



EFFECTIVENESS OF EDUCATIONAL PROGRAMME ON KNOWLEDGE OF CARE GIVERS REGARDING DOMICILIARY CARE OF PATIENTS WITH SEVERE MENTAL DISORDER

Neethu Sasi^{1,*} and Raveesh Kaimal, T.V.²

¹Nursing Officer, Rcc Trivandrum, Kerala

²Senior Nursing Officer, Aiiims Bhopal, MP,

ARTICLE INFO

Article History:

Received 20th February, 2021
Received in revised form
25th March, 2021
Accepted 18th April, 2021
Published online 30th May, 2021

Key Words:

Educational Programme, Knowledge Of
Care Givers, Domiciliary Care,
Psychiatricpatients, Severe Mental
Disorder.

ABSTRACT

Background: The family of mentally ill clients carry a heavy burden because they are involved in providing informal care to these patients at home. **Need for the Study :** An increase in the knowledge level of family members can help a great deal in providing better domiciliary care and thereby by reducing the rate of relapse and admission to the hospital. **Methodology:** A quasi experimental one group pre testpost test design was used in the study. The sample comprised of 40 caregivers of patients with severe mental disorders admitted in the psychiatry ward of AIMS, Kochi, selected by using convenience sampling technique. The knowledge of care givers regarding domiciliary care of patients with severe mental disorder was assessed before and after the implementation of education programme which constituted 2 sessions each of 45 minutes duration. The data was collected using knowledge assessment questionnaire by means of structured interview schedule. Knowledge was reassessed seven days after the intervention. **Results:** Application of paired t test revealed a statistically significant increase in the knowledge of the study subjects regarding the domiciliary care of patients with severe mental disorder after the implementation of the education programme ($t=18.23, df=39, p<0.001$). There was significant increase in the knowledge of each of the components of domiciliary care also. The maximum knowledge was seen in the area of communication and healthy family environment in the pre test, but in the post-test, maximum score is for the component, medication compliance. No association was found between pre-test and post test knowledge and sociodemographic variables. ($\chi^2_{(1)}=3.84, \chi^2_{(2)}=5.99, p>0.05$). **Conclusion:** Based on the study findings, it was concluded that the education programme was effective in improving the knowledge level of caregivers regarding the domiciliary care of patients with severe mental disorder.

Copyright © 2021. Neethu Sasi and Raveesh Kaimal. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Neethu Sasi and Raveesh Kaimal, T.V. "Effectiveness of educational programme on knowledge of care givers regarding domiciliary care of patients with severe mental disorder", 2021. *International Journal of Current Research*, 13, (05), 17673-17680.

INTRODUCTION

Knowledge of the family regarding the illness of its member and the management will contribute a lot to the positive patient and family outcome. Family-based intervention is considered to be the most significant contribution of family research to psychiatric practice. It should focus on expanding training to patients and key relatives about wellness, recovery, skill training, and task sharing of household and self-care chores. An improