



Original Research Article

## **A Study to Determine the Effectiveness of Instructional Module on Knowledge, for Patients on Lithium Carbonate Therapy at GMA of Gwalior City**

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Received: 23/12/2014

Revised: 17/01/2015

Accepted: 17/01/2015

### **ABSTRACT**

**Introduction:** Mental well-being is an important aspect of health. Many disorders have been identified; among these existing, bipolar affective disorders is 2-4%. Over the years many drugs have been used in the treatment of bipolar mood disorders, but Lithium still remains the drug of choice for treatment and prophylaxis of bipolar disorder.

**Materials & Methods:** A quasi-experimental, one group pre-test, post-test design was adopted to measure the effectiveness of instructional module on knowledge, for patients on lithium carbonate therapy in GMA at Gwalior. The study was conducted on 50 patients who were put on lithium carbonate therapy and had completed at least one week duration of treatment. Data was collected from May 2013 to Jan 2014. A structured questionnaire was used to assess the knowledge about general self-care, side effects, Do's, don'ts, and precaution to be taken while patient is put on Lithium therapy. And an instructional module was prepared to provide pertinent information about the same.

**Results:** The data revealed that, there is significant difference in mean of pre-test score (60.12) and mean of post-test score (79.44) of patient who were put on Lithium Carbonate Therapy. Major findings of study revealed that Instructional Module on Self Care with Lithium Carbonate Therapy is effective in enhancement of patient's knowledge. Knowledge of patients about Self Care with Lithium Carbonate Therapy was significantly associated with age, sex, and other type of occupation like housework, farmer and shopkeeper.

**Conclusion:** After the detailed analysis of this study shows that professional students may have more Perceived level of stress compared to non-professional and it could be also undoubtedly concluded that stress management protocol make aware the college students regarding the impact of stress on their life and to manage their own affairs.

**Key words:** Lithium Carbonate Therapy, Instructional Module, Gwalior Mansik Arogyashala (GMA)

### **INTRODUCTION**

Previously, the patients having bipolar mood disorders were treated by confining them into cells without food and

water. Gradually trends have changed and they started giving them high dose of insulin to create a state of unconsciousness. But, as

every coin has two sides, good & bad, Insulin also has bad effects apart from its positive benefits. Later, electric shock therapy came into existence, which was later on modified by giving anesthetic drugs along with it to decrease its harmful effects. This therapy is still practiced in existing Indian context and found to be effective.

Lithium is an effective treatment for bipolar mood disorders. The effect of drug occurs very rapidly by lithium carbonate as compared to other drugs Schou, M. (1957). Recent studies have indicated that approximately half of acutely manic patients respond positively to lithium Kukopules et al. (1980), Small et al. (1988, 1991). The benefits of response appear to be more compromised to adverse effects than previously thought Grof et al. (1987), Vestegaard and Aagaard (1991).

75% of relapse in-patients on lithium carbonate therapy are thought to be due to poor compliance Bastrap (1971), Faedda et al. (1992). The relapse rate is higher than 50% because of discontinuation due to high side effects like dry mouth, increase frequency of urine, diarrhea, and vomiting Baldessorini et al. (1996).

A study conducted by Neoman, S.G. and Malcom. P. (1991) on Lithium maintenance, standard education programme for patient, concluded that compliance group of patient had more knowledge than those who were non-compliant. It is the responsibility of nurses to make the patients and their relatives understand:

Researches shown that efficient knowledge about any drug reduces non-compliance to treatment regimen and reduces side effect as patient can care for self. Objectives of study 1) To assess the knowledge of patients on lithium therapy before giving instructional module. 2) To develop an instructional module. 3) To assess the knowledge of patients on lithium therapy after administration of the

instructional module. 4) To compare the knowledge of patients before and after giving instruction Module. 5) To correlate knowledge of patients on Lithium therapy with selected demographic variables.

## **MATERIALS & METHODS**

A quasi-experimental study was carried out on 50 patients who started on Lithium Carbonate Therapy to assess the effectiveness of Instruction Module on self care in *Gwalior Mansik Arogyashala (GMA)* at Gwalior city. The sample for the study comprised of 50 patients who were put on Lithium Carbonate Therapy.

The sample who met sampling criteria and available during the month of May 2013 to Jan 2014 were selected as the subject for the study. They were selected by non-probability convenient sampling technique.

