

CERTIFICATE

Certified that the thesis titles **“A Study to Assess the Effectiveness of Psychoeducation on knowledge among Family Members of Patient getting Lithium Therapy at Sneka Mind Care Center, Thirunelveli.”** is a bonafide work by J.Jaya Mehala, II Year M.Sc., Nursing student of Christian College of Nursing, Neyyoor submitted in partial fulfillment of requirements of the Master of Science in Nursing under The Tamil Nadu Dr. M.G.R. Medical University, Chennai, April 2011.

Date:

Signature of Principal

DECLARATION

Investigator, II Year M.Sc., Nursing student of Christian College of Nursing, Neyyoor do here by declare that this thesis, **“A Study to Assess the Effectiveness of Psychoeducation on knowledge among Family Members of Patient getting Lithium Therapy at Sneka Mind Care Center, Thirunelveli.”** has not been submitted by me for the award of M.Sc(N) or any degree, title or recognition before.

Neyyoor,

Investigator

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“The Lord hath done great things for us where of we are glad”

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ABSTRACT

A study to assess the effectiveness of psychoeducation on knowledge among family members of patient getting Lithium therapy at Sneka Mind Care Centre, Thirunelveli, was conducted in partial fulfillment of the requirement for the degree of Master of Science in Nursing, Christian College of Nursing, Neyyoor, which is affiliated to The Tamil Nadu Dr. M.G.R. University, Chennai.

OBJECTIVES

1. To assess the pre test knowledge of family members regarding Lithium therapy.
2. To assess the post test knowledge of family members regarding Lithium therapy.
3. To compare the pre test and post test knowledge of family members regarding Lithium therapy.
4. To determine the relationship between knowledge and selected demographic variables such as age, sex, relationship with client, education, occupation, religion, marital status, habitat of family members regarding Lithium therapy.

HYPOTHESES

- 1) There will be a significant difference between knowledge of family members regarding Lithium therapy before and after psycho education intervention programme.

- 2) There will be a significant association between knowledge of family members and selected demographic variables.

The study was based on J.W.Kenny's Open System Model, a quasi experimental one group pre test-post test design was adopted. Convenience sampling technique was used. The data collection was done using semi structured knowledge questionnaire. The data obtained were analyzed in terms of both descriptive and inferential statistics.

SIGNIFICANT FINDINGS

1. Regarding the pre test knowledge score of family members all the 30 family members have inadequate knowledge regarding lithium therapy. The mean value for pre test knowledge level is 5.9 and standard deviation is 1.9.
2. Regarding the post test knowledge of family members 3(10%) had adequate knowledge, 23(76.7%) had moderate knowledge and 4 (13.3%) had inadequate knowledge. The mean value for post test knowledge level is 13.6 and standard deviation is 2.5.
3. The mean improvement of knowledge score was 7.7 ± 2.2 was statistically highly significant. ($t= 19.303$, $df= 29$ and $p < 0.001$). The significant improvement of knowledge shows the effectiveness of psychoeducation.
4. There was no significant association between the knowledge of family members and selected demographic variables.

CHAPTER – I

INTRODUCTION

A sound mind in a sound body has been recognized as a social ideal for many centuries. Mental Health is a state of balance between the individual and the surrounding world, state of harmony between oneself and others as co-existence between the realities of the self and that of other people and the environment.

Education can help to increase knowledge. It is often assumed that knowledge determines attitudes and attitudes determine behaviour. Health education can bring about changes in life style and risk factors of disease. Most of the world's major health problems are preventable by providing Health education. For mentally ill clients psychoeducation is effective for improving their knowledge.

Mental illness is maladjustment in living. It produces a disharmony in the persons ability to meet human needs comfortably are effectively and function within a culture.

Mood disorder is one of the major mental illness affecting about 200 million people in world wide and is prevalence rate is

1.5% and its is uniform throughout the world. The life time risk of manic episode is about 0.8-1%.

In India about 12-15 million people are affected with bipolar mood disorder. WHO indicate bipolar disorder is the 6th leading cause of disability in the world.

Traditionally lithium has been the primary pharmacological treatment for patient with bipolar disorder. Since F.J. Cade first reported the use of Lithium as an autimaic drug in 1949 in Australia lithium carbonate was approved first by U.S food and Drug administration for acute manic episodes.

Success rate of lithium treatment vary from high of 70 to 85% to low of 40 to 50% (Surgeon General Report for Mental Health).

Using Family – focused treatment (FFT) in addition to medication produced significantly less relapse (11%) than medication alone over a 9 month follow-up period (Bipolar Disorder Statistics).

Psychoeducation is considered as best method of providing knowledge to client and family members about lithium therapy. Psychoeducation may also act as “mood – stabilizer stabilizer” by enhancing the levels and stability of serum lithium levels. Data

also suggest that group psychoeducation may be associated with an increase in the quality of life, both in terms of general satisfaction and in relation to levels of physical functioning.

NEED FOR STUDY

Health is now recognized as basic Human right. Since mental Health is an integral component of health, to achieve over all health mental health is necessary.

Mood disorders is one of the most common mental disorder affecting 12-15 million people in India and affects 200 million people world wide.

Lithium therapy is currently the drug of choice for treatment of manic episodes in bipolar mood disorder. Lithium is used in all manic episodes, the preventive use is best in usually those bipolar patients where the frequency of episodes 1-3 per year or 2-5 per two year.

Bipolar statistics show that combining psycho therapy with medications like lithium is especially effective.

There is growing consensus that a major obstacle to good outcomes among individuals with bipolar disorder (BPD) is premature discontinuation of medications. Risks associated with discontinuation of medication among individuals with BPD are well documented and include manic and depressive relapses, re-hospitalization, and more lengthy hospital stays. A relatively limited but growing literature suggests that it is possible to enhance treatment adherence among patients with BPD.

The most positive evidence for the improvement of medication adherence among patients with BPD comes from specific psychosocial interventions used in conjunction with pharmacotherapies. It has been suggested that improved treatment adherence is observed as positive outcomes of psychoeducational approaches among bipolar populations. Many individuals with BPD remain relatively uninformed regarding their illness, creating potential barriers to optimal treatment adherence, and limiting self-management skills.

Psychoeducation is based on the premise that individuals have a fundamental right to have information regarding their illness, and individuals who are informed are more likely to take a more active role in managing their illness, which results in better health outcomes.

Psychoeducation strategies for BPD that have contributed to positive outcomes have ranged from simple one-site, education-only interventions that improve lithium adherence and attitudes about medications to a more complex, multi-site, collaborative care system intervention that yielded shorter durations of affective episodes for patients, improved functioning and quality of life, and treatment satisfaction. (Disease Management & Health Outcomes 2007).

Lithium has a narrow therapeutic index and many factors can upset the balance between lithium concentrations that are well tolerated and produce side effects or toxicity. Thus it is imperative that persons taking lithium be educated about signs and symptoms of toxicity, factors that affect lithium levels, how and when to obtain laboratory testing, and the importance of regular communication with the prescribing physician (Kaplan & Sadock's 2009).

Sanchez et al (2005) conducted to determine the effect on the serum levels of a psychoeducational program in patients with bipolar disorders. Data on plasma lithium levels were obtained at five times points. Serum lithium levels of patients who had received psychoeducation and non-psychoeducated patients were compared. Mean serum lithium levels were

significantly higher and more stable for the psychoeducation group.

Dogan (2003) conducted a study to show the effects of education on medication compliance, symptom level and quality of life of outpatients who were being treated with lithium for bipolar disorder. The study was performed comparing a total of 26 patients (14 study and 12 control) who were a patient group in lithium therapy. In the study one group was given a short education program about the disorder and lithium therapy in three sessions. Data were collected from both groups using a medication knowledge form, Brief Symptom Inventory, and WHO Quality of Life Scale before and after the intervention. At the end of 3 months whereas there was no difference seen in the scores of the control group; the study group had an increase in medication knowledge, a decrease in symptom level, an increase in quality of life, and a beginning of more regular medication use. Findings that were obtained show the importance of education about the disorder and medication in increasing the adaptation to society of patients who have bipolar disorder.

To improve the drug compliance education of patient and family member is necessary. Because Health care personnel will

contact with patient for small time. Family members is taking care of client is almost all time in hospital setting and also in home settings. So the family members must have the knowledge regarding lithium therapy for good drug compliance. Psycho education can be used to improve knowledge of family members. So the investigator developed an interest to assess the effectiveness of psycho education on knowledge of family regarding Lithium therapy.

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of psychoeducation on knowledge among family members of patient getting Lithium therapy at Sneka Mind Care Centre, Thirunelveli.

OBJECTIVES

5. To assess the pre test knowledge of family members regarding Lithium therapy.
6. To assess the post test knowledge of family members regarding Lithium therapy.
7. To compare the pre test and post test knowledge of family members regarding Lithium therapy.
8. To determine the relationship between knowledge and selected demographic variables such as age, sex, relationship with family members, education, occupation,

religion, marital status, habitat and residence of family members regarding Lithium therapy.

HYPOTHESES

- 1) There will be a significant difference between knowledge of family members regarding Lithium therapy before and after psychoeducation intervention programme.
- 2) There will be a significant association between knowledge of family members and selected demographic variables.

OPERATIONAL DEFINITION

Psychoeducation

In this study psychoeducation refers to the planned education about Lithium therapy given to family members of clients receives Lithium therapy.

Effectiveness

In this study it refers to the desired change brought about by the psychoeducation on lithium therapy.

Lithium Therapy

In this study Lithium therapy refers to using Lithium for treatment of client with mood disorder.

Family Members

In this study it refers to person who lives in the same household with the index patient who spends time with client and directly and actively involved in patient care.

ASSUMPTIONS

1. The level of knowledge may differ from one individual to another.
2. Psycho education program will improve the knowledge of family members.

LIMITATIONS

1. The study is confined to family members of patient getting lithium therapy at Sneka Mind Care Centre, Thirunelveli.

PROJECTED OUTCOME

The study will help the family members to increase the knowledge regarding lithium therapy and able to prevent the side effects and complications.

CHAPTER – II

REVIEW OF LITERATURE

Review of literature refers to an extensive, exhaustive and systematic examination of publications relevant to the research project. The review of related literature is an essential aspect of scientific research. The purpose of review of literature is to obtain comprehensive knowledge and in-depth information regarding effectiveness of psychoeducation on knowledge of lithium therapy.

STUDIES RELATED TO EFFECTIVENESS OF PSYCHOEDUCATION

Reinares et al (2004) conducted a study to assess the impact of a psycho educational family intervention on caregivers of stabilized bipolar patients. 45 medicated euthymic bipolar outpatients were randomized into an experimental and a control

group. Relatives of patients from the experimental group received 12 psychoeducational, 90-min sessions about bipolar disorder and coping skills. Results show that psychoeducated caregivers significantly improved their knowledge of bipolar disorder and reduced both subjective burden and the caregiver's belief about the link between the objective burden and the patient.

Rouget et al (2007) conducted a study to evaluate the efficacy of psychoeducation in the treatment of bipolar disorder according to specific therapeutic targets such as treatment compliance, patients and family's knowledge of the illness and its treatments, relapse prevention, symptomatic phases of the illness or social and occupational functioning. Results shows that psychoeducation used alone or as a component of more complex interventions, makes it possible to improve the course of the illness, notably by increasing the patients and their families knowledge of the disorder and of treatment options, by decreasing the risk of manic or depressive relapse and of hospitalization and by improving treatment compliance.

Miklowitz (2000) conducted a study on family-focused treatment on bipolar disorder to assess effects of psychoeducational program in conjunction with

pharmacotherapy. This study used a randomized, controlled design to examine a 9 month, manual-based program of family-focused psychoeducational treatment (FFT). Bipolar patients were recruited shortly after an illness episode and randomly assigned to 21 sessions of FFT or to a comparison treatment involving two family education sessions and follow up crisis management. Both treatments were delivered over 9 months; patients were simultaneously maintained on mood stabilizing medications. Patients were evaluated every 3 months for one year. Results show that family- focused psychoeducational treatment appears to be an efficacious adjunct to pharmacotherapy for bipolar disorder.

Fristad et al (1996) revealed psychoeducation as a promising intervention strategy for families of children and adolescents with mood disorders. This paper briefly explains the link between lowering expressed emotions and improved outcome for mood disordered individuals. Family psychoeducation is discussed as a means of reducing expressed emotions. Psychoeducation for families of mood disordered youth is suggested as worthy of further clinical and empirical effort.

Colom and Lam (2005) conducted a study to review the efficacy of several adjunctive psychotherapies in the maintenance treatment of bipolar patients. Results shows that

for offering best treatment to patients both evidenced based psychoeducation and pharmacological agents are effective in the maintenance treatment.

Colom and Vieta (2004) conducted to assess the use of psychoeducation, cognitive-behavioral therapy and interpersonal therapy for bipolar patients. The study aimed critically to examine the efficacy of several patient focused therapies. Results show that psychoeducation and cognitive-behavioral therapy are the psychological interventions that have been shown to be more efficacious in the prophylaxis of new occurrences.

David et al (2003) conducted a randomized study of family-focused psychoeducation and pharmacotherapy in the outpatient management of bipolar disorder. In randomized controlled trial participants were referred from inpatient or outpatient clinics after a manic or depressed episode. Family Focused Therapy (FFT) consisted of 21 sessions of psychoeducation, communication training and problem-solving skills training. Patients received pharmacotherapy for 2 study years. Patients undergoing FFT showed greater reductions in mood disorder symptoms and better medication adherence. Combining family psychoeducation with pharmacotherapy enhances the post episode symptomatic adjustment and drug adherence of bipolar patients.

Ghadirian et al (2009) conducted a study to evaluate the psychoeducational intervention outcome in mood disorder patients and their relatives in Iran. Seventeen relatives of mood disorder patients attended at 8 sessions (each 90 min) of family psychoeducational group therapy. Relatives' knowledge about mood disorder and their adaptation level were assessed using Understanding Mood Disorder questionnaires (UMDQ) and Family Assessment Device (FAD) before and after the group intervention in two groups. The relatives' knowledge about mood disorders was significantly improved. These findings showed that family psychoeducational interventions in relative of Iranian mood disorder patients, improve their knowledge about the illness and the adaptation level in family is increased.

Simoneau et al (1999) conducted a study to evaluate the effectiveness of psychoeducational treatment program in bipolar disorder and family communication. The authors assessed changes in face-to-face interactional behavior over 1 year among families of bipolar patients who received a 9-month family-focused psychoeducational therapy (FFT; n = 22) or Crisis Management with Naturalistic Follow-up (CMNF; n = 22), both administered with maintenance pharmacotherapy. Members of families who received FFT showed more positive nonverbal

interactional behavior during a 1-year post treatment problem-solving assessment than families who received Crisis Management with Naturalistic Follow-up (CMNF).

