentation</p>	<p>Lecture- cum discussion Student teacher gives the introduction of topic Students listens carefully</p> <p>Lecture- cum discussion Student teacher gives the introduction of topic Students listens carefully</p>	<p>Student understood the topic</p> <p>Student understood the topic</p>

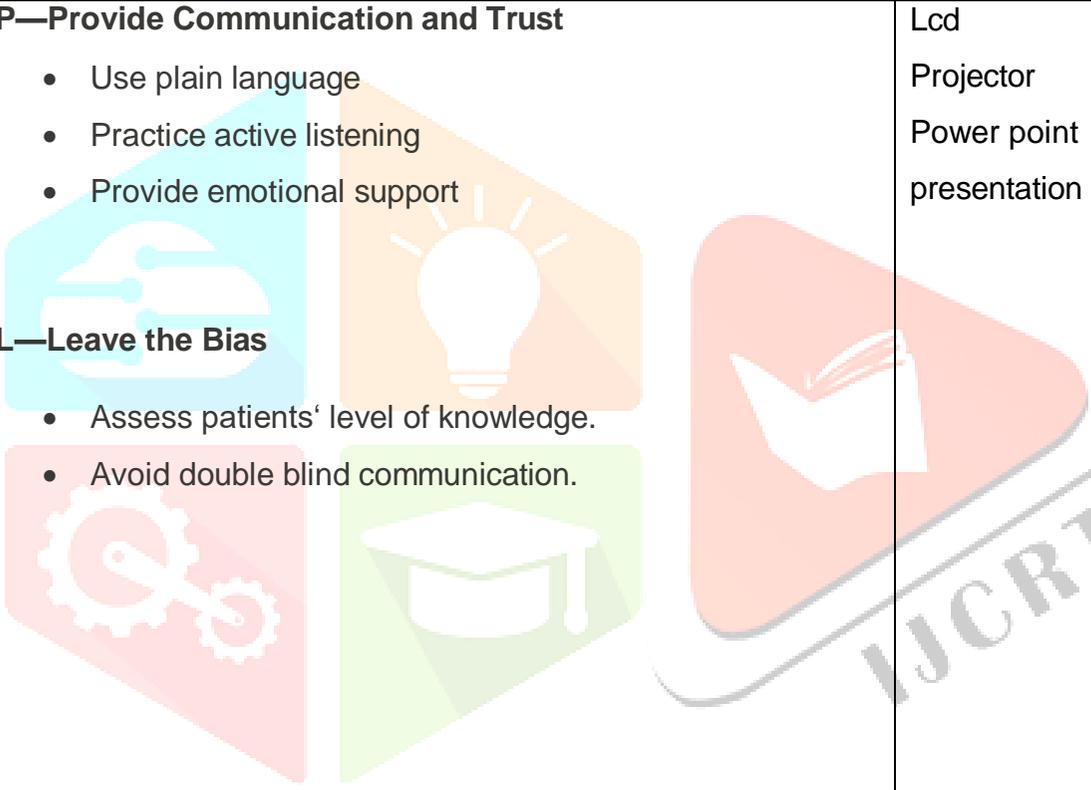
<u>Time</u>	<u>Specific objectives</u>	<u>Content</u>	<u>AV aids</u>	<u>Teaching learning activities</u>	<u>Evaluation</u>
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5 min		<p><u>2) Disease related-</u></p> <p>Poor insight Cognitive impairment Motivational deficits</p> <p><u>3) Psychological and Social factor-</u></p> <p>Stigma (of disease and medication) Environmental stressors Level of support from family and friends Irregular daily routine Substance abuse Religious beliefs</p> <p><u>4) Human nature-</u></p> <p>Full adherence is difficult for anyone to maintain exercise, diet patient does not believe medication necessary once response achieved</p>	Lcd Projector Power point presentation	Lecture- cum discussion Student teacher gives the introduction of topic Students listens carefully	<u>Student understood the topic</u>
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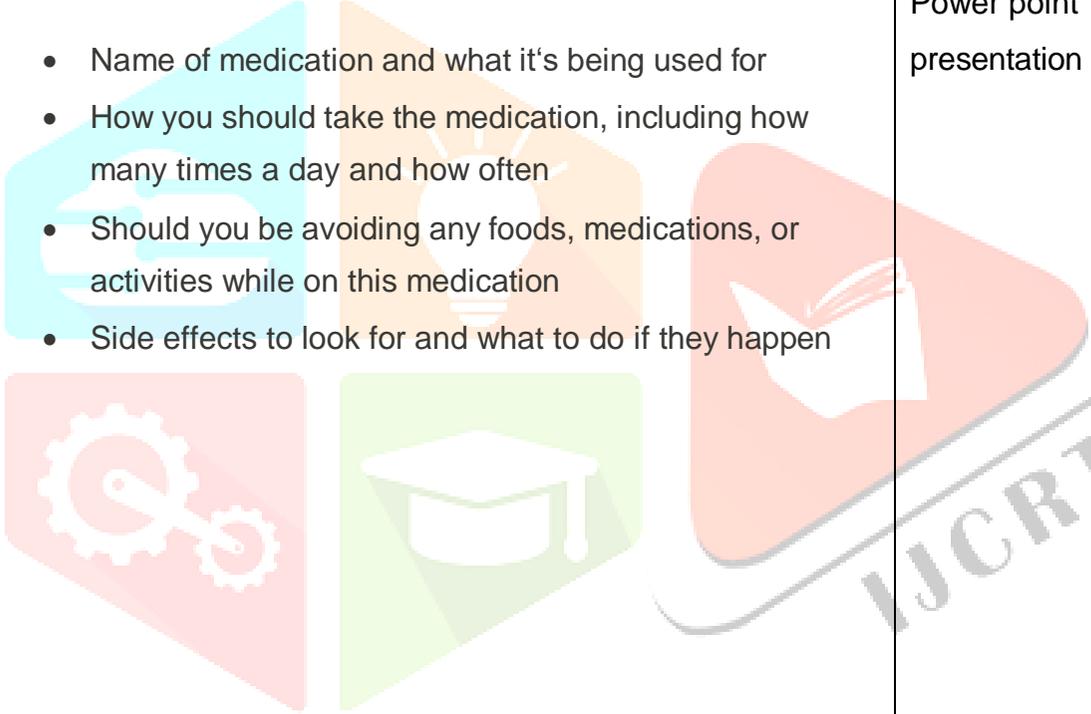
<u>Time</u>	<u>Specific objectives</u>	<u>Content</u>	<u>AV aids</u>	<u>Teaching learning activities</u>	<u>Evaluation</u>
10 min	Elaborate the strategies to maintain medication adherence.	<p><u>Strategies to improve Medication Adherence</u></p> <p>The SIMPLE approach</p> <ul style="list-style-type: none"> • S – Simplify the regimen • I – Impart knowledge • M– Modify patient beliefs and behaviour • P – Provide communication and trust • L – Leave the bias • E – Evaluate adherence <p>S—Simplify the Regimen</p> <ul style="list-style-type: none"> • Encourage use of adherence aids. • Use of pill box. • Adjust timing, frequency, amount, and dosage • Setting alarm in mobile or clock, text messages and phone call • Written information • Match regimen to patient’s activities of daily living. • Keeping the medicines at easy reach. 	Lcd Projector Power point presentation	Lecture- cum discussion Student teacher gives the introduction of topic Students listens carefully	<u>Student understood the topic</u>