In Phase I of the study, a descriptive survey approach was adopted to assess the knowledge of patient about self care with Lithium Carbonate Therapy. In Phase II of the study an evaluative approach was used to measure the effectiveness of Instructional Module On self care with Lithium Carbonate Therapy. The research design used was Quasi-experimental, one group pre-test, post-test design to measure the effectiveness of self care with Lithium Carbonate Therapy for patient who are put on Lithium Carbonate Therapy.

A self-structured self care with Lithium Carbonate Therapy assessment questionnaire was developed which consists general self-care, side effects, Do's, don'ts, and precaution to be taken while patient is put on Lithium therapy. And an instructional module was prepared to provide pertinent information about the same. Section A: This section contained (17) questions about the demographic profile of sample such as age, sex, education, occupation, duration of disease, duration of treatment, income etc.

Section B: This section contained (35) questions in 2 main categories such as general information and self-care, related to Lithium Carbonate drug.

The content validity of self care with Lithium Carbonate Therapy and Instructional Module on self care with Lithium Carbonate Therapy was established by experts. The experts were selected on the basis of their clinical expertise, experience and interest in the problem being studied. They were from different specialties i.e. Psychiatry, Psychology, Education, Research, Statistics and Mental Health Nursing. They were requested to give their opinions on the appropriateness and relevance of the items in the tool. Necessary modifications were made as per the expert's advice. The reliability of the questionnaire was established by Split Half method and was found to be r-0.862.

A final study was carried out on 50 patients who were put on Lithium Carbonate Therapy. Data were collected from 11<sup>th</sup> May 2013 to 29<sup>th</sup> Jan 2014. The sample for the study comprised of the patients, who met the designated criteria were selected through convenient sampling technique. Objectives of study was discussed and obtained consent for participation in study. Existing knowledge about self care with Lithium Carbonate Therapy was assessed by administering a structured self care with Lithium Carbonate Therapy assessment questionnaire, followed by administration of Instructional Module on self care with Lithium Carbonate Therapy. Post test was taken after 7 days. Based on the objective and the hypothesis the data was analyzed by using various statistical tests i.e. percentage, mean, and standard deviation. Statistical methods The significance would be calculated by using mean, Standard deviation, unpaired t statistics, paired t statistics for comparison and the Chi-square statistics is used to find the independence of

difference. Significance was accepted at 0.01 and 0.05 level of probability.

## RESULTS

### Section I: Description of Socio demographic data of patient put on Lithium Carbonate Therapy.

Findings of section I show that majority 24(48%) were between age group of 19-28, 30(60%) were male had education only between 5<sup>th</sup> -9<sup>th</sup> standard. Majority 13(26%) were doing housework and 12(24%) were not doing any work. Majority of samples 27(54%) were earning below 1000 rupees per month. 35(70%) samples were taking Lithium Carbonate therapy since 1 month to 1 year where as majority 23(46%) were suffering from bipolar mood disorder since 1 year to 5 year.

Majority 35(70%) of samples scored between 54-64 in pre-test where as in post-test majority 47(94%) scored between 74-84.

Mean percentage of knowledge score about general self-care during Lithium Carbonate therapy in pre-test was 60.70% where as in post-test it has increased to 94.70%.

Mean percentage of knowledge score about Lithium Carbonate therapy in pre-test was 75.24% where as in post-test it has increased to 95.28%.

**Table 1: Description of total knowledge score in Pre-test by frequency and percentage. (N=50)**

Sr. No.	Scores	Frequency	Percentage
1	44-54	07	14
2	54-64	35	70
3	64-74	06	12
4	74-84	02	04

Table 1 shows that majority 35 (70%) lies between the knowledge score of 54-64 in pre-test where as minority i.e. 02 (04%) samples lies between 74-84 knowledge score.

**Table 2: Description of total knowledge score in Post-test by frequency and percentage. (N=50)**

Sr. No.	Scores	Frequency	Percentage
1	44-54	00	00
2	54-64	00	00
3	64-74	03	06
4	74-84	47	94

Table 2 shows that out of 50 samples majority i.e. 47 (94%) lies between 74-84 knowledge score in post-test where as minority 03 (06%) lies between 64-74 knowledge score.

**Table 3: Area wise mean percentage of knowledge of the patients about general self care during Lithium carbonate therapy in pre and post-test. (N=50)**

Sr. No.	Area of knowledge	Max. possible score n=1	Max. possible score n=50	Max. score obtained	Mean % of score
1.	General self care with Lithium Carbonate therapy	34	1700	Pre-test 1032	60.70
				Post-test 1610	94.70

Table 3 depicts that mean percentage of pre-test knowledge score of general self care about Lithium Carbonate therapy is 60.70 where as mean percentage of post-test knowledge score of same is 94.70 which is

30% more than pre-test. Thus shows that Instructional Module is effective in providing pertinent information to patients who are receiving Lithium Carbonate therapy.