Weiser et al (2007) conducted a study to determine the clinical effectiveness and cost-effectiveness of pharmacological and/or psychosocial interventions for the prevention of relapse in people with bipolar disorder. Forty-five trials were included in the clinical effectiveness review Group psychoeducation and possibly family therapy may also have roles as adjunctive therapy for preventing relapse. There is some evidence that CBT, group psychoeducation and family therapy might be beneficial as adjuncts to pharmacological maintenance treatments.

Colom et al (2003) conducted a randomized trial on the efficacy of group psychoeducation in the prophylaxis of recurrences in bipolar patients. 120 bipolar out patients who were receiving standard pharmacologic treatment were included in the controlled trial. 21 sessions of group psychoeducation were given. Subjects were assessed monthly during the 21 weeks treatment period and throughout the 2-year follow up. Results shows that group psychoeducation significantly reduced the number of relapsed patients and the number of recurrences per patient.

STUDIES RELATED TO KNOWLEDGE REGARDING LITHIUM THERAPY

Lee, Wing and Wong (1992) conducted a study to assess the knowledge and compliance towards Lithium Therapy among Chinese psychiatric patients in Hong Kong. A survey of 50 Chinese patients on maintenance lithium therapy revealed that their medical knowledge about lithium treatment, as measured by a "Lithium Questionnaire," was very limited. Nonetheless, 70% of these patients were found, by multiple criteria, to be good compliers, and lithium compliance was apparently not affected by the amount of drug knowledge that patients possessed.

Schaub and Berghoefer (2001) conducted a study to determine how much patients know about lithium therapy and to examine factors that might influence this knowledge. Patients

($n = 123$) affiliated with a lithium outpatient clinic (mean treatment duration of 12 years). Quantitative assessment of lithium-related knowledge, obtained by responses to a questionnaire adapted from the Lithium Knowledge Test, and factors affecting this knowledge. Results revealed that age was negatively correlated with lithium therapy knowledge scores, whereas duration of treatment, sex, education and diagnosis appeared to be unrelated to knowledge. Patient education about lithium treatment should be intensified, especially for older patients taking lithium because adverse drug reactions pose a greater risk to the elderly.

Adriane et al (2007) conducted a study to assess the Correlation between drug treatment adherence and lithium treatment attitudes and knowledge by bipolar patients. Bipolar disorder outpatients under lithium treatment from the Hospital de Clínicas and Materno Infantil Presidente Vargas of Porto Alegre were recruited. All the patients had bipolar disorder and gave informed consent to participate in a clinical interview (106), answered the Lithium Attitudes Questionnaire (LAQ), Lithium Knowledge Test (LKT), and Medication Adherence Rating Scale (MARS) and had plasma and red blood cells lithium

measurements to assess their medication adherence and the factors that influenced it. Results show that 85.6% of bipolar disorder was adherent to lithium treatment showing plasma lithium between 0.6 and 1.2 mmol/L. These results confirmed that knowledge level is directly correlated to treatment adherence and patients' attitudes, lower adherence, general opposition to prophylaxis, fear of side effects, denial of therapeutic effectiveness and illness severity.

STUDIES RELATED TO EFFECTIVENESS OF PSYCHOEDUCATION ON LITHIUM THERAPY

Dogan (2003) conducted a study to show the effects of education on medication compliance, symptom level and quality of life of outpatients who were being treated with lithium for bipolar disorder. The study was performed comparing a total of 26 patients (14 study and 12 control) who were a patient group in lithium therapy. In the study one group was given a short

education program about the disorder and lithium therapy in three sessions. Data were collected from both groups using a medication knowledge form, Brief Symptom Inventory, and WHO Quality of Life Scale before and after the intervention. At the end of 3 months whereas there was no difference seen in the scores of the control group; the study group had an increase in medication knowledge, a decrease in symptom level, an increase in quality of life, and a beginning of more regular medication use. Findings that were obtained show the importance of education about the disorder and medication in increasing the adaptation to society of patients who have bipolar disorder.

Sanchez et al (2005) conducted to determine the effect on the serum levels of a psycho educational program in patients with bipolar disorders. Data on plasma lithium levels were obtained at five times points. Serum lithium levels of patients who had received psychoeducation and non-psycho educated patients were compared. Mean serum lithium levels were significantly higher and more stable for the psychoeducation group.

CONCEPTUAL FRAME WORK

The conceptual frame work of this study is based on J.W. Kenny's Open System Model.

Nurses are increasingly using systems theory to understand not only biologic systems but also systems in families' communities and health care.

All living systems are open in that there is continuous exchange of matters, energy and information. Open systems vary in the degree of intention with the event the system receives input and give back output in the form of matter energy and information. For survival all systems must receive varying types, amount of matter and information. The main concepts of the system theory are input, throughput, output and feedback.

This model of J.W.Kenny's Open System Model is suited to this study which is undertaken to assess the effectiveness of psychoeducation among family members of patient getting lithium therapy by using pretest and post test method.

Input

Input refers to matter, energy and information received from the external environment.

In this study input refers to the assessment of the knowledge of family members regarding lithium therapy and administration of psychoeducation regarding lithium therapy.

Through put

Through put refers to matter, energy and information that is modified or transformed within the system.

In this study throughput refers to the transformation of knowledge among family members regarding lithium therapy.

Out put

After processing the input system returns to output. Output refers to matter, energy and information that are released from the system into the environment.

In this study output refers to increase in the level of knowledge of family members regarding lithium therapy, measured by post test.

Feedback

Feedback refers to information regarding environmental responses used by the system (may be positive, negative or neutral).

The conceptual frame work based on J.W. Kenny's Open System Model is presented in figure 1.

CONCEPTUAL FRAME WORK

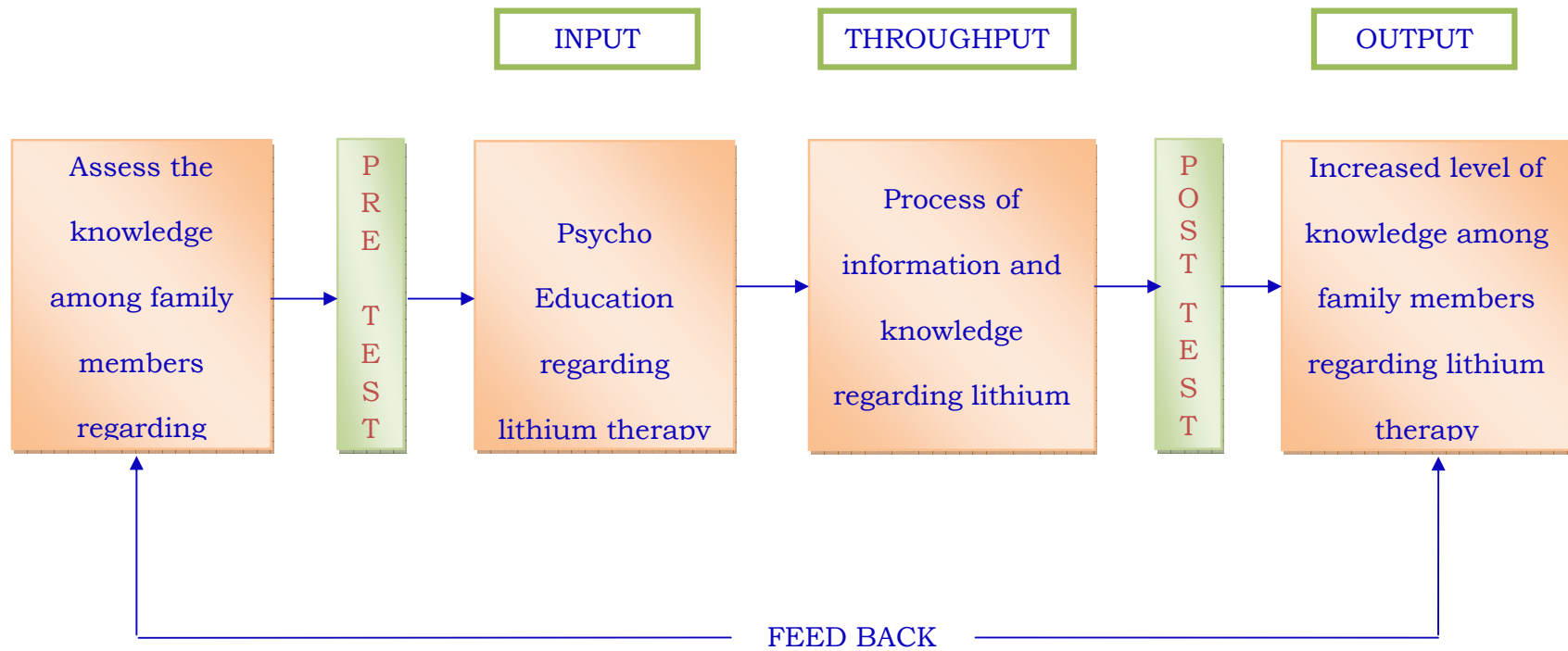


FIG - 1 : THE CONCEPTUAL FRAMEWORK BASED ON J.W. KENNY'S OPEN SYSTEM MODEL (2002)

CHAPTER – III

METHODOLOGY

Research methodology involves orderly procedures by which the researcher starts from an initial identification of a problem to its conclusion. (Sharma, 1990). The investigator described various phases of the study, through methodology.

This chapter deals with research approach, research design, setting of the study, population, sample, sample size, sampling technique, criteria for sampling technique, research tool and technique, development of research tool, pilot study, data analysis and protection of human right.

RESEARCH APPROACH

Quantitative research approach was used in this study.

RESEARCH DESIGN

The research design used in this study was quasi experimental one group pre test- post test design.

Diagrammatic representation of the design is given below.

$$O_1 \rightarrow X \rightarrow O_2$$

O_1 - Pretest on knowledge regarding lithium therapy

- X - Giving psycho education on lithium therapy
- O₂ - Post test on knowledge regarding lithium therapy

SETTING OF THE STUDY

Setting is the physical location and condition in which data collection takes place in study (Polit, 2008).

The present study was conducted in Sneka Mind Care Centre, Thirunelveli, Tamil Nadu. It was 50 bedded hospital with 100% bed occupancy rate.

POPULATION OF THE STUDY

Population is the entire set of individuals or objects, having some common characteristics, sometime referred to as universe (Polit 2008)

In this study target population was family members of clients receiving Lithium Therapy.

SAMPLE

Sample refers to a fraction or portion of the elements in a universe drawn out deliberately in a planned representative manner for studying interested characteristics of a larger group of population (Polit, 2004).

In this study, Family members of clients receiving lithium therapy who fit into the criteria were selected as samples.

SAMPLE SIZE

Sample size is the total number of study participants participating in a study (Polit, 2008).

The sample size was 30 family members of clients receiving lithium therapy.

SAMPLING TECHNIQUE

It is the process of selecting a portion of the population to represent the entire population.

In this study samples were selected using convenience sampling technique. Convenience sampling entails using the most conveniently available people as study participant (Polit, 2008).

CRITERIA FOR SAMPLE SELECTION

The sample was selected based on the following criteria.

Inclusion criteria

1. Family members of clients receiving lithium therapy
2. Age group above 18 years
3. Family members of both sexes.

Exclusion criteria

1. Family members who are not willing to participate.
2. Family members who are not able to read and write either Tamil or English.

VARIABLES

Variables are the inherent characteristics of research subjects. (Polit, 2008).

The variables used in this study were demographic variables, independent variables and dependent variables.

Independent Variables – Psychoeducation

Dependent Variables – Knowledge of family members.

DATA COLLECTION TOOL

The data collection tool used for this study consists of two sections.

Section: I

It consisted of demographic data of family members of clients receiving lithium therapy, which includes age, sex, relationship with patient, education, occupation, religion, marital status and residence.

Section: II

It consisted of semi structured knowledge questionnaire to assess the knowledge of family members regarding lithium therapy in the form of multiple-choice questions. The questionnaire consisted of 22 items.

SCORING

A score of 'one' will be allotted for every correct answer and score 'zero' was allotted for every wrong answers. The total attainable score for the knowledge items was 22. The score was converted into percentage and was ranged as follows

Adequate Knowledge – 76-100

Moderate Knowledge -- 50-75

Inadequate Knowledge -- < 50

TESTING OF THE TOOL

Validity

Validity is the degree to which the instrument measures what is intended to measure (Polit, 2008).

The content validity of the tool was determined by submitting the questionnaire to six experts, 4 were nursing experts from psychiatric nursing department, and two were psychiatrist.

Based on their suggestions, tool was structured. The tool and psychoeducational intervention programme were translated to Tamil by language experts.

Reliability

Reliability is the degree of consistency of dependability with which an instrumental measures the attribute; it is designed to measure (Polit, 2008).

In this study the reliability of the knowledge questionnaire were established by test-retest method. The reliability coefficient of the knowledge questionnaire was $r = 0.98$. Since it was greater than 0.7, the tool was reliable.

PILOT STUDY

A pilot study is a small scale version or trial run designed to test the methods to be used in a larger, more rigorous study which is sometimes referred to as the present study (Polit, 2008).

In order to test the feasibility relevance and practicability of the study, pilot study was conducted in Sneka Mind Care Center with three samples in the manner in which the final study would be done; the pilot study revealed that the study was

feasible. Data were analyzed to find out suitability of statistics and was found to be significant indicating improvement of knowledge among family members of clients getting lithium therapy who received psychoeducation intervention programme.

PROCEDURE FOR DATA COLLECTION

The data collection was done in the month of 1-05-2010 to 12-06-2010 in Sneka Mind Care Center, Thirunelveli. Formal permission was obtained from the hospital for data collection. A convenience sampling method was used to select the samples. The data was collected in three steps.

Step: I

During the first step the investigator introduced herself to the selected group of family members of clients receiving lithium therapy. The study was explained and assurance regarding confidentiality of the answer was provided. Consent was obtained from family members. Then pre test was conducted. They were asked to respond to the questionnaire according to the instruction given in the tool.

Step: II

Psychoeducational intervention programme was given for one hour to the selected family members of clients getting lithium therapy.

Step: III

Post test was administered to the group after 15 days of psychoeducational intervention programme for the same group with the same pre-test questionnaire.

PLAN FOR DATA ANALYSIS

The data analysis was planned on the basis of objectives and hypotheses of the study by using descriptive and inferential statistics.

Descriptive statistics

Frequency percentage, mean and standard deviation were used for the analysis of the demographic variables and to assess the level of knowledge.

Inferential statistics

- ❖ Chi-square was used to determine the association between demographic variables and pre test knowledge of family members regarding lithium therapy.
- ❖ Paired 't' test was used to find out the effectiveness of psychoeducation.

PROTECTIONS OF HUMAN RIGHTS

The study was conducted after getting permission from dissertation committee of Christian College of Nursing,

Neyyoor. Written permission was obtained from the concerned authority of Sneka Mind Care Center, Thirunelveli to conduct the study. Verbal consent obtained from family members of patient getting lithium therapy, after explaining the purpose of the study and assured confidentiality.