<u>Time</u>	<u>Specific objectives</u>	<u>Content</u>	<u>AV aids</u>	<u>Teaching learning activities</u>	<u>Evaluation</u>
	Elaborate the strategies to maintain medication adherence.	<p>I—Impart Knowledge</p> <ul style="list-style-type: none"> • Advise on how to cope with medication costs • Use generic medicines. • Follow up in Government hospitals • Involve patient's family or caregiver. • Provide all prescription instructions clearly in writing and verbally reinforce all discussions. <p>M—Modify Patient Beliefs and Behaviour</p> <ul style="list-style-type: none"> • Address fears and concerns. • Provide rewards for adherence • Praising his behaviour of taking independent medicine • Empower patients to self-manage their condition • Ask patients about the consequences of not taking their medications have patients restate the positive benefits of taking their medications 	Lcd Projector Power point presentation	Lecture- cum discussion Student teacher gives the introduction of topic Students listens carefully	<u>Student understood the topic</u>

<u>Time</u>	<u>Specific objectives</u>	<u>Content</u>	<u>AV aids</u>	<u>Teaching learning activities</u>	<u>Evaluation</u>
	Elaborate the strategies to maintain medication adherence.	<p>P—Provide Communication and Trust</p> <ul style="list-style-type: none"> • Use plain language • Practice active listening • Provide emotional support <p>L—Leave the Bias</p> <ul style="list-style-type: none"> • Assess patients' level of knowledge. • Avoid double blind communication. 	Lcd Projector Power point presentation	Lecture- cum discussion Student teacher gives the introduction of topic Students listens carefully	<u>Student understood the topic</u>