**Table 4: Area wise mean percentage of knowledge of the patients about Lithium carbonate therapy in pre and post-test. (N=50)**

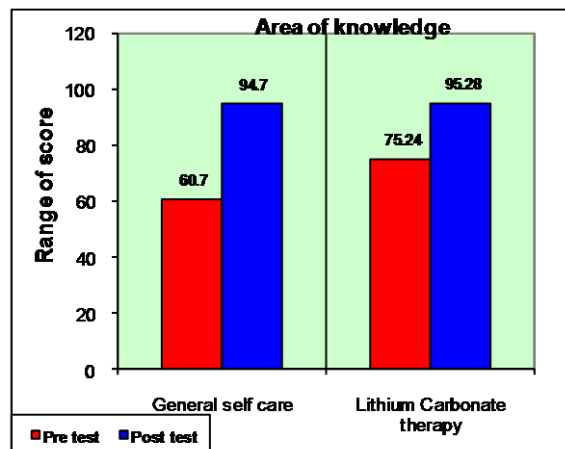
Sr. No.	Area of knowledge	Max. possible score n=1	Max. possible score n=50	Max. score obtained	Mean % of score
1.	Related to Lithium Carbonate therapy	50	2500	Pre-test 1881	75.24
				Post-test 2382	95.28

Table 4 shows that mean percentage of pre-test knowledge score about Lithium Carbonate therapy is 75.24, whereas mean percentage of post-test for the same is 95.28 which is 20.04% is greater than pre-test. Thus it would be concluded that booklet provides pertinent information.

## Section II: Comparison of total knowledge scores between pre-test and post-test by frequency and percentage.

**Table 5: Comparison of total knowledge scores between pre-test and post-test by frequency and percentage. (N=50)**

Sr. No.	Scores	Pre-test		Post-test	
		Frequency	Percentage	Frequency	Percentage
1.	44-54	07	14	00	00
2.	54-64	35	70	00	00
3.	64-74	06	12	03	06
4.	74-84	02	04	47	94



**Figure 1. Multiple bar diagram showing area wise mean percentage of knowledge score in pre and post-test.**

From above table 5 it is clear that majority i.e. 35 (70%) of samples in pre-test scored between 54-64 and minority i.e. 02 (04%) scored between 74-84, where as in post-test majority 47 (94%) scored between 74-84 and minority 03 (06%) scored between 64-74. Hence it makes clear that there is significant gain in knowledge after administration of Instructional Module.

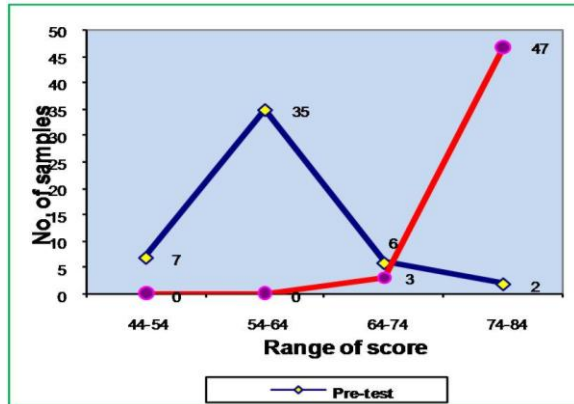


Figure: 2. Line diagram showing Comparison of total knowledge scores between pre-test and post-test.

Table 6: Mean, Mean difference, Standard deviation and 't' value of pre-test and post-test knowledge scores of patients receiving Lithium Carbonate therapy.

Knowledge test	Mean	Mean difference	SD	't' Value	Level of significance (df = 49)
Pre-test	60.12	09.32	5.5014	4.5201	Significant at level of 5% and 1% level of significance
Post-test	79.44		2.5311		

't'(49) = 1.96 P < 0.05, 0.01

From above table it is clear that at 0.01 as well as at 0.05, 't' calculated value < table value at df = 49, hence we accept research hypothesis.

Mean total of pre-test score of patients knowledge on self-care and Lithium Carbonate therapy is less than that that of post-test. Hence Instructional Module on "Lithium and Self-care" provides pertinent information and is effective.

### Section III: Relationship between various demographic variables with pre-test knowledge score about lithium carbonate therapy.