CHAPTER – IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the distribution of the sample, analysis and interpretation of data which was collected from 30 samples to assess the knowledge and effectiveness of psychoeducation.

Statistical analysis is a method of rendering quantitative information meaningful and intelligible. Statistical procedure enables the researcher to reduce, summarize, organize, evaluate interpret and communicate numeric information (Polit 2008).

The data obtained are classified grouped and analyzed statistically based on the objectives of the study.

ORGANIZATION OF FINDINGS

The data analysis and interpretation is organized as various sections.

Section – I : Demographic characteristic of family members of clients

receiving lithium therapy.

Section – II : Assessment of pre test and post test knowledge of family

members.

Section – III : Comparison of pre and post test knowledge.

Section –IV : Association between pre test knowledge with

demographic variables.

The collected data were analyzed statistically as follows. The study subjects were described in terms of percentages and averages. The knowledge of pre and post test was assessed by percentages. The effectiveness of psychoeducation was proved by Paired ‘t’ test. The association between knowledge with demographic variables were analyzed and interpreted by the χ^2 (chi-square) tests.

SECTION – I

**DEMOGRAPHIC CHARACTERISTICS OF FAMILY MEMBERS
OF CLIENTS RECEIVING LITHIUM THERAPY**

A sample of 30 family members was selected for the study. The demographic characteristics explained were age, sex, relationship with client, religion, education, occupation, marital status and residence

**TABLE – 1 : FREQUENCY AND PERCENTAGE DISTRIBUTION
OF SAMPLES ON SELECTED DEMOGRAPHIC VARIABLE[~] (N=30)**

S. No	Variables	Frequency(f)	Percentage (%)
1.	Age		
	20-29 years	8	26.7
	30-39 years	5	16.7
	40-49 years	11	36.7
	50-59 years	4	13.2
	60-69 years	2	6.7
2	Sex		
	Male	19	63.3
	Female	11	36.7

S. No	Variables	Frequency(f)	Percentage (%)
3	Relationship With Client		
	Father	6	20.0
	Mother	5	16.7
	Husband	4	13.3
	Wife	4	13.3
	Son	1	3.3
	Daughter	1	3.3
	Brother	8	26.7
	Sister	1	3.3
4	Education		
	Graduate	7	23.3
	Higher Secondary	11	36.7
	High School	6	20.0
	Primary School	6	20.0
5	Occupation		
	Cooli	2	6.7
	Government Employee	4	13.2
	Private Employee	5	16.7
	Others	11	36.7
	Unemployed	8	26.7
6	Religion		
	Christian	5	16.7
	Hindu	20	66.7
	Muslim	5	16.7
7	Marital Status		
	Married	25	83.3
	Unmarried	5	16.7
8	Residence		
	Rural	18	60.0
	Urban	12	40.0

The family member's demographic profiles were tabulated in the table-1.

Regarding the age group of family members 8 (26.7%) were 20-29 years, 5(16.7%) were 30-39 years, 11 (36.7%) were 40-49

years, 4 (13.3%) were 50-59 years and 2 (6.7%) was in 60-69 years.

Regarding the sex 19(63.3%) family members were male and 11 (36.7%) family members were females.

Regarding the family members relation ship with client 6(20.05) were fathers, 5(16.7%) were mothers, 4(13.3%) were husbands, 4 (13.3%) were wife's, 1(3.3%) was son, 1(3.3%) was daughter, 8(26.7) were brothers and 1(3.3%) was sister.

Regarding the education 7(23.3) is graduates, 11 (36.7) were studied up to higher secondary, 6 (20.0) were studied up to high school, and 6(20.0) were studied up to primary school.

Regarding the occupation, 2 (6.7%) were cooli workers, 4 (13.2%) were government employees, 5(16.7%) were private employees, 11(36.7 %) were doing other works and 8(26.7%) were unemployed.

Regarding the religion, 5(16.7%) were Christians, 20 (66.7%) were Hindus and 5(16.7%) were Muslims.

Regarding the marital status 25(83.3%) were married and 5(16.7%) were unmarried.

Regarding the residence 18(60.05) were residing in rural area and 12(40.0%) were residing in urban area.

FIG – 2 : PERCENTAGE DISTRIBUTION OF FAMILY MEMBERS AGE IN YEARS

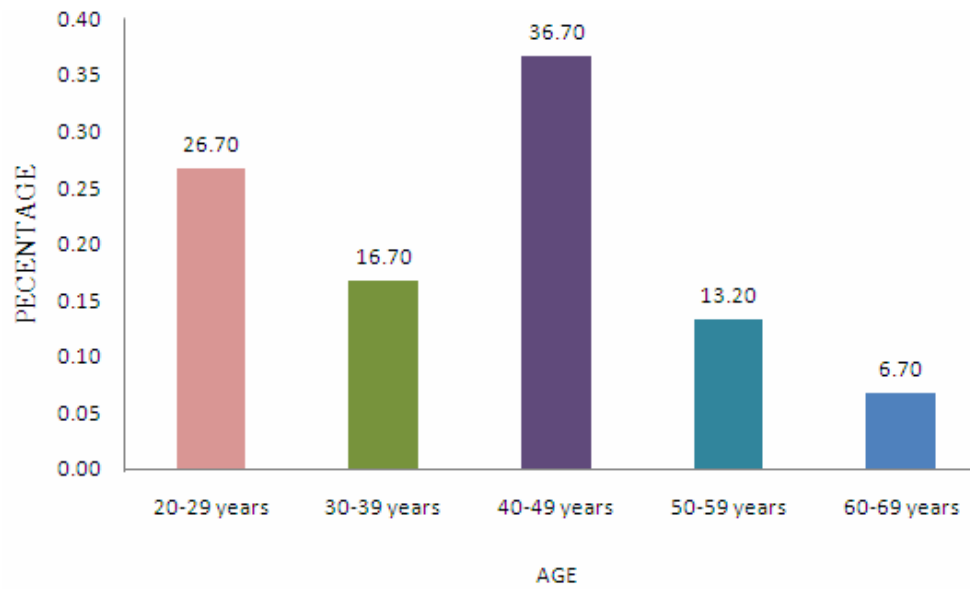


FIG – 3 : PERCENTAGE DISTRIBUTION OF FAMILY MEMBERS SEX

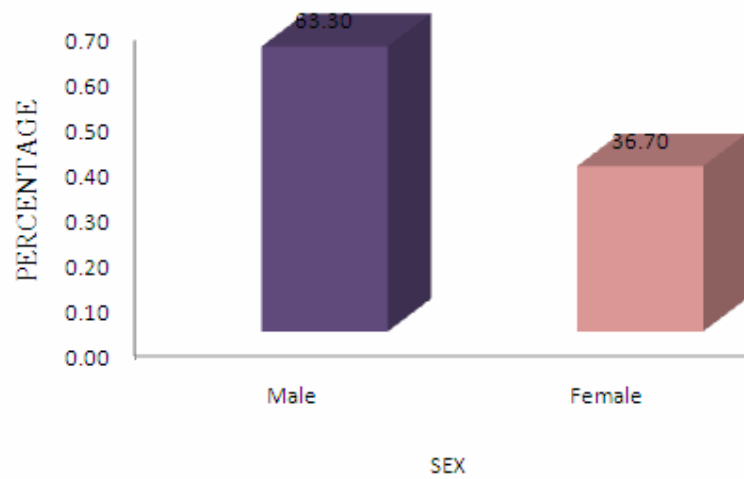


FIG - 4 : PERCENTAGE DISTRIBUTION OF FAMILY MEMBERS RELATIONSHIP WITH CLIENT

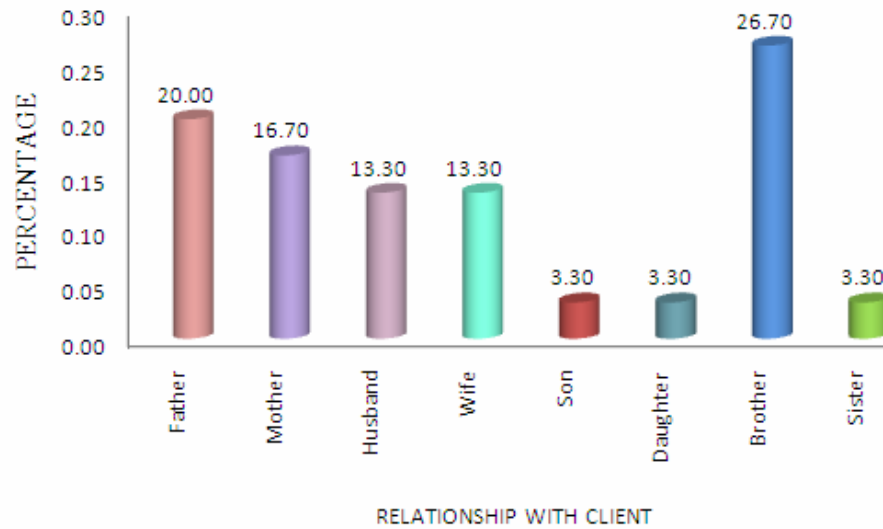


FIG - 5 : PERCENTAGE DISTRIBUTION OF FAMILY MEMBERS EDUCATION

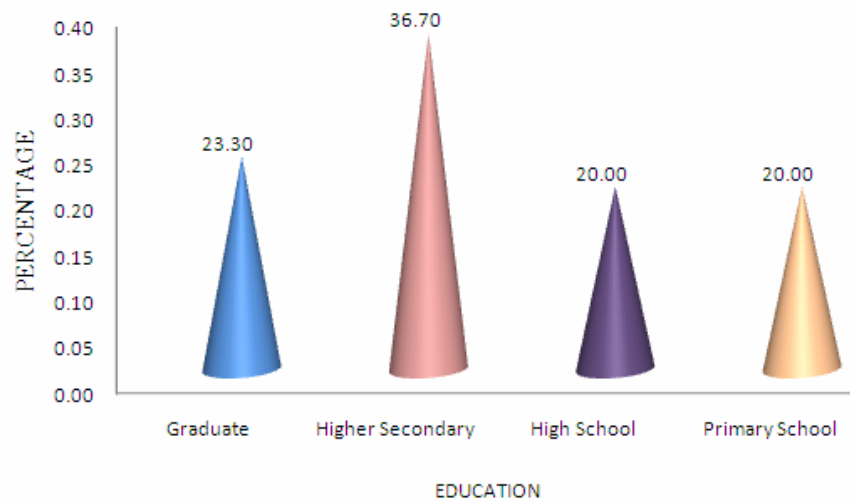


FIG - 6 : PERCENTAGE DISTRIBUTION OF FAMILY MEMBERS OCCUPATION

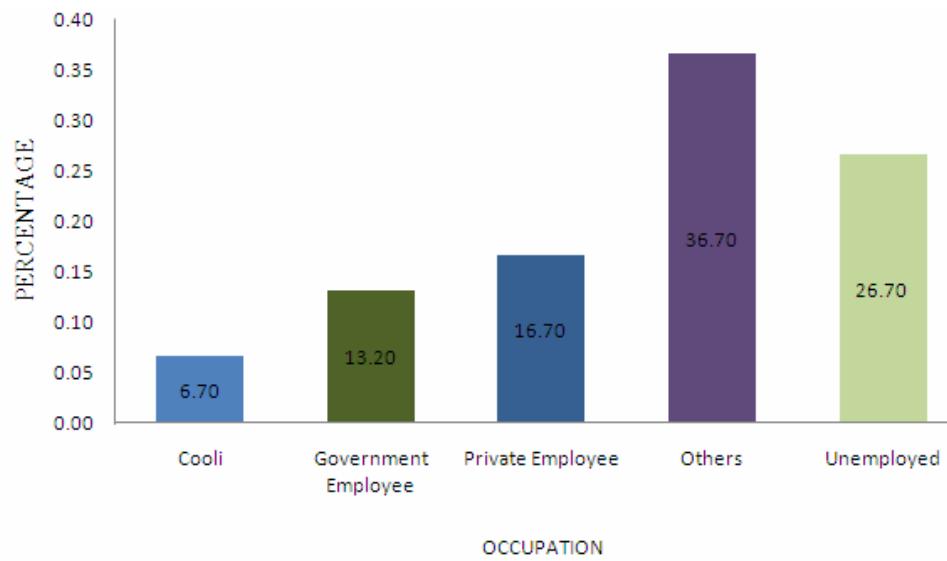


FIG - 7 : PERCENTAGE DISTRIBUTION OF FAMILY MEMBERS RELIGION

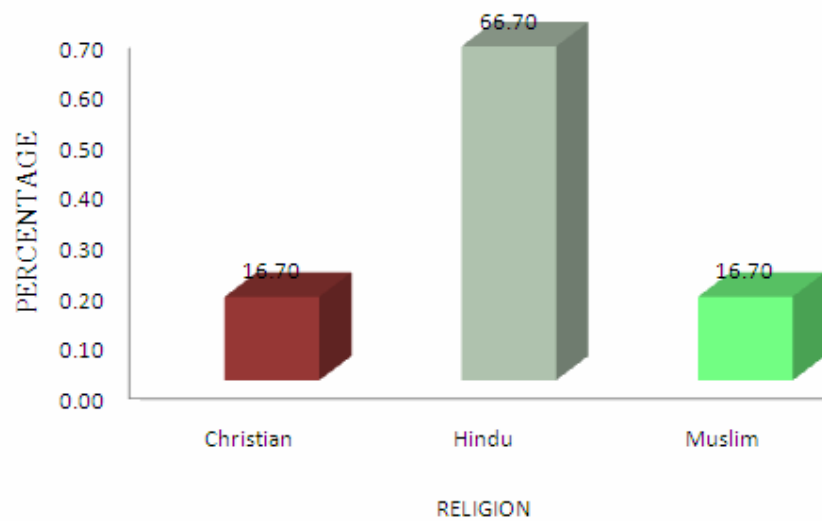


FIG - 8 : PERCENTAGE DISTRIBUTION OF FAMILY MEMBERS MARITAL STATUS

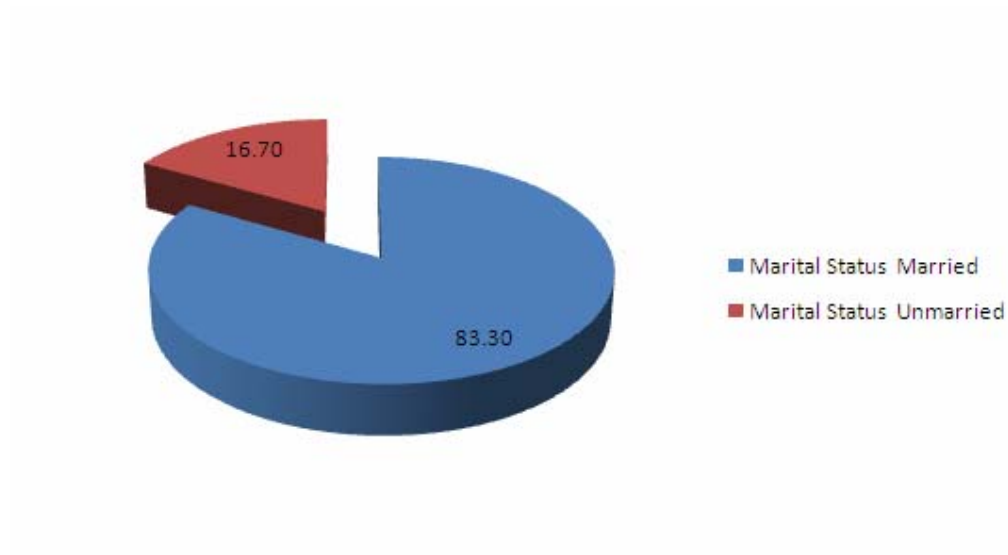


FIG - 9 : PERCENTAGE DISTRIBUTION OF FAMILY MEMBERS RESIDENCE



SECTION – II

ASSESSMENT OF PRE AND POST-TEST KNOWLEDGE OF FAMILY MEMBERS.