<u>Time</u>	<u>Specific objectives</u>	<u>Content</u>	<u>AV aids</u>	<u>Teaching learning activities</u>	<u>Evaluation</u>
	Elaborate the strategies to maintain medication adherence.	<p>E—Evaluating Adherence</p> <ul style="list-style-type: none"> • Self-report • Ask about adherence verbally • Periodically review patient's medication containers, pill count • Use biochemical tests—measure serum or urine medication levels as needed <p><u>Advanced Techniques-</u></p> <ul style="list-style-type: none"> • Use of Electronic monitoring and stamping the time of opening bottle. • Use of digital watch for noting down the timing of taking medication with alarm. 	Lcd Projector Power point presentation	Lecture- cum discussion Student teacher gives the introduction of topic Students listens carefully	<u>Student understood the topic</u>

Time	Specific objectives	Content	AV aids	Teaching learning activities	Evaluation
	Elaborate the strategies to maintain medication adherence.	<p>What patients can do to improve your adherence:</p> <ul style="list-style-type: none"> • Make a schedule • Put them in a place that is easy for you to remember • Include in your daily routine (meal, shower, brush teeth) • Keep a current list of your medications • Set alarms (there is an app for that) 	Lcd Projector Power point presentation	Lecture- cum discussion Student teacher gives the introduction of topic Students listens carefully	<u>Student understood the topic</u>

<u>Time</u>	<u>Specific objectives</u>	<u>Content</u>	<u>AV aids</u>	<u>Teaching learning activities</u>	<u>Evaluation</u>
3 min	Elaborate the strategies to maintain medication adherence.	<p>Things should know about medications-</p> <ul style="list-style-type: none"> • Name of medication and what it's being used for • How you should take the medication, including how many times a day and how often • Should you be avoiding any foods, medications, or activities while on this medication • Side effects to look for and what to do if they happen 	Lcd Projector Power point presentation	Lecture- cum discussion Student teacher gives the introduction of topic Students listens carefully	<u>Student understood the topic</u>

<u>Time</u>	<u>Specific objectives</u>	<u>Content</u>	<u>AV aids</u>	<u>Teaching learning activities</u>	<u>Evaluation</u>
5 min	Role of caretakers in medication adherence.	<p><u>Role of caretakers in medication adherence</u></p> <ul style="list-style-type: none"> • Display patience and empathy when interacting with patients. • Be mindful of the number of medications prescribed and their frequency and dosages. • Communication with the patient. • Number of medications needed per day. • Number of prescribed medications or duration prescription. • If patient forgot to take medicine, then give medicine as soon as possible. • Improve medication adherence by using calendar, drug chart or give medicine under your direct observation. • Convert complex regimen into simple regimen by organisation of pill, alarm style reminders and pill count. • Involve the patient in the treatment by gaining patients confidence and co-operation. 	Lcd Projector Power point presentation	Lecture- cum discussion Student teacher gives the introduction of topic Students listens carefully	Student understood the topic

REFERENCES

1. Townsend Mary. C. Psychiatric Mental Health Nursing. 6th Ed. New Delhi: Jaypee publishers; a 2007.page no 490 to 508
2. Sreevani R.A guide to mental health and psychiatric nursing.3rd ed.USA: Jaypee BrothersMedical Publishers(p)LTD;P-2 page no.171 to 178
3. Srivastava S. incidence and prevalence of Schizophrenia. Available from International Journal of Health Sciences & Research (www.ijhsr.org) 189 Vol.6; Issue: 5; May 2016 [http://: www. Schizophrenia.com](http://www.Schizophrenia.com) [cited on March 21,2015]
4. Shaddock James Benjamin and Shaddock Alcott Virginia. Synopsis of psychiatry: 10th Ed. New York:Lippincott publishers; 2001. p.471-3
5. Avasthi A. Preserve and strengthen the family to promote mental health. Indian J Psychiatry. 2010; 52(2); p. 113-26. Available from: <http://www.boimedcentral.com> [cited on May 10, 2015]
6. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3191684/>
7. <https://alwaysculture.com> >hcahp

SUMMARY

At the end of the topic care takers will be able to:

1. Define Schizophrenia, causes and signs and symptoms of schizophrenia.
2. Enlist the types of Schizophrenia.
3. Enlist the drugs used in Schizophrenia.
4. Explain the side effects of antipsychotics in patient with Schizophrenia.
5. Explain the meaning of adherence and non-adherence.
6. Enlist the causes of non-adherence to the treatment.
7. Elaborate the strategies to maintain medication adherence.
8. Understand importance of caretakers in medication adherence