From the findings it is clear that there is significant association between age, sex, other type of occupation like housework, farmer shopkeeper. Whereas no work, education, income and duration of treatment and disease have insignificant association with pre-test knowledge score.

## DISCUSSION

The present study revealed that Analysis of phase I revealed that majority (54%) of samples were adult male and had only primary education and their monthly income was below 1000 rupees. Also majority 70% stated that they are on this treatment since 1 month to 1 year. And it is also clear that majority is suffering from disease since 2-5 years. Hence samples having less knowledge due to primary education but as more experience they are able to care for self.

Majority of samples scored high in post-test than that of pre-test and mean percentage score of samples regarding general self-care during Lithium Carbonate therapy as well Lithium Carbonate therapy was higher in post-test than that of pre-test.

There is significant association between age, sex, and other type of occupation like housework, farmer and shopkeeper. Whereas no work, education, income and duration of treatment and disease have insignificant association with pre-test knowledge score.

Significance association clarifies that people those who work, are in contact with the other people hence acquire knowledge from various other sources.

Also from statistical analysis it is found that Instructional Module is useful for all age groups, and education level.

Recent studies on Lithium prophylaxis and education showed the following figures on the ratio of hospitalization per year in bipolar illness, before and during lithium prophylaxis in combination with psycho-education: 0.32-0.65, 0.15-0.22 and 0.16-0.07 Schmidt (1998) and Peet and Harvey (1991).

A study done on number of patients in UK suggested that 60% patients who have insufficient education about drugs to make appropriate decision about continuation of therapy Lepin et al. (1997).

The trust pharmacy World Mental Health Day telephone help line identified a significant percentage of calls from people in the community not associated directly with the service but with important drug therapy problems. Established services are in need of further development and support. Provision of substantially improved drug education and counseling services would improve drug attitudes, compliance and reduce relapse rate.

These above studies highlight that patient on specific psychiatric drugs which have more side effects. Need to be educated specifically to prevent discontinuation of therapy and relapse.

The findings revealed that there is significant association between age, sex, other type of occupation like housework, farmer shopkeeper. Whereas no work, education, income, duration of treatment and disease have insignificant association with pre-test knowledge score.

## CONCLUSIONS

The present study explore that there is significant effect of Instructional Module on knowledge for patients on Lithium Carbonate therapy revealed that there is highly significant gain in knowledge. The correlation finding which was done to find the relationship with selected demographic variables, was done by using 't' test. Educating people on drugs by booklet have significant effect in improving their knowledge. Thus, for better compliance with treatment and for prevention of relapse. The nurse may encounter many situation where planning for discharge and patient education can be carried out by her in best possible way by means like booklet or Instructional Module.

### *Implication & recommendation*

The findings of study have implication at various level of nursing like nursing

practice, nursing education, nursing administration and nursing research in following ways:-

- When such booklet on each drug which have less cost and better effect for disease, are made will provide sound and comprehensive knowledge to practice better discharge planning and health teaching to patient. Thus will enable the client to care for self and to maintain regular follow up visits.
- Nursing education is developing rapidly in India. We are training nurses to achieve an International standard. To achieve high level of educational standards nursing education needs to be raised to a greater extent. This is achieved if all aspects of health needs are considered as a whole.
- The education curriculum must include preparation of such booklet. Diet plan, health teaching on various drugs, and disease as a project work to help them to learn about various methods of health teaching to their clients.
- Preparation of such project work can be included in the nursing education curriculum.
- Nurse administrator can utilize this type of booklet material to enhance in the knowledge of student and staff nurses. And also discharge planning and education to client can be done in better manner.
- There is a need for extended and intensive nursing research in the area of health education and discharge planning for client to improve their knowledge for better compliance with treatment and to prevent relapse.

Keeping in view the findings of the study, the following recommendations are made:

1. It is suggested that the study may be replicated using a larger population of the patients on Lithium Carbonate therapy, for longer duration.
2. Similar study can be replicated but interval between pre-test and post-test should be more than 3-7 days.
3. A study may be conducted to evaluate the effectiveness of Instructional Module versus other methods of health teaching on similar problem.
4. A study can be done on association between various demographic variables, which were significant, on larger samples.
5. A study may be done to determine cost effectiveness of the Instructional Module.

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How to cite this article: Singh M, Madhusoodan. A study to determine the effectiveness of instructional module on knowledge, for patients on lithium carbonate therapy at GMA of Gwalior city. Int J Health Sci Res. 2015; 5(2):228-234.

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