The level of knowledge of family members were assessed, and given as three categories namely adequate knowledge, moderate knowledge and inadequate knowledge.

**TABLE – 2 : FREQUENCY AND PERCENTAGE DISTRIBUTION
OF PRE-TEST KNOWLEDGE LEVEL OF FAMILY MEMBERS
(N=30)**

Level of knowledge	Frequency	Percentage (%)
Adequate	0	0
Moderate	0	0
Inadequate	30	100

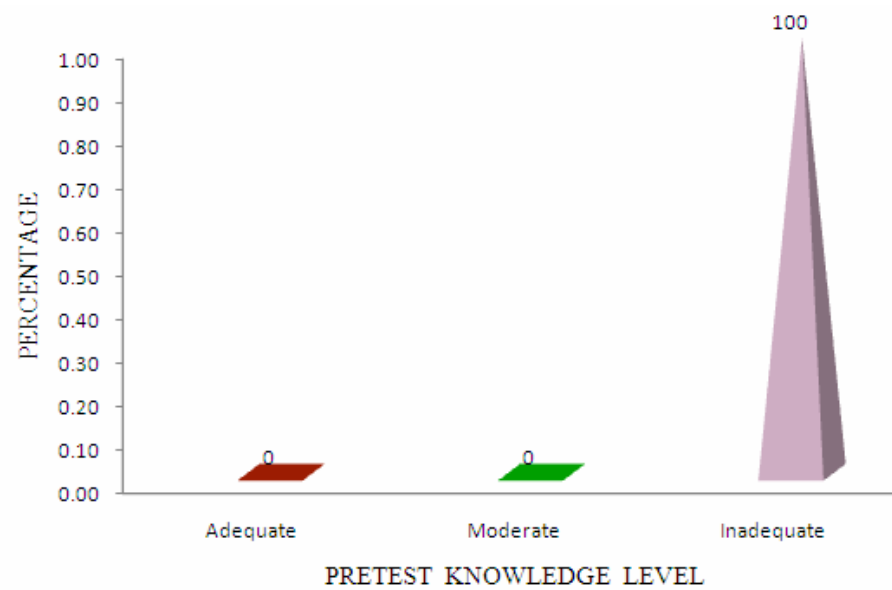
The table – 2 shows that all the family members had their knowledge less than 50% regarding the lithium therapy. It shows that all the family member are having inadequate knowledge regarding lithium therapy.

**TABLE – 3 : FREQUENCY AND PERCENTAGE DISTRIBUTION
OF POST-TEST KNOWLEDGE LEVEL OF FAMILY MEMBERS
(N=30)**

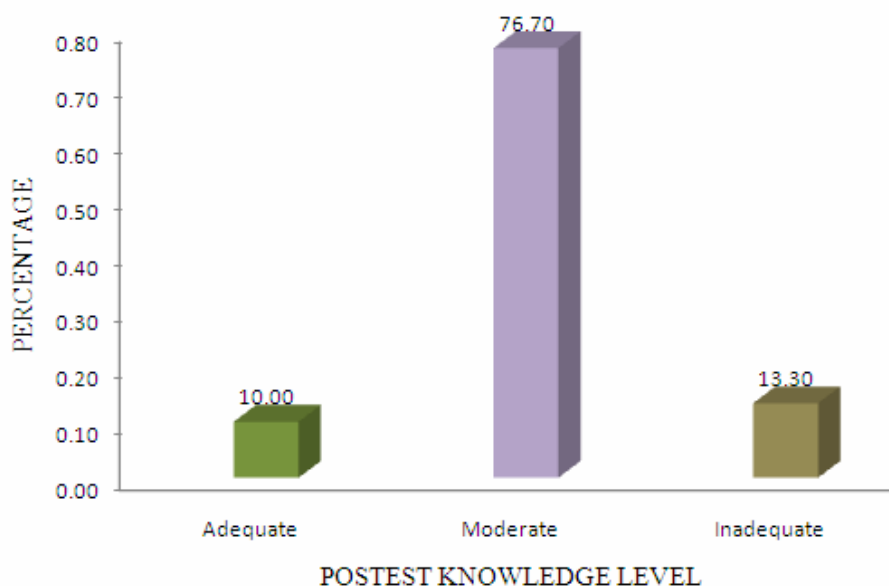
Level of knowledge	Frequency	Percentage (%)
Adequate	3	10.0
Moderate	23	76.7
Inadequate	4	13.3

The table – 3 shows that the level of knowledge of family members regarding lithium therapy after undergoing psychoeducation. Among the 30 samples 3(10%) persons had acquired adequate knowledge, 23(76.7%) persons had acquired moderate knowledge and 4(13.3%) person having inadequate knowledge regarding lithium therapy.

**FIG - 10 : PERCENTAGE DISTRIBUTION OF PRE-TEST
KNOWLEDGE LEVEL OF FAMILY MEMBERS**



**FIG - 11: PERCENTAGE DISTRIBUTION OF POST-TEST
KNOWLEDGE LEVEL OF FAMILY MEMBERS**



SECTION – III

COMPARISON OF PRE AND POST TEST KNOWLEDGE LEVEL OF FAMILY MEMERS.

The knowledge level of family members was compare before undergoing psychoeducation and after undergoing psychoeducation are as follows.

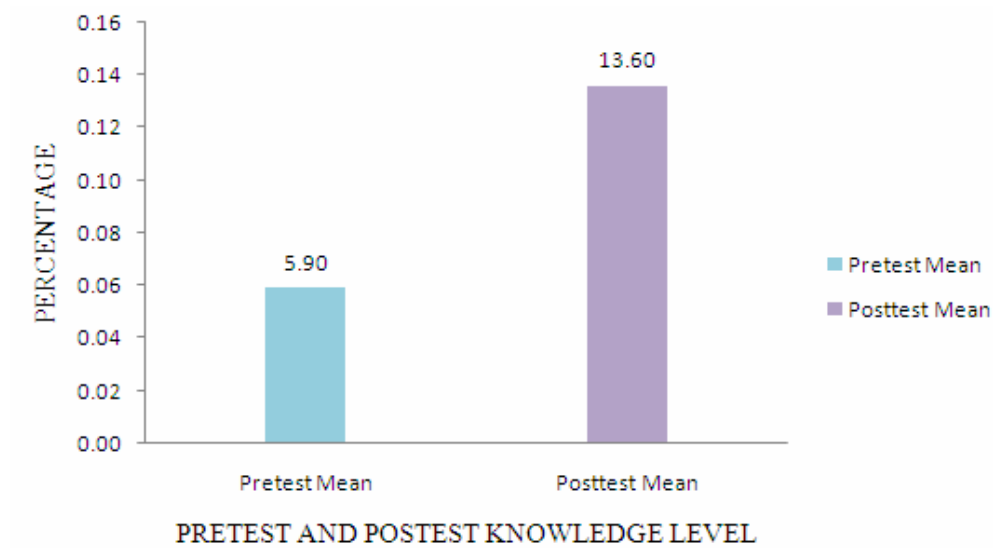
**TABLE – 4 : COMPARISON OF PRE AND POST TEST
KNOWLEDGE LEVEL OF FAMILY MEMERS.**

(N=30)

Variable	Pre-test		Post-test		Differen ce		't'	d-f	Significa nt
	Mea n	S.D	Mean	S.D	Mea n	S. D			
Knowledg e	5.9	1.9	13.6	2.5	7.7	2.	19.30	29	P<0.001
						2	3		

The above comparison shown in the table states that the mean knowledge score before psychoeducation was 5.9 ± 1.9 . The same was increased as 13.6 ± 2.5 after undergoing psychoeducation. The mean improvement of knowledge score 7.7 ± 2.2 was statistically very highly significant ($t=19.303$, $df=29$ and $P<0.001$).

**FIG - 12 : COMPARISON OF PRE AND POST TEST
KNOWLEDGE LEVEL OF FAMILY MEMERS.**



SECTION – IV

ASSOCIATION BETWEEN PRE-TEST KNOWLEDGE WITH DEMOGRAPHIC VARIABLES.

The pre-test knowledge regarding lithium therapy was associated with the selected demographic variables like age, sex, relationship with client education, religion, occupation, marital

status and residence. The association were analyzed and and interpreted by the χ^2 (chi-square) tests.

**TABLE – 5 : ASSOCIATION BETWEEN PRE-TEST KNOWLEDGE
LEVEL OF FAMILY MEMBERS WITH DEMOGRAPHIC
VARIABLES**

(N=30)

Demographic variables	Below mean	Above mean	Total	χ^2	Significance
------------------------------	-------------------	-------------------	--------------	----------------------------	---------------------

Demographic variables	Below mean	Above mean	Total	χ^2	Significance
Age group					
20 – 29	2	6	8	2.518#	P>0.05
30 – 39	3	2	5		
40 – 49	3	8	11		
50 – 59	2	2	4		
60 – 69	1	1	2		
Sex					
Male	5	14	19	2.391#	P>0.05
Female	6	5	11		
Relationship with client					
Brothers	2	6	8	5.096#	P>0.05
Daughters	1	0	1		
Father	2	4	6		
Husbands	1	3	4		
Mother	3	2	5		
Sister	0	1	1		
Sons	2	2	4		
Wife	0	1	1		
Education					
Graduates	1	6	7	5.235#	P>0.05
Higher secondary	5	6	11		
High school	1	5	6		
Primary school	4	2	6		
Occupation					
Cooli	1	1	2	2.861#	P>0.05
Government employee	0	4	4		
Others	2	3	5		
Private employee	5	6	11		
Unemployed	3	5	8		
Religion					
Christian	2	3	5	0.718#	P>0.05
Hindu	8	12	20		
Muslim	1	4	5		
Marital status					
Married	10	15	25	0.718#	P>0.05
Unmarried	1	4	5		
Residence					
Rural	7	11	18	0.096#	P>0.05

Demographic variables	Below mean	Above mean	Total	χ^2	Significance
Urban	4	8	12		
#- Not significant					

Table 5 shows that association between pretest level knowledge and selected demographic variables. Chi-square test was used to findout the association. The analysis shows that there is no significant association between pretest knowledge level and selected demographic variables like age, sex, relationship with patient, education, occupation, religion, marital status and residence. It is tested at 0.05 level of significance.

CHAPTER – V

DISCUSSION

This chapter deals with the results of data analyzed based on the objectives and hypotheses of the study. The problem stated was a study to assess the effectiveness of psychoeducation on knowledge among family members of clients getting lithium therapy in Sneka Mind Care Center, Thirunelveli.

The demographic profiles of the family members of clients getting lithium therapy were described in terms of percentages. Regarding the age group, maximum of 11 (36.7%) family members were in the age group 40-49 years. Regarding the sex, male subjects 19 (63.3%) were more than the female subjects. Regarding the family members relationship with client, brothers 8 (26.7%) were more than other relatives. Regarding educational

status, majority of family members 11(36.7%) were studied upto higher secondary school. Regarding the religion, Hindus 20(66.7%) were dominating the study than other two religions. Regarding the marital status majority of family members 25(83.3%) was married. Regarding the residence of the family member's majority of members 18(60%) was residing in rural area.

The first objective of the study was to assess the pre test knowledge of family members regarding lithium therapy.

The analysis of the pre test knowledge of family members regarding lithium therapy revealed that all the 30 family members are having inadequate knowledge regarding the lithium therapy. The mean value for pre test knowledge level is 5.9 and standard deviation is 1.9.

The second objective of the study was to assess the post test knowledge of family members regarding lithium therapy.

The analysis of post test knowledge of family members regarding lithium therapy revealed that 3 (10%) had adequate knowledge, 23(76.7%) had acquired moderate knowledge and only 4 (13.3%) had inadequate knowledge. The mean value for post test knowledge level is 13.6 and standard deviation is 2.5.

The third objective of the study was to compare the pre test and post test knowledge of family members regarding lithium therapy.

The comparison of pre test and post test knowledge score of family members reveals that the mean pre test score was 5.9 ± 1.9 was increased by psychoeducation as 13.6 ± 2.5 . The mean improvement of knowledge score was 7.7 ± 2.2 was statistically highly significant. ($t= 19.303$, $df= 29$ and $P < 0.001$). The significant improvement of knowledge shows the effectiveness of psychoeducation. This shows that knowledge level of family members regarding lithium therapy were increased after psychoeducation. Hence the research hypotheses stated earlier that “there will be a significant difference between knowledge of family members regarding lithium therapy before and after psychoeducation intervention programme” can be accepted.

The fourth objective of the study was to determine the association between pre test knowledge regarding lithium

therapy and selected demographic variables such as age, sex, relationship with client, education, occupation, religion, , marital status and residence of the family members.

The analysis of association between pre test knowledge and selected demographic variables such as age, sex, relationship with client, education, religion, occupation, marital status and residence of the family members shows that there was no statistically significant association. Hence the research hypotheses stated earlier that, “there will be significant association between pre test knowledge of family members and selected demographic variables” can be rejected.

The above analysis and interpretation clearly shows that the psychoeducation was statistically highly significant in improving the knowledge of family member regarding lithium therapy.

CHAPTER – VI

SUMMARY, IMPLICATIONS, RECOMMENDATIONS AND CONCLUSION

This chapter dealt with the summary of the study findings, conclusion, implications and recommendations in various areas of nursing profession. The implications and recommendations are given for nursing practice, nursing education, nursing administration and nursing research.

SUMMARY

The main aim of the present study was to assess the effectiveness of psychoeducation on knowledge among family members of clients getting lithium therapy.

Quantitative approach and quasi experimental one group pretest- post test design was used and 30 samples were selected using convenience sampling technique. The conceptual frame work was based on J.W Kenny's open system model. The instrument used for data collection procedure is semi structured knowledge questionnaire.

The data collection procedure includes three steps. In the first step pretest was conducted. In the second step

psychoeducation was given to family members and in the third step post test was conducted.