MASTER SHEET OF MAIN STUDY

SAMPLE	PRE -TEST																									TOTAL SCORE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
1	1	1	1	1	1	0	1	0	1	0	1	1	0	0	0	0	1	0	1	0	1	0	0	0	1	13
2	1	0	1	1	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	7
3	1	0	1	0	1	0	1	1	0	0	1	1	1	0	1	0	0	0	1	0	1	0	0	0	0	11
4	1	1	0	1	1	0	1	0	1	1	1	0	0	0	1	0	1	0	1	0	1	0	0	0	0	12
5	1	0	0	0	0	0	1	0	1	1	1	1	0	0	0	0	0	0	1	0	1	0	0	0	1	9
6	1	0	1	0	1	0	0	1	1	1	1	1	0	1	0	0	1	1	1	0	1	1	1	1	1	17
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8	1	0	0	1	0	0	1	1	1	0	0	0	0	1	1	0	1	0	1	0	1	1	0	1	1	13
9	1	0	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	0	1	0	1	1	1	20
10	1	0	1	1	0	0	1	0	1	1	1	1	0	0	1	0	1	1	1	0	0	0	0	0	1	13
11	1	0	1	1	0	0	1	0	1	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	8
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16	1	0	1	1	1	0	1	0	0	1	1	1	0	0	0	1	0	0	1	0	1	1	0	0	1	13
17	1	0	1	0	0	0	0	1	0	0	0	0	1	1	1	0	0	0	0	0	1	0	0	1	1	9
18	1	0	1	1	0	0	0	0	0	1	1	1	0	1	1	0	1	0	0	0	1	0	0	1	1	12
19	1	1	1	1	1	0	1	1	1	1	1	1	0	0	1	0	0	1	1	0	1	0	0	1	1	17
20	1	0	1	0	1	0	1	0	1	0	1	0	0	0	1	0	0	0	1	0	1	1	0	0	1	11
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26	1	0	1	0	0	0	1	1	1	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0	0	9

27	1	0	1	1	1	0	1	1	1	0	1	1	0	1	1	0	1	0	1	0	1	1	0	1	1	17
28	1	0	1	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	1	0	1	0	1	0	1	10
29	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	1	0	1	0	1	1	0	1	1	15
30	1	1	0	0	1	1	0	0	0	0	0	1	0	1	0	0	1	0	1	0	1	0	0	1	1	11
31	1	0	1	0	1	1	1	0	0	1	1	1	0	0	1	0	1	1	1	0	1	0	1	1	1	16
32	1	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	0	1	0	1	0	0	0	7
33	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	3
34	1	1	0	0	1	1	1	1	1	0	0	0	0	0	0	0	1	1	0	0	0	1	1	1	1	13
35	1	1	1	1	1	0	1	0	1	0	1	1	0	0	0	0	1	0	1	0	1	0	0	0	1	13
36	1	0	1	1	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	7
37	1	0	1	0	1	0	1	1	0	0	1	1	1	0	1	0	0	0	0	1	0	1	0	0	0	11
38	1	1	0	1	1	0	1	0	1	1	1	0	0	0	1	0	1	0	1	0	1	0	0	0	0	12
39	1	0	0	0	0	0	1	0	1	1	1	1	1	0	0	0	0	0	0	1	0	1	0	0	0	9
40	1	0	1	0	1	0	0	1	1	1	1	1	1	0	1	0	0	1	1	1	0	1	1	1	1	17
41	1	0	0	0	1	0	1	1	1	1	0	0	0	1	0	0	0	0	1	0	1	0	0	1	1	11
42	1	0	1	1	1	0	1	0	0	1	1	1	1	0	0	0	1	0	0	1	0	1	1	0	0	13
43	1	0	1	0	0	0	0	1	0	0	0	0	1	1	1	0	0	0	0	0	1	0	0	1	1	9
44	1	0	1	1	0	0	0	0	0	1	1	1	1	0	1	1	0	1	0	0	0	1	0	0	1	12
45	1	1	1	1	1	0	1	1	1	1	1	1	1	0	0	1	0	0	1	1	0	1	0	0	1	17
46	1	0	1	0	1	0	1	0	1	0	1	0	0	0	1	0	0	0	0	1	0	1	1	0	0	11
47	1	0	0	1	0	0	1	1	1	0	0	0	0	1	1	0	1	0	1	0	1	1	0	1	1	13
48	1	0	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	0	1	0	1	1	20
49	1	0	1	1	0	0	1	0	1	1	1	1	0	0	1	0	1	1	1	1	0	0	0	0	0	13
50	1	0	1	1	0	0	1	0	1	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	8
51	0	0	0	0	0	0	1	0	1	0	1	0	0	0	1	1	1	0	1	0	1	0	0	0	1	9
52	1	0	1	1	0	0	1	0	1	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	8
53	0	0	0	0	0	0	1	0	1	0	1	0	0	0	1	1	1	0	1	0	1	0	0	0	1	9
54	1	0	1	0	1	0	1	0	1	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	9
55	1	0	1	0	1	0	1	1	1	0	1	1	0	0	1	0	1	1	1	0	1	1	0	1	0	15