The data was analyzed and interpreted in terms of objectives and research hypotheses. Descriptive and inferential statistics were used for data analysis.

FINDINGS OF THE STUDY

Regarding the pre test knowledge score of family members all the 30 family members have inadequate knowledge regarding lithium therapy. The mean value for pre test knowledge level is 5.9 and standard deviation is 1.9.

Regarding the post test knowledge of family members 3(10%) had adequate knowledge, 23(76.7%) had moderate knowledge and 4 (13.3%) had inadequate knowledge. The mean value for post test knowledge level is 13.6 and standard deviation is 2.5.

The mean improvement of knowledge score was 7.7 ± 2.2 was statistically highly significant. ($t= 19.303$, $df= 29$ and $P < 0.001$). The significant improvement of knowledge shows the effectiveness of psychoeducation.

There was no significant association between the knowledge of family members and selected demographic variables.

NURSING IMPLICATIONS

The study has implications in various areas like nursing practice, nursing education, nursing administration and nursing research.

IMPLICATIONS FOR NURSING PRACTICE

1. Nurses who work among mentally ill clients must develop skills in providing effective psychoeducation to client and family members.
2. Nurses who work among mentally ill clients must improve their knowledge regarding administration of psychotropic drugs.
3. Nursing personnels can impart psychoeducation to the peoples in schools, hospitals and community.
4. Community mental health nurses can use psychoeducation as effective tool to improve the community's knowledge regarding mental health.
5. Psychoeducation regarding lithium therapy must be given to family members of all clients those who are receiving lithium to prevent side effects and complications.

IMPLICATION OF NURSING EDUCATION

1. Ensure that students have adequate knowledge regarding psychoeducation.
2. Provide adequate clinical exposure for the students to develop skills in giving psychoeducation.
3. Encourage the students for effective utilization of research based practices.
4. Make use of available literatures and studies related to effectiveness of psychoeducation.
5. Encourage students to use proper A.V aids while giving psychoeducation.

IMPLICATIONS FOR NURSING ADMINISTRATION

1. Provide opportunities for nurses to attain training programs related to clinical practice and standard nursing care.
2. Introduce the evidence based practices based on the research finding.
3. Continuing education program can be planned for the nurses who works among mentally ill clients regarding psychoeducation and lithium therapy.

4. Nursing administrators should ensure that psychoeducation reach all the family members of clients receiving lithium therapy.
5. Nurse administrators should initiate psychoeducation programmes in community with the active support of available resources in the community.

IMPLICATIONS FOR NURSING RESEARCH

1. Disseminate the findings of the research through conferences, seminars and by publishing in journal.
2. Promote effective utilization of research findings in improving nursing care and mental health of the people.

RECOMMENDATIONS

Based on the findings of the study the investigator proposed the following recommendations,

1. The study can be conducted with large number of sample for better generalizability.
2. An experimental study can be done to assess effectiveness of psycho education and self instructional module.
3. A descriptive study can be conducted to assess the knowledge and practice of nurses who works in psychiatric hospitals regarding lithium therapy.

4. An experimental study can be conducted to assess the effectiveness of psycho education in maintaining stable lithium levels.
5. A comparative study can be done to assess the effectiveness of family psycho education and family therapy.

CONCLUSION

The study findings revealed that the level of knowledge of family members regarding lithium therapy increased significantly after undergoing psycho education. This shows that psychoeducation was effective in increasing the knowledge of family members. The study also shows that there was no significant association between knowledge of family members and selected demographic variables.

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APPENDIX – I
COPY OF LETTER SEEKING PERMISSION TO CONDUCT RESEARCH
STUDY



CHRISTIAN COLLEGE OF NURSING
C.S.I. KANYAKUMARI DIOCESE

(Affiliated to the Tamil Nadu Dr. M.G.R. Medical University, Chennai)
 Approved by Indian Nursing Council New Delhi and Tamil Nadu Nurses and Midwives Council, Chennai
NEYYOOR - 629 802

KANYAKUMARI DISTRICT, TAMIL NADU, INDIA.

Principal

Prof. (Mrs.) SANTI ALPAVU, B.Sc., B.Ed., M.A.
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 Web : www.ccnneyyoor.org

4/M.Sc.(N)/2010

Date :
09.04.2010

To

Dr. C. Paneer Selvam, M.D., Psy., (NIMHANS)
 Sneha Mind Care Centre,
 South By Pass Road,
 Kurichi,
 Thirunelveli.

Respected Sir,

**Sub: Requisition for getting permission to do data collection on assessing
 the effectiveness of psycho education on family members of patient
 getting lithium therapy at Sneha Mind Care Centre, Thirunelveli.**

This is to introduce Ms.J. Jaya Mehala., II year M.Sc. Nursing student of this College. She is to Conduct a research project which is to be submitted to the Tamil Nadu Dr. M.G.R. Medical University, Chennai in partial fulfillment of University requirements for the award of M.Sc. degree in Nursing.

Topic:-

A study to assess the effectiveness of psycho education on family members of



Dr. C. Paneer Selvan M.B.B.S., M.D. (PSYCH), NIMHANS
 CONSULTANT PSYCHIATRIST

10.04.2010

From,

Dr.C.Paneer selvam.,M.B.B.S.,M.D.,(Phych)
 Sneka Hospital
 12,South Bypass Road
 Tirunelveli 627005

To,

The Principal,
 Christian College of Nursing,
 C.S.I Kanyakumari Diocese.,
 Neyyoor – 629802.

Respected Madam

APPENDIX – III
LETTER SEEKING EXPERTS OPINION FOR
VALIDITY OF TOOL

From

M.Sc(Nursing) II year,
Christian College of Nursing,
Neyyoor.

To

Respected Sir / Madam,

I am doing II year M.Sc Nursing in Christian College of Nursing, Neyyoor. As a partial fulfillment of the course, I have chosen a topic of my interest **“A study to assess the effectiveness of psychoeducation on knowledge among family members of patient getting Lithium therapy at Sneka Mind Care Centre, Thirunelveli.”** I have prepared demographic data and questionnaire regarding lithium therapy to assess the effectiveness of psycho education. I hereby kindly request you to evaluate

the tool based on the evaluation criteria. Your opinion and suggestions will help me to the successful completion of my study.

Thanking You,

Yours Truly,

APPENDIX – IV

EVALUATION CRITERIA CHECK LIST FOR TOOL VALIDATION

Instruction

The expert is requested to go through the following criteria for evaluation of questionnaire. Three columns are given for response and a column for remarks. Kindly place a tick mark in the appropriate column and give remarks.

Interpretation of columns

- Column I - Meets the Criteria
 Column II - Partly meets the Criteria
 Column III - Does not meet the criteria

S.No	Criteria	I	II	III	Remarks
1.	Scoring <ul style="list-style-type: none"> • Adequacy • Clarity • Simplicity 				
2	Content <ul style="list-style-type: none"> • Logical sequence • Adequacy • Relevance 				
3	Language <ul style="list-style-type: none"> • Appropriate • Clarity • Simplicity 				
4	Practicability <ul style="list-style-type: none"> • It is easy to score • Does it precisely 				

	• Utility				
--	-----------	--	--	--	--

Any other suggestions -----

Signature :

Name :

Designation :

Address :

APPENDIX – V

LIST OF EXPERTS

1. Dr. Y. Arul Prakash, M.D.D.P.M,
Assitant Professor of Psychiatry,
Kanyakumari Govt. Medical College Hospital,
Asaripallam , Nagercoil.

2. Dr. K.A. Nizar Ahammed,
Psychiatrist,
Mental Health Center,
Trivandrum

3. Prof. Mrs. S. Santhi, MSc (N),
Sri Ramachandra College of Nursing,
Porur, Chennai-116.

4. Mr. Raja .A, MSc (N),
Associate Professor.
S.S.N.M.M, College of Nursing,
Varkala.

5. Mr. Ian Clament .A, Msc(N),
Associate Professor.
S.S.N.M.M, College of Nursing,
Varkala.

6. Mr. Justin, MSc(N),
Lecturer,
Nightingale College of Nursing,
Trivandrum.

APPENDIX - VI

PSYCHOEDUCATION ON LITHIUM THERAPY

Topic	: Lithium Therapy
Group	: Family Members of Clients getting Lithium Therapy
Place	: Sneka Mind Care Center, Thirunelveli.
Time	: 1 Hour
Name of the Teacher	: J. Jaya Mehala
Method of Teaching	: Lecture cum Discussion
Teaching Aids	: Flash Cards, Poster, Hand out
General Objective	: At the end of the psychoeducation the family members will gain adequate knowledge regarding lithium therapy.
Specific Objective	: At the end of the psychoeducation the family members will able to <ul style="list-style-type: none"> - describe lithium therapy. - listdown the indications of lithium therapy. - explain the pharmacokinetics of lithium

therapy.

- explain the dosage of lithium therapy.
- list down the serum lithium levels.
- describe the side effects of lithium therapy.
- explain the signs and symptoms of lithium toxicity.
- discuss the management of lithium toxicity.
- list down the contraindications of lithium therapy.
- discuss the preliminaries to lithium therapy.
- describe the precautions during the lithium therapy.

Time	Specific objective	Content	Teacher learner Activity	AV-Aids	Evaluation
4 minutes	To introduce the topic	<p>INTRODUCTION:</p> <p>Lithium is currently the drug of choice for treatment of manic episodes in bipolar mood disorders. Lithium is used in all manic episodes. Lithium is an element with atomic number 3 and atomic weight. It was discovered by FJ Cade in 1949. But since it is equally effective in preventing mood swing in bipolar disorder, the better term is mood stabilizing agent.</p>	Lecture Cum Discussion	Flash Cards	
4 minutes	List down indications of lithium therapy.	<p>INDICATIONS:</p> <ul style="list-style-type: none"> • Acute mania • Prophylaxis for bipolar and unipolar mood disorder 	Lecture Cum Discussion	Flash Cards	What are the indications for lithium

Time	Specific objective	Content	Teacher learner Activity	AV-Aids	Evaluation
4 minutes	Explain the pharmacokinetics of lithium therapy	<ul style="list-style-type: none"> • Schizo affective disorder • Cyclothymia • Impulsivity and aggression <p>PHARMACOKINETICS:</p> <p>Lithium readily absorbed through GI tract with peak plasma levels occurring 2-4 hours after a single oral dose of Lithium carbonate. Lithium is distributed rapidly in liver and kidney and more slowly in muscle, brain and bone. Steady state levels are achieved in about 7 days. Elimination is predominantly via kidneys. Depletion of sodium can precipitate Lithium toxicity.</p>	Lecture Cum Discussion	Flash Cards	therapy? How lithium is eliminated from body?
4 minutes	Explain the dosage of lithium therapy.	<p>DOSAGE:</p> <p>Lithium is available in the market in the form of the following preparations</p> <ul style="list-style-type: none"> • Lithium carbonate – 300mg tablets • Lithium citrate – 300mg/5ml liquid <p>The usual range of dose per day in acute mania is 900-2100mg given in 2-3 divided doses. The treatment is started after Lithium estimation is done after a loading dose of 600mg or 900mg of lithium to determine the pharmacokinetics.</p>	Lecture Cum Discussion		What is the normal dose of lithium per day?

Time	Specific objective	Content	Teacher learner Activity	AV-Aids	Evaluation
4 minutes	List down the serum lithium levels.	<p>BLOOD LITHIUM LEVELS:</p> <p>Therapeutic levels – 0.8 -1.2mEq/L (For treatment of acute mania)</p> <p>Prophylactic levels – 0.6-1.2 mEq/L (For prevention of relapse in bipolar disorder)</p> <p>Toxic Lithium levels >2.0mEq/L</p>	Lecture Cum Discussion	Flash Cards	What is the normal blood lithium level?
10 minutes	Describe the side effects of lithium therapy.	<p>SIDE EFFECTS:</p> <p>1. Neurological: Tremors, motor hyperactivity, muscular weakness, cogwheel rigidity, seizures, neurotoxicity. (Delirium, abnormal involuntary movements, seizures, coma)</p> <p>2. Renal: Polydipsia, polyuria, tubular enlargement, nephrotic syndrome.</p> <p>3. Cardio-Vascular: T. wave depression, hypotension, arrhythmias.</p> <p>4. Gastro Intestinal: Nausea, vomiting, diarrhea, abdominal pain and metallic taste.</p> <p>5. Dermatological: Acneiform eruptious, papular eruptions and</p>	Lecture Cum Discussion	Poster	What are the side effects of lithium during pregnancy and lactation?

Time	Specific objective	Content	Teacher learner Activity	AV-Aids	Evaluation
7 minutes	Explain the signs and symptoms of lithium toxicity.	<p>exacerbation of psoriasis.</p> <p>6. Endocrine: Goitre, hypothyroidism, abnormal thyroid function (30-40%) weight gain (pedal edema is common)</p> <p>7. Side effects during pregnancy and lactation: Teratogenic, increased incidence of Ebsteins anomaly. (Distortion and downward displacement of tricuspid valve in right ventricle) when taken in first trimester, secreted in milk with 30-100% of maternal blood. Lithium levels can cause toxicity in infant.</p> <p>8. Lithium Toxicity: If serum Lithium level is greater than 2mEq/L; Lithium toxicity will occur.</p> <p>SIGNS AND SYMPTOMS OF LITHIUM TOXICITY</p> <p>At serum levels of 1.5 to 2.0mEq/L: blurred vision, ataxia, tinnitus, persistent, nausea and vomiting, severe diarrhea</p> <p>At serum levels of 2.0 to 3.5 mEq/L: excessive output of dilute urine, tremors, muscular irritability, psychomotor retardation, mental confusion, giddiness.</p> <p>At serum levels above 3.5mEq/L: Impaired</p>	Lecture Cum Discussion	Flash Cards	What are the signs and symptoms of lithium toxicity?

Time	Specific objective	Content	Teacher learner Activity	AV-Aids	Evaluation
5 minutes	Discuss the management of lithium toxicity	<p>consciousness, nystagmus, seizures, coma, oliguria/anuria, arrhythmias, myocardial infarction, cardio vascular collapse.</p> <p>MANAGEMENT OF LITHIUM TOXICITY</p> <ul style="list-style-type: none"> • Discontinue the drug immediately. • For significant short-term ingestions residual gastric content should be removed by induction of emesis, gastric lavage, and absorption with activated charcoal. • If possible instruct the patient to ingest fluids. • Assess serum Lithium levels, serum electrolytes, renal functions, ECG as soon as possible. • Maintenance of Fluid and electrolyte balance. • In a patient with serious manifestations of Lithium toxicity, hemodialysis should be initiated. 	Lecture Cum Discussion		What is the immediate management of lithium toxicity?
5 minutes	List down the contraindications of lithium therapy	<p>CONTRA INDICATIONS OF LITHIUM USE:</p> <ul style="list-style-type: none"> • Cardiac, thyroid or neurological dysfunctions. • Presence of blood dyscrasias • First trimester of pregnancy 	Lecture Cum Discussion	Flash Cards	What are the contraindications of lithium therapy?

Time	Specific objective	Content	Teacher learner Activity	AV-Aids	Evaluation
3 minutes	Discuss the preliminaries to lithium therapy.	<p>and lactation</p> <ul style="list-style-type: none"> • Renal failure • Severe Dehydration • Hypothyroidism • History of seizures • Impaired bone development <p>AVOID THE LITHIUM USE WITH</p> <ul style="list-style-type: none"> • Diuretics • Low salt diet • Diarrhoea/vomiting • Obesity • Pregnancy (2nd and 3rd trimester) • Dehydration • High grade fever • Parkinsonism <p>PRELIMINARIES TO LITHIUM TREATMENT:</p> <ul style="list-style-type: none"> • A complete medical history • Physical examination • ECG • Blood studies (TC, DC, FBS, BUN creatinine, electrolytes) • Urine examination (routing and microscopic) • Renal function test • Thyroid functions test every six months 	<p>Lecture Cum Discussion</p> <p>Lecture Cum Discussion</p>	Flash Cards	
10 minutes	Describe the	PRECAUTIONS DURING LITHIUM THERAPY:	Lecture	Hand out	What are precaution

Time	Specific objective	Content	Teacher learner Activity	AV-Aids	Evaluation
	precautions during the lithium therapy.	<ul style="list-style-type: none"> • Lithium must be taken on a regular basis, preferably at the same time daily (For example a client taking Lithium on TID schedule, who forgets a dose should wait until the next scheduled time to take lithium and not take twice the amount at one time, because lithium toxicity can occur) • Lithium estimation should be carried out every 6 weeks. Blood for determination of lithium levels should be drawn in the morning approximately 12 hours after the last dose was taken. • The patient should be told about the importance of regular follow-up. In every six months, blood sample should be taken for estimation of electrolytes, urea, creatinine, a full blood count and thyroid function test. • Various situations may require an adjustment in the amount of lithium administered to a client, such as the addition of a new medicine, a new diet or gastro intestinal illness severe vomiting, gastro 	Cum Discussion		s taken during lithium therapy?

Time	Specific objective	Content	Teacher learner Activity	AV-Aids	Evaluation
		<p>enteritis or an illness with fever or excessive sweating. In this connection, people involved in heavy outdoor labor are prone to excessive sodium loss through sweating. They must be advised to consume large quantities of water with salt, to prevent lithium toxicity due to decreased sodium levels.</p> <ul style="list-style-type: none"> • Since polyuria can lead to dehydration with risk of lithium intoxication, patients should be advised to drink enough water to compensate for the fluid loss. Replace fluid and electrolytes lost during exercise or gastrointestinal illness. • Monitor signs and symptoms of lithium side effects and toxicity. . Notify the physician if any of the following symptoms occur, persistent nausea and vomiting, severe diarrhea, ataxia, blurred, vision, tinnitus, excessive output of urine, increasing tremors or mental confusion. 			

Time	Specific objective	Content	Teacher learner Activity	AV-Aids	Evaluation
		<ul style="list-style-type: none"> • Ensure adequate dietary sodium and fluid intake 2500 to 3000 ml/day. • Not drive or operate dangerous, machinery until lithium levels are stabilized. Drowsiness and dizziness can occur. • Carry card or other identification noting that he or she is taking lithium. • Avoid excessive use of beverages containing caffeine (coffee, tea, colas) which promote increased urine output. • Administer medications with meals to minimize GI upset. • Provide sugarless candy, ice, frequent sips of water to reduce dry mouth, thirst. • Include adequate nutrients while decreasing number of calories. • Be aware of risks of becoming pregnant while receiving lithium therapy. Notify the physician as soon as possible if pregnancy is suspected or planned. • Lithium should not be 			

Time	Specific objective	Content	Teacher learner Activity	AV-Aids	Evaluation
		<p>continued for more than 5 years.</p> <ul style="list-style-type: none"> • While stopping lithium, stop it gradually. 			

APPENDIX - VII

kdey fy;tp

jiyg;gl	: ypj;jpak; bjugp
FG	: ypj;jpak; vLj;Jf;bfhs;Sk; nehahspfspd;
	FLk;gj;jpdh;
,lk;	: rpndfh kdey kUj;Jtkid/ jpUbey;ntyp.
fhyk;	: 1 kzpneuk;
fy;tpahsh;	: n\$. b\$a nkfyh
fw;gpf;Fk; Kiw	: tha;tHpnghjid kw;Wk; fye;Jiuahly;

bghJthd Fwpcf;nfhs; : kdey fy;tpapd; Kotpy; FLk;gj;jpdh; ypj;jpak;
 bjugp gw;wp nghjpa mst[mwpe;J bfhs;s
 ntz;Lk;.

Fwpg;gpl;l Fwpcf;nfhs; : kdey fy;tpapd; Kotpy;

- ypj;jpak; bjugp gw;wp tpthpf;f ntz;Lk;
- rpfpl;rpf;fg;gLk; neha;fis gl;oaypl
 ntz;Lk;
- ypj;jpak; bray;g[hpa[k; tpjj;ij tpsf;f
 ntz;Lk;.
- ypj;jpaj;jpd; jpdhrp msit tpsf;f ntz;Lk;.
- ,uj;jj;jpy; ypj;jpaj;jpd; msit gl;oaypl
 ntz;Lk;
- ypj;jpaj;jpd; gf;ftpist[fs; gw;wp tpthpf;f
 ntz;Lk;.
- ypj;jpak; er;Rj;jd;ik mila[k; nghJ
 Vw;gLk; mwpFwpcf;f tpsf;f ntz;Lk;
- ypj;jpak; er;Rj;jd;ikaile;jhy; bra;a ntz;oa
 rpfpl;ir Kiwfs; gw;wp tpthpf;f ntz;Lk;
- ypj;jpak; gad;gLj;jf;Tlhj NH;epiyfis
 gl;oaypl ntz;Lk;.
- ypj;jpak; rpfpl;ir bjhl';Ftjw;F Kd;
 bra;antz;oa ghpnrhjids; gw;wp tpthjpf;f
 ntz;Lk;.
- ypj;jpak; gad;gLj;Jk;nghJ filgpof;f

ntz;oa Kd;bdr;rhpf;iffs; gw;wp tpthpf;f
ntz;Lk;.

neuk;	Fwpg;gpl;l Fwpf;nfhs;	bghUslf;fk;	fw;nghh; kw;Wk; fw;gpg;ng hh; bray;	fw;gpj;jy ; cgfu- z';fs;	kjpg;gPL
4 epkpl';fs;	ypj;jpak; bjugp gw;wp tpthpf;f ntz;Lk;	Kd;Diu ypj;jpak; kUj;Jt rpfpl;ir jw;ngHJ kdgpl;rp kw;Wk; ,U JUt kdepjy nfshWfSf;F kUe;jhf gad;gl;L tUfpd;wJ. ypj;jpak; vd;gJ xU jdpkk; MFk;. mjd; mq vz; 3 kw;Wk; mq vil bfhz;jhFk;. ,jid 1949 -y; vg.n\$. nfl; vd;gth; fz;Lgpoj;jhh;. ,e;j ,UUUt kdepjy nfshWfis	tha;tHp nghjid kw;Wk; fye;Jiu- ahly;	gl ml;il- fs;	

neuk;	Fwpg;gpl;l Fwpf;nfhs;	bghUslf;fk;	fw;nggh; kw;Wk; fw;gpg;ng hh; bray;	fw;gpj;jy ; cgfu- z';fs;	kjpg;gPL
4 epkpl';fs;	rpfpl;rpf;fg; gLk; neha;fis gl;oaypl ntz;Lk;	Vw;gLj;Jk; kdepiy khw;w';fis rPuhf;Ftjhy; ,jid kdepiy rkd;gLj;Jk; kUe;J vd TWtJ ed;whf bghUe;Jk;. rpfpl;rpf;fg;gLk; neha;fs; ❖ Kw;wpa kdepiy gpwl;rp ❖ ,UJUt kw;Wk; xUJUt kdepiy gpwl;rpia jLf;ft[k;. ❖ ,U kdepiy nfhshWfs; ❖ jpOh; kd vGr;rp kw;Wk; Mf;nuh#khd kdepiy ❖ irf;nshijkpah	tha;tHp nghjid kw;Wk; fye;Jiu- ahly;	gl ml;il- fs;	ypj;jpak; gad;gLj;jp rpfpl;rpf;fg; gLk; neha;fs; ahit>
4 epkpl';fs;	ypj;jpak; bray;g[hpa[k; tpjj;ij tpsf;f ntz;Lk;.	ypj;jpak; bray;g[hpa[k; tpjk; ypj;jpak; \$Puz kz;lyk; tHpahf vspjpy; fpufpj;J bfhs;sg;gLfpwJ. ,J 2-4 kzp neuj;jpy; gpsh!;kh – tpy; cr;repiy milfpd;wJ. ypj;jpak; <uypYk;/ rpWePufj;jpy; tpiuthf brd;wilfpwJ/ mnj neuk; jirfspYk; \isapYk; vYk;gpYk; kpf bkJthf brd;wilfpwJ/ ,uj;jj;jpy; epiyahd msit VG ehl;fspy; vl;Lfpd;wJ.	tha;tHp nghjid kw;Wk; fye;Jiu- ahly;	gl ml;il fs;	ypj;jpak; clypyp- Ue;J vt;thW btspnaw;w g;gLfpwJ

neuk;	Fwpg;gpl;l Fwpf;nfhs;	bghUslf;fk;	fw;nggh; kw;Wk; fw;gpg;ng hh; bray;	fw;gpj;jy ; cgfu- z';fs;	kjpg;gPL
4 epkpl';fs;	ypj;jpaj;jpd; jpd rhp msit t p s f ; f ntz;Lk;.	<p>bgUk;ghYk; ypj;jpak; rpWePufk; tHpahf clypy; ,Ue;J btspnaw;wg;gLfpwJ. clypy; nrhoak; mst[Fiwtjhy; ypj;jpak; er;Rj;jd;ik milfpd;wJ.</p> <p>kUe;jpd; mst[ypj;jpak; kUe;J filfspy; fPH; fz;lthW fpilf;fpd;wJ</p> <ul style="list-style-type: none"> ❖ ypj;jpak; fhh;nghidl; - 300 kp.fpuhk; khj;jpiu ❖ ypj;jpak; rpl;nul; - 300 kp.fp/5kp.yp jputk; <p>jpdKk; vLf;f ntz;oa rhpahd ypj;jpaj;jpd; mst[/ Kw;wpa kdep iy gpwl; rpf;F 900-2100 kp.fp tiu ypj;jpaj;ij 2-3 jlita hf gphpj;J nehahspf;F bfhLf;fg;gl ntz;Lk;. rpfpl;ir bjhl';Ftjw;F Kd; nehahspapd; clypy; ypj;jpaj;jpd; bray;ghL gw;wp mwpa 600-900 kp.fp tiu Kjy; msthf bfhLj;j gpd; ,uj;jj;jpy; ypj;jpaj;jpd; msit ghpnrhjpf;f ntz;Lk;.</p>	tha;tHp nghjid kw;Wk; fye;Jiu- ahly;	gl ml;il fs;	jpdKk; vLf;f ntz;oa ypj;jpaj; jpd; mst[vd;d>

neuk;	Fwpg;gpl;l Fwpf;nfhs;	bghUslf;fk;	fw;nggh; kw;Wk; fw;gpg;ng hh; bray;	fw;gpi;jy ; cgfu- z';fs;	kjpg;gPL
4 epkpl';fs;	,uj;jj;jpy; ypj;jpaj;jpd; msit gl;oaypl ntz;Lk;	,uj;jj;jpy; ypj;jpaj;jpd; mst[rpfpl;irapd; nghJ : 0.8 – 1.2 mEq/l (Kw;wpd kdepiy gpwl;rpapd;ngHJ) jLg;g[kUe;jhf gad;gLj;Jk;ngHJ : 0.6 – 1.2 mEq/l (,UUUt kdepiy gpwl;rp kPz;Lk; tuhky; jLg;gfw;fhf) ypj;jpak; er;Rjd;ikaila[k;ngHJ : >2.0 mEq/l	tha;tHp nghjid kw;Wk; fye;Jiu- ahly;	gl ml;il fs;	,uj;jj;jpy; ypj;jpaj;jpd; rhpahd mst[vd;d>
10 epkpl';fs;	ypj;jpaj;- jpd; gf;ftpist[fs; gw;wp tphpf;f ntz;Lk;.	gf;ftpist[fs; 1. euk;gpaw; bjhlh;ghd : iffspy; eLf;fk;/ mjpntf jhdpa';fp bray;ghL/ jirfs; jsh;tiljy;/ tpiug;g[jd;ik/ typg;g[/ euk;gpw;F tp#khjy; (czh;tpHe;j epiy/ ,ay;g[epiyf;F khwhd jd;dpr;iraw;w mirt[fs;/ typg;g[/ Raepid[apHj;jy;) 2. rpWePufk; bjhlh;ghd : mjpfgrp/ mjpf rpWePh; btspnaWjy;/ rpWePuf FHha;fs; tphptiljy;/ rpWePuf ghjpg;g[. 3. ,jak; bjhlh;ghd : T. miyfs; jhH;epiyailjy;/	tha;tHp nghjid kw;Wk; fye;Jiu- ahly;	tpsk;gu ml;il fs;	ypj;jpaj;- jhy; fh;g;g fhyj;jpYk;/ ghY};Lk; nghJk; Vw;gLk; gf;ftpis-t[fs; ahit>

neuk;	Fwpg;gpl;l Fwpf;nfhs;	bghUslf;fk;	fw;nggh; kw;Wk; fw;gpg;ng hh; bray;	fw;gpj;jy ; cgfu- z';fs;	kjpg;gPL
		<p>Fiwthd ,uj;j mGj;jk;/ ,ja Jog;gpy; khw;wk; Vw;gLjy;.</p> <p>4. \$Puz kz;lyk; bjhlh;ghd : the;jp/ Fkl;ly;/ tapw;Wnghf;F/ motapw;wpy; typ/ cnyhf Rit.</p> <p>5. njhy; bjhlh;ghd : bfhg;g[s';fs; cUthjy;/ g[z;fs; tUjy;/ nrhhpahrp!; mjpfhpj;jy;.</p> <p>6. ehskpy;yh Rug;gpfs; bjhlh;ghd : ijuha;L Rug;gp bghpjhFjy;/ ijuha;L Rug;gJ Fiwjy;/ rPuw;w ijuha;L Rug;gpapd; bray;ghL (30-40%) vil mjpfhpj;jy;/ fhy; tPf;fk;.</p> <p>7. fh;g;g fhyj;jpYk;/ ghY}l;Lk;ngHJ Vw;gLk; gf;ftpist[fs; fh;g;gfhyj;jpd; Kjy; \d;W khjj;jpy; ypj;jpak; vLj;Jf; bfhz;lhy; FHe;ijapd; ,jaj;jpy; tyJ btz;ohpf;fpsy; cs;s \tpjH; thy;t[fPH;nehf;fp ,lkhWk;. vgp!;od;</p>			