56	1	0	0	0	1	0	1	1	1	1	0	0	0	1	0	0	0	0	1	0	1	0	0	1	1	11
57	1	0	1	1	0	0	1	0	1	0	1	0	0	0	1	0	0	1	1	0	1	0	0	1	1	12

58	0	0	0	1	0	0	1	0	1	1	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	8
59	0	0	0	1	0	0	1	0	1	1	1	1	0	0	1	0	0	0	1	0	1	0	1	1	1	12
60	1	0	1	0	0	0	1	1	1	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0	0	9

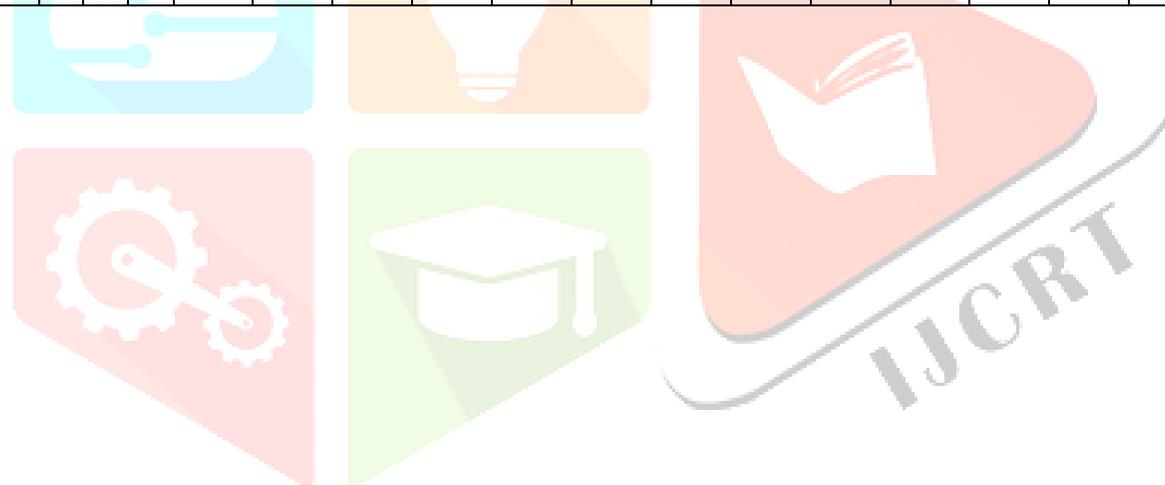
MASTER SHEET OF MAIN STUDY

SAMPLE	POST-TEST																									TOTAL SCORE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	24
2	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	22
3	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	23
4	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	0	1	1	1	0	1	1	0	1	1	20
5	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	22
6	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	22
7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	25
8	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	0	1	1	21
9	1	0	1	1	1	0	1	1	1	1	1	1	0	0	0	1	1	1	1	0	0	1	1	0	1	17
10	1	0	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	22
11	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	0	1	1	22
12	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	22
13	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	22
14	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	23
15	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	22
16	1	1	1	1	1	1	1	0	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	22
17	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	1	1	0	1	0	0	1	1	19
18	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	23
19	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	23
20	1	0	1	1	1	0	1	1	1	1	1	0	0	1	1	0	1	1	1	0	1	1	0	1	1	18