neuk;	Fwpg;gpl;l Fwpf;nfhs;	bghUslf;fk;	fw;nggh; kw;Wk; fw;gpg;ng hh; bray;	fw;gpj;jy ; cgfu- z';fs;	kjpg;gPL
7 epkpl';fs;	ypj;jpak; er;Rj;jd;ik mila[k; nghJ Vw;gLk; mwpFwpfis tpsf;f ntz;Lk;	<p>FiwghL Vw;gl tha;g;g[s;sJ. ypj;jpak; ghY};Lk;ngHJ vLj;Jf; bfhz;lhy; Ruf;Fk; ghypy; 30-100% tPjk; fhzg;gLk;. , jdhy; FHe;ijf;F ypj;jpak; er;Rj;jd;ik Vw;gl tha;g;g[s;sJ.</p> <p>8. ypj;jpak; er;R jd;ikailjy; : ,uj;jj;jpy; ypj;jpaj;jpd; mst[2mEq/L tpl mjpfhpf;Fk;ngHJ/ ypj;jpak; er;Rj;jd;ikailfpwJ.</p> <p>ypj;jpak; er;Rj;jd;ikaila[k;ngHJ Vw;gLk; mwpFwpfis; ,uj;jj;jpy; ypj;jpaj;jpd; mst[1.5 – 2mEq/L ,Uf;Fk;ngHJ : bjsptw;w ghh;it/ rkepiy jtWjy;/ fhJ ,iur;ry;/ bjhlh;r;rpahf Fkl;ly; kw;Wk; the;jp Vw;gLjy;/ fLikaht tapw;Wngfh;F. ,uj;jj;jpy; ypj;jpaj;jpd; mst[2.0 – 3.5mEq/L mjpf mst[rpWePh; btspnaWjy;/ iffspy; eLf;fk;/ kdepiyapy; FHg;gk; jirspy; vhpr;ry; Vw;gLtJ/ jiyRw;wy;/</p>	tha;tHp nghjid kw;Wk; fye;Jiu- ahly;	gl ml;il- fs;	ypj;jpak; er;Rj;jd;ikai la[k; ngHJ Vw;gLk; mwpFwpfis; ahit>

neuk;	Fwpg;gpl;l Fwpf;nfhs;	bghUslf;fk;	fw;nghh; kw;Wk; fw;gpg;ng hh; bray;	fw;gpj;jy ; cgfu- z';fs;	kjpg;gPL
5 epkpl';fs;	ypj;jpak; er;Rj; jd;ika ile;jhy; bra;a ntz;oa rpfpl;ir Kiwfs; gw;wp tpthpf;f ntz;Lk;	kdk; kw;Wk; cly; rhh;e;j bray;fspy; jhkjk; Vw;gLjy; ,uj;jj;jpy; ypj;jpaj;jpd; mst[3.5mEq/L cs;snghJ: typg:g/ Raepidt[apHj;jy;/ khuilg:g/ ,uj;j ehs';fs; nrjk; miljy;/ Fiwthd rpWePh; btspnaWjy;/ ,ja Jog;gpy; khw;wk; Vw;gLtJ. ypj;jpak; er;Rj;jd;ikaile;jhy; bra;a ntz;oa rpfpl;ir Kiwfs; ❖ ypj;jpak; vLj;J bfhs;tij cldoahf epWj;j ntz;Lk;. ❖ epiwa jz;zPh; Fof;f bfhLf;f ntz;Lk;. ❖ ,uj;jj;jy; cs;s ypj;jpaj;jpd; msita[k;/ jhJ cg:g[fspd; msita[k;/ rpWePufj;jpd; bray;ghl;ila[k; ghpnrhjpf;f ntz;Lk; kw;Wk; ,.rp.\$p -a[k; cldoahf vLf;f ntz;Lk;. ❖ ,uj;jj;jpy; cs;s jhJ cg:g[fisa[k;/ cly; jputj;ija[k; rPuhd epiyapy; itf;f ntz;Lk;. ❖ nehahspfSf;F	tha;tHp nghjid kw;Wk; fye;Jiu- ahly;	gl ml;il- fs;	ypj;jpak; er;Rj;jd;ikai le;jhy; bra;a ntz;oa cldo rpfpl;ir Kiwfs; ahit>

neuk;	Fwpg;gpl;l Fwpf;nfhs;	bghUslf;fk;	fw;nggh; kw;Wk; fw;gpg;ng hh; bray;	fw;gpj;jy ; cgfu- z';fs;	kjpg;gPL
5 epkpl';fs;	ypj;jpak; gad;gLj;f;Tl hj NH; epiyfis gl;oaypl ntz;Lk;.	mwpFwpfs; kpft[k; fLika hf ,Ue;jhy; ,uj;j Rj;jpfhpg;g[bra;a ntz;Lk;. ❖ Fwpg;gpl;l mst[f;F nky; ypj;jpak; vLj;Jf; bfhz;lhy; tapw;wpypUe;J mij btspnaw;Wtjw;F the;jpia cz;lhf;Ftjd; \ykhfnth rhh;f;nfhy; bfhLg;gid; \ykhfnth btspnaw;wyhk;. ypj;jpak; gad;gLj;jTlhj NH;epiyfs; ❖ ,jak;/ ijuha;L kw;Wk; euk;g[kz;ly';fs; rPuhf bray;glhj neu';fspy;] ❖ ,uj;jk; rk;ge;jkhd neha;fs; ,Ue;jhy; ❖ fh;g;g fhy;jpd; Kjy; \d;W kw;Wk; ghY}l;Lk; neu';fspy; ❖ rpWePuf braypHg;g[❖ ijuha;L Fiwthf Ruf;Fk;ngHJ ❖ typg;g[neha; ,Ue;jhy; ❖ FiwghLs;s vYk;g[tsh;r;rp. ypj;jpak; jtph;f;f ntz;oa rka';fs;	tha;tHp nghjid kw;Wk; fye;Jiu- ahly;	gl ml;il- fs;	ypj;jpak; gad;gLj;jf;T lhj NH;epiyfs; ahit>

neuk;	Fwpg;gpl;l Fwpf;nfhs;	bghUslf;fk;	fw;nggh; kw;Wk; fw;gpg;ng hh; bray;	fw;gpj;jy ; cgfu- z';fs;	kjpg;gPL
3 epkpl';fs;	ypj;jpak; rpfpl;ir bjhl';Ftjw;F Kd; bra;a ntz;oa ghpnrhjidfs ; gw;wp tpthjpf;f ntz;Lk;.	<ul style="list-style-type: none"> ❖ rpWePh;bgUf;fp kUe;Jfs; gad;gLj;Jk;ngHJ ❖ Fiwthd cg;g[s;s czt[fs; cz;qk;ngHJ ❖ tapw;Wnghf;F kw;Wk; the;jp Vw;gl;lhy; ❖ cly; gUkd; ❖ clypy; ,Ue;J mjpf mst[jputk; btspnaWk;ngHJ ❖ fh;g;g fhy;jpy; ❖ mjpf fha;r;ry; <p>ypj;jpak; rpfpl;ir bjhl';Ftjw;F Kd; bra;a ntz;oa ghpnrhjidfs;</p> <ul style="list-style-type: none"> ❖ KGikahd kUj;Jt tuyhW ❖ KGikahd cly;epiy ghpnrhjid ❖ ..rp.\$p. ❖ ,uj;j ghpnrhjidfs; ❖ rpWePh; ghpnrhjidfs; ❖ rpWePufj;jpd; bray;ghl;il ghpnrhjpf;f ntz;Lk;. ❖ ijuha;L Rug;gpapd; bray;ghl;il ghpnrhjpf;f ntz;Lk; 	tha;tHp nghjid kw;Wk; fye;Jiu- ahly;	gl ml;il- fs;	
10 epkpl';fs;	ypj;jpak; gad;	ypj;jpak; gad;gLj;Jk;ngHJ filgpof;f ntz;oa Kd;bdr;rhp;f;if eltof;iffs;	tha;tHp nghjid	Jz;L gpujp	ypj;jpak; gad;gLj;Jk;

neuk;	Fwpg;gpl;l Fwpf;nfhs;	bghUslf;fk;	fw;nghh; kw;Wk; fw;gpg;ng hh; bray;	fw;gpj;jy ; cgfu- z';fs;	kjpg;gPL
	gLj;Jk; nghJ filgpof;f ntz;oa Kd;bdr; rhpf;iffs; gw;wp tpthpf;f ntz;Lk;.	1. ypj;jpaj;ij jpdKk; xG';fhf xnu neu;jjpy; rhg;gpl ntz;Lk;. Fwpg;ghf xUth; ypj;jpaj;ij ehs;njhWk; \d;W ntisfs; vLj;Jf;bfhs;Sk;ngHJ xUntisia kwe;Jtpl;lhy; mth; kUe;jpid mLj;jntis ,Ukl';fhf vLj;Jf;bfhs;sf; TlhJ. mt;thW vLj;Jf;bfhz;lhy; ypj;jpak; er;Rj;jd;ik Vw;gLk;.	kw;Wk; fye;Jiu- ahly;		nghJ filgpof;f ntz;oa Kd;bdr;- rhpf;if eltof;if-fs; ahit>
		2. MW thu';fSf;F xU Kiw ,uj;jj;jpy; ypj;jpaj;jpd; msit ghpnrhjid bra;a ntz;Lk;. ypj;jpak; vLj;Jf;bfhz;l gpwF gdpbuz;L kzp neuk; fHpj;J ,uj;jg;ghpnrhjid bra;a ntz;Lk;. Fwpg;ghf fhiyntisfs; bra;a ntz;Lk;.			
		3. nehahspf;F bjhlh;e;J bra;antz;oa ghpnrhjidfspd; Kf;fpaj;Jtk; gw;wp tpsf;f ntz;Lk;. MW khj';fSf;F xUKiw ,uj;jj;jpy; a{hpah/			

neuk;	Fwpg;gpl;l Fwpf;nfhs;	bghUslf;fk;	fw;nghh; kw;Wk; fw;gpg;ng hh; bray;	fw;gpj;jy ; cgfu- z';fs;	kjpg;gPL
		<p>fphpahl;oidd; (creatinine), ,uj;j mqf;fspd; vz;zpf;ifa[k;/ ijuha;L Rug;gpapd; bray;ghl;ila[k; ghpnrhjid bra;a ntz;Lk;.</p> <p>4. gy;ntW NH;epiyfsy; nehahspf;F bfhLf;Fk; ypj;jpaj;jpd; msit khw;wntz;oapUf;Fk;.</p> <p>Fwpg;ghf g[jpa kUe;Jfs;/ g[jpa czt[fs; my;yJ the;jp/ tapw;Wg;g[z;fs; nghd;w tapW rk;ke;jkhd nfhshWfs; Vw;gLk;ngHjk; kw;wk; fha;r;ry;/ mjpf tpah;it btspnaWjy; nghd;w cly; RftPd; jpd;ngHjk;/ mnjnghy; nehahspfs; fLika hf btspntiyfs; bra;a[k;ngHj mjpf mst[nrhoak; ,Hg;g[tpaw;it tHpahf Vw;gLfpd;wJ. mth;fis mjpf mst[ePiu cg;ngHL vLj;Jf;bfhs;s mwpt[Wj;jy; ntz;Lk;. ,jdhy; nrhoak; Fiwthy; ypj;jpak; er;Rj;jd;ik miltij</p>			

neuk;	Fwpg;gpl;l Fwpf;nfhs;	bghUslf;fk;	fw;nggh; kw;Wk; fw;gpg;ng hh; bray;	fw;gpj;jy ; cgfu- z';fs;	kjpg;gPL
		<p>jLf;fyhk;.</p> <p>5. mjpgf mst[rpWePh; btspnaWtjhy; cly;ePh; tw;wp ypj;jpak; er;Rj;jd;ik mila tha;g;g[s;sjhy; nehahspfs; mjpgf mst[ePiu Fof;f mwpt[Wj;j ntz;Lk;.</p> <p>6. ypj;jpak; er;Rj;jd;ikaitjpd; mwpFwpfis bjhlh;e;J fz;fhzpf;f ntz;Lk;. bjhlh;e;J Fkl;ly;/ the;jp/ fLikaht tapw;Wg;ngfh;F/ fhJfspy; ,iur;ry;/ mjpgkfh rpWePh; btspnaWjy;/ mjpgkfh iffspy; eLf;fk;/ kdepiyapy; FHg;gk; Mfpait ,Ue;jhy; kUj;Jtiu mqf ntz;Lk;.</p> <p>7. jpdKk; 2500 – 3000 kp.y jz;zPh; Fof;f ntz;Lk;. cztpy; njitahd mst[cg;g[gad;gLj;j ntz;Lk;.</p> <p>8. nrhh;t[kw;Wk; jiy; Rw;wy; Vw;gLtjhy; ypj;jpak; gad;gLj;Jk;ngHJ thfd';fs;</p>			

neuk;	Fwpg;gpl;l Fwpf;nfhs;	bghUslf;fk;	fw;nggh; kw;Wk; fw;gpg;ng hh; bray;	fw;gpj;jy ; cgfu- z';fs;	kjpg;gPL
		<p>Xl;lnth/ ,ae;jpu';fs; ,af;fnth TlhJ.</p> <p>9. ypj;jpak; gad;gLj;Jfpwhh; vd;gjw;fhd milahs ml;ilia vg;ngHjk; jd;Dld; itj;jpUf;f ntz;Lk;.</p> <p>10. mst[f;F mjpfkhf fhgp/ O/ Fsph;ghd';fs; (bgg;rp/ nfhyh) Fog;gij jtph;f;f ntz;Lk;. kJghd';fs; gad;gLj;j TlhJ.</p> <p>11. tapW rk;ke;jg;gl;l nfshWfis jtph;f;f ypj;jpaj;ij cznthL nrh;j;Jf; cl;bfhs;s ntz;Lk;.</p> <p>12. jz;zPh; jhfj;ija[k;/ tha; cyh;tija[k; jLf;f ,dpg;gpy;yhj fw;fz;L my;yJ mof;fo rpwpjst[jz;zPh; bfhLf;f ntz;Lk;.</p> <p>13. Cl;lr;rj;Jila czt[fis mjpfkhf bfhLf;f ntz;Lk;. cly; vil mjpfhpg;ig jtph;f;f fnyhhpfis Fiwf;f ntz;Lk;.</p> <p>14. ypj;jpak; rpfpl;irapy;</p>			

neuk;	Fwpg;gpl;l Fwpf;nfhs;	bghUslf;fk;	fw;nghh; kw;Wk; fw;gpg;ng hh; bray;	fw;gpj;jy ; cgfu- z';fs;	kjpg;gPL
		<p>,Uf;Fk; nghJ fh;g;gk; miljy jtph;f;f ntz;Lk;. fh;g;gile;jhy; mJ Fwpj;J kUj;Jthplk; mwptpf;f ntz;Lk;.</p> <p>15.ypj;jpak; le;J tUl';fSf;F nky; bjhlh;r;rpahf gad;gLj;jf; TlhJ.</p> <p>16.ypj;jpak; gad;gLj;Jtij epWj;Jk;nghJ gog;goahf epWj;j ntz;Lk;.</p>			

APPENDIX – VIII
SECTION A
Demographic Data

1. Name :

2. Age :
3. Sex
- a) male
- b) female
4. Relationship with Patient :
5. Education
- a) primary
- b) high school
- c) higher secondary
- d) graduate
6. Religion:
- a) Hindu
- b) Christian
- c) Muslim
7. Occupation
- a) coolie
- b) government employee
- c) private employee
- d) others
- e) unemployed
8. Marital Status
- a) married
- b) unmarried
- c) others
9. Residence
- a) rural
- b) urban

SECTION B

Questionnaire to Assess knowledge regarding Lithium Therapy

Choose the correct Answer and put (✓) mark in the box.

Answer all the questions.

1. Lithium is used to treat
- a) cardiac disorder
- b) mood disorder
-
-

- c) respiratory disorder
 - d) renal disorder
2. To prevent lithium toxicity lithium must be taken at
- a) same time daily
 - b) only one time daily
 - c) more time daily
 - d) different time daily
3. Avoid Lithium use with
- a) pregnancy
 - b) sodium restricted Diet
 - c) dehydration
 - d) all the above
4. The following are the signs and symptoms lithium toxicity except
- a) tremors
 - b) convulsions
 - c) cough
 - d) nephrotoxicity
5. Depletion of sodium during lithium therapy leads to
- a) diabetes mellitus
 - b) lithium toxicity
 - c) anemia
 - d) asthma
6. When the client is having the signs and symptoms of lithium toxicity the management is
- a) Discontinue the drug immediately
 - b) Continue the drug for 2 days
 - c) Add less amount of salt
 - d) Decrease intake of fluids
7. Lithium is absorbed through
- a) kidney
 - b) pancreas
 - c) Gastro intestinal system
 -

- d) liver
8. Prerequisite for Lithium therapy is
- a) x-ray and scan
 - b) sputum and stool examination
 - c) renal and thyroid function test
 - d) liver function test
9. One of the side effect of Lithium therapy is
- a) brain tumour
 - b) hypothyroidism
 - c) fracture
 - d) cancer
10. During lithium therapy fluid intake per day is about
- a) 1000ml - 1500 ml
 - b) 1500 - 2000 ml
 - c) 2000 - 2500 ml
 - d) 2500 - 3000 ml
11. Precautions taken by client during Lithium therapy is
- a) not to drive vehicles
 - b) not to operate machines
 - c) avoid alcohol
 - d) all the above
12. Lithium should not be continued for more than
- a) 2 years
 - b) 3 years
 - c) 4 months
 - d) 5 years
13. Lithium therapy is contraindicated to
- a) constipation
 - b) renal failure
 - c) pneumonia
 - d) stomatitis

14. To prevent GI disturbances administer lithium along with
- a) salt
 - b) ginger
 - c) sugar
 - d) foods
15. The blood sample for estimation of Lithium is taken how much hours after last Lithium dose
- a) 2 hours
 - b) 4 hours
 - c) 12 hours
 - d) 24 hours
16. During Lithium therapy blood Lithium estimation should be carried out for
- a) every 4 weeks
 - b) every 6 weeks
 - c) every 8 weeks
 - d) every 10 weeks
17. Elimination of Lithium is through
- a) skin
 - b) lungs
 - c) bowels
 - d) kidneys
18. During Lithium Therapy avoid excessive intake of
- a) coffee, tea and colas
 - b) water and juices
 - c) fruits and vegetables
 - d) wheat and nuts
19. During lithium therapy decrease the intake of calories to prevent
- a) weight gain
 - b) vomiting
 - c) diarrhea
 - d) fatigue
20. If the clients have dry mouth and thirst provide
- a) high calorie diet
 -
 -
 -
 -

- b) more coffee or tea
- c) frequent sips of water
- d) low protein diet

21. If the client is having side effects during lithium therapy

- a) consult the physician
- b) decrease the dose of drug
- c) decrease fluid intake
- d) provide adequate rest

22. While stopping lithium therapy

- a) stop lithium suddenly
- b) increase the dose
- c) stop lithium gradually
- d) start other medications

SCORING

A score of 'one' will be allotted for every correct answer and score 'zero' was allotted for every wrong answers. The total attainable score for the knowledge items was 22. The score was converted into percentage and was ranged as follows

Adequate Knowledge – 76-100

Moderate Knowledge -- 50-75

Inadequate Knowledge -- < 50

ANSWER KEY

QUESTION NO	ANSWER
1	b
2	a
3	d
4	c
5	b
6	a

7	c
8	c
9	b
10	d
11	d
12	d
13	b
14	d
15	c
16	b
17	d
18	a
19	a
20	c
21	a
22	c

APPENDIX - IX
gFjp – I
g[s;sp tpgu gl;oay;

1. bgah; :

2. taJ (Mz;Lfs;) :

3. ghypdk;

m) Mz;

M) bgz;

4. nehahspa[lid; cs;s cwt[Kiw :

5. fy;tp

m) Muk;g fy;tp

M) cah;epiyg; fy;tp

,) nky;epiyg; fy;tp

<) gl;ljhph

6. kjk;

m) ,e;J

M) fpwp!;jth;
 ,) K!;yPk;

7. ntiy

m) Typ ntiy
 M) muR ntiy
 ,) jdpahh; ntiy
 <) kw;wit
 c) ntiyaw;wth;

8. jpUkz epiy

m) jpUkzkhdth;
 M) jpUkzkfhjth;

9. trpg;gplk;

m) fpuhkk;
 M) efuk;

gFjp – II

**rhpahd tpilia njh;e;bjLj;J (✓) vd;w Fwpia fl;l;j;jpw;Fs; ,lt[k;.
 vy;yh nfs;tpfSf;Fk; tpilaspf;ft[k;.**

1. ve;j neha;f;F rpfpl;iraspf;f ypj;jpak; gad;gLfpwJ

m) ,ja nfhshWfs;
 M) kdepiy nfhshWfs;
 ,) Rthr nfhshWfs;
 <) rpWePuf nfhshWfs;

2. ypj;jpak; er;Rj;jd;ik Vw;glhky; jLf;f ypj;jpaj;ij

m) jpdKk; xnu neu;j;ppy; rhg;gpl ntz;Lk;
 M) jpdKk; xU jilt kl;Lk; rhg;gpl ntz;Lk;
 ,) jpdKk; mjpf jilt rhg;gpl ntz;Lk;
 <) jpdKk; btt;ntW neu';fspy; rhg;gpl ntz;Lk;

3. vg;nghJ ypj;jpak; gad;gLj;Jtij jtph;;f ntz;Lk;

- m) fh;g;gkhf ,Uf;Fk;nghJ
- M) nrhoak; jtph;f;fg;gl;l czt[cl;bfhs;Sk;nghJ
- ,) clypy; jz;zPhpd; mst[Fiwa[k;nghJ
- <) nkny Fwpg;gpl;Ls;s midj;Jk;
4. fPnH Fwpg;gplg;gl;Ls;sjpy; ypj;jpaj;jpd; er;Rj;jd;ikapd; mwpFwp my;yhj
xd;W vJ
- m) iffspy; eLf;fk;
- M) fhf;fha; typg;g[
- ,) ,Uky;
- <) rpWePuf ghjpg;g;
5. ypj;jpak; bjugpapd;nghJ clypy; nrhoak; Fiwtjhy; Vw;gLtJ
- m) ePhpHpt[neha;
- M) ypj;jpak; er;Rj;jd;ik
- ,) ,uj;jnrhif
- <) M!;Jkh
6. nehahspf;F clypy; ypj;jpak; er;Rj;jd;ikapd; mwpFwpfs; Vw;gl;lhy;
bra;antz;oaJ
- m) ypj;jpak; vLj;J bfhs;tij cldoahf epWj;j ntz;Lk;
- M) ,uz;L ehl;fSf;F bjhlh;e;J vLf;f ntz;Lk;
- ,) Fiwe;j mst[cg;g[gad;gLj;j ntz;Lk;
- <) Fiwe;j mst[jz;zPh; Fof;f ntz;Lk;
7. ve;j cWg;g[tHpahf ypj;jpak; clypy; cwp";rg;gLfpwJ
- m) rpWePufk;
- M) fizak;
- ,) \$Puz kz;lyk;
- <) fy;yPuy;
8. ypj;jpak; bjugp bjhl';Ftjw;F Kd; bra;a ntz;oaJ
-
-
-
-

- m) vf;!;nu kw;Wk; !;nfd; bra;a ntz;Lk;
 M) rsp kw;Wk; kyk; ghpnrhjid bra;a ntz;Lk;
 ,) rpWePufk; kw;Wk; ijuha;L Rug;gpapd; bray;ghl;il
 ghpnrhjid bra;a ntz;Lk;
 <) fy;yPuy; bray;ghl;il ghpnrhjid bra;a ntz;Lk;

9. ypj;jpak; bjugpapd;ngHJ Vw;gLk; gf;ftpist[fspy; xd;W

- m) \isapy; fl;o Vw;gLjy;
 M) ijuha;L Rug;gpapd; bray;ghL Fiwjy;
 ,) vYk;g[Kwpt[Vw;gLjy;
 <) g[w;Wneha; Vw;gLjy;

10. ypj;jpak; bjugpapd; ngHJ xU ehisf;F vt;tst[jz;zPh; Fof;f ntz;Lk;

- m) 1000 – 1500ml
 M) 1500 – 2000ml
 ,) 2000 – 2500ml
 <) 2500 – 3000ml

11. ypj;jpak; bjugpapd;ngHJ filgpof;f ntz;oa Kd;bdr;rhpf;if eltof;if

- m) thfd';fs; Xl;l TlhJ
 M) ,ae;jpu';fs; ,af;f TlhJ
 ,) kJkhd';fs; gad;gLj;j TlhJ
 <) nkny Fwpg;gpl;Ls;s midj;Jk;

12. ypj;jpai;ij vj;jid tUl';fSf;F nkyhf gad;gLj;j TlhJ

- m) 2 tUl';fs;
 M) 3 tUl';fs;
 ,) 4 tUl';fs;
 <) 5 tUl';fs;

13. ahUf;F ypj;jpak; gad;gLj;j TlhJ

- m) kyrpf;fy; ,Ug;gth;fSf;F
 M) rpWePufk; braypHe;jth;fs;
 ,) epnkhdpah ,Ug;gth;fs;

<) tha;g;g[z; ,Ug;gth;fs;

14. tapW rk;ke;jg;gl nfhshWfs; tuhky; jtph;f;f ypj;jpaj;ij vjd;TI bfhLf;f ntz;Lk;

m) cg;g[l;d;

M) ,";rpa[l;d;

,) rh;f;fiua[l;d;

<) czt[l;d;

15. ,uj;jj;jpy; ypj;jpaj;jpd; msit fzf;fpl ypj;jpak; vLj;J vt;tst[kzpneuj;jpw;F gpd;
,uj;jk; vLf;f ntz;Lk;

m) 2 kzp neuk;

M) 4 kzp neuk;

,) 12 kzp neuk;

<) 24 kzp neuk;

16. ypj;jpak; bjugpapd; nghJ vt;tst[ehl;fSf;F xUKiw ,uj;jj;jpy; ypj;jpaj;jpd;
msit ghpnrhjpf;f ntz;Lk;

m) 4 thu';fSf;F xU Kiw

M) 6 thu';fSf;F xU Kiw

,) 8 thu';fSf;F xU Kiw

<) 10 thu';fSf;F xU Kiw

17. ypj;jpak; clypypUe;J vjd; tHpahf btspnaw;wg;gLfpwJ

m) njhy;

M) Eiuapuy;

,) Fly;

<) rpWePufk;

18. ypj;jpak; bjugpapd; nghJ vij mst[f;F mjpfkhf gad;gLj;Jtij jtph;f;f ntz;Lk;

m) fhgp/ njePh; kw;Wk; Fsp;ghd';fs;

M) jz;zPh; kw;Wk; gHr;rhW

,) gH';fs; kw;Wk; fha;fwpfs;

<) nfhJik kw;Wk; gUg;g[fs;

19. vij jtph;g;gjw;fhf ypj;jpak; bjugpapd; nghJ fryhphfis Fiwthf vLf;f ntz;Lk;

m) vil mjpfhpj;jy;

M) the;jp
 ,) tapw;Wg;ngfh;F
 <) nrhh;t[

20. nehahspf;F jhfKk;/ tha; cyh;tJk; Vw;gl;lhy; bra;a ntz;oaJ

m) mjpgf fnyhhp cs;s cz[t bfhLf;f ntz;Lk;

M) mjpgkhf fhgp kw;Wk; njePh; bfhLf;f ntz;Lk;

,) mof;fo rwpjst[jz;zPh; bfhLf;f ntz;Lk;

<) g[ujk; Fiwthd cz[t bfhLf;f ntz;Lk;

21. ypj;jpak; bjugpapd; nghJ nehahspf;F gf;ftpist[fs; Vw;gl;lhy;

m) kUj;Jtiu mqft[k;

M) kUe;jpd; msit Fiwf;ft[k;

,) Fiwthd jz;zPh; Fof;ft[k;

<) njitahd Xa;t[mspf;ft[k;

22. ypj;jpak; gad;gLj;Jtij epWj;Jk;nghJ

m) cldoahf epWj;j ntz;Lk;

M) kUe;jpd; msit Tl;l ntz;Lk;

,) gog;goahf epWj;j ntz;Lk;

<) ntW kUe;ij rhg;gpl ntz;Lk;

tpdh tpilfs;

tpdh vz;	tpilfs;
1	M
2	m
3	<
4	,
5	M

6	m
7	,
8	,
9	M
10	<
11	<
12	<
13	M
14	<
15	,
16	M
17	<
18	m
19	m
20	,
21	m
22	,

APPENDIX –X
PRE AND POST TEST SCORE OF FAMILY MEMBERS

SAMPLE NO	PRE TEST SCORE	POST TEST SCORE
1	3	12
2	6	14
3	3	13
4	7	15
5	6	9
6	4	13
7	9	17
8	4	15
9	8	16
10	5	13

11	6	14
12	4	12
13	7	8
14	8	14
15	2	9
16	6	13
17	6	15
18	7	12
19	6	17
20	8	19
21	9	16
22	4	12
23	5	13
24	8	14
25	6	14
26	4	10
27	7	16
28	4	12
29	6	16
30	9	15