21	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	0	1	1	1	1	1	22	
22	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1	1	1	0	1	1	1	1	1	21	
23	1	0	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0	1	1	1	1	1	21	
24	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0	1	1	1	1	1	22	
25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	23	
26	1	0	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0	1	1	21	
27	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	23	
28	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1	1	21	
29	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	23	
30	1	1	1	0	1	1	1	1	1	0	1	1	0	1	1	0	1	1	1	0	1	1	0	1	1	19	
31	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	25	
32	1	0	1	1	1	0	1	1	1	1	1	1	1	0	0	0	1	1	1	1	0	1	0	0	1	1	17
33	1	1	1	1	0	1	0	0	1	1	1	1	1	0	0	0	1	0	0	0	1	0	1	1	1	15	
34	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	24	
35	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	24	
36	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	22
37	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	23	
38	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	0	1	1	1	0	1	1	0	1	1	20	
39	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	22
40	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	22
41	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	22
42	1	1	1	1	1	1	1	0	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	22
43	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	1	1	0	1	0	0	1	1	19	
44	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	23
45	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	23	
46	1	0	1	1	1	0	1	1	1	1	1	0	0	1	1	0	1	1	1	0	1	1	0	1	1	18	
47	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	0	1	1	21	
48	1	0	1	1	1	0	1	1	1	1	1	0	0	0	1	1	1	1	0	0	1	1	0	1	1	17	
49	1	0	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	22	

50	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	0	1	1	1	22
51	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	22
52	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	0	1	1	1	22
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55	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	23	
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57	1	0	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0	1	1	1	1	1	21	
58	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0	1	1	1	1	1	22	
59	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	1	23	
60	1	0	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0	1	1	21



MASTER SHEET OF DEMOGRAPHIC DATA									
SAMPLE	QUESTIONS								
	1	2	3	4	5	6	7	8	9
1	b	d	c	a	c	b	b	d	b
2	a	d	a	a	b	c	b	d	b
3	c	b	a	a	b	b	d	d	b
4	c	c	b	b	c	b	d	d	a
5	c	b	a	a	a	b	b	d	b
6	b	c	b	a	c	c	a	d	a
7	c	b	a	a	a	a	b	b	b
8	d	d	b	a	b	a	b	d	b
9	d	c	d	a	b	a	b	d	b
10	c	d	a	a	d	b	b	c	a
11	d	a	b	b	b	c	a	d	b
12	c	d	a	a	c	b	d	d	b
13	b	d	b	a	c	d	b	d	b
14	d	b	a	a	a	b	b	d	b
15	c	a	a	a	d	b	b	d	b
16	d	a	b	a	d	a	b	d	b
17	d	c	a	a	a	b	d	d	b
18	a	c	b	a	a	b	b	d	b
19	d	b	a	a	c	b	d	d	b
20	d	d	a	b	d	a	d	d	b
21	c	c	b	a	a	b	b	d	b
22	d	c	a	a	a	b	c	d	b
23	b	c	b	a	a	b	c	d	b
24	c	b	a	a	a	b	b	d	b
25	d	a	a	a	d	b	b	d	b
26	c	b	a	a	d	a	b	d	b
27	c	c	b	a	c	b	b	d	b
28	d	a	b	a	c	b	d	d	b
29	a	d	d	a	b	c	b	d	b
30	c	b	a	a	a	b	d	d	b
31	d	b	a	a	a	b	b	d	a
32	b	b	a	a	a	a	b	d	b
33	d	b	a	a	a	b	d	d	b
34	d	b	a	a	a	b	b	d	b
35	b	c	b	a	c	a	b	d	a
36	c	d	d	a	b	d	b	d	b
37	c	c	b	a	a	a	b	d	b
38	c	c	b	a	b	d	a	d	b
39	b	d	c	a	b	d	b	d	b
40	b	c	b	a	c	c	a	d	a
41	c	a	a	a	d	b	b	d	b
42	d	a	b	a	d	a	b	d	b

43	d	c	a	a	a	b	d	d	b
44	a	c	b	a	a	b	b	d	b
45	d	b	a	a	c	b	d	d	b
46	d	d	a	b	d	a	d	d	b
47	d	d	b	a	b	a	b	d	b
48	d	c	d	a	b	a	b	d	b
49	c	d	a	a	d	b	b	c	a
50	d	a	b	b	b	c	a	d	b
51	c	d	a	a	c	b	d	d	b
52	d	a	b	b	b	c	a	d	b
53	c	d	a	a	c	b	d	d	b
54	b	d	b	a	c	d	b	d	b
55	d	b	a	a	a	b	b	d	b
56	c	a	a	a	d	b	b	d	b
57	b	c	b	a	a	b	c	d	b
58	c	b	a	a	a	b	b	d	b
59	d	a	a	a	d	b	b	d	b
60	c	b	a	a	d	a	b	d	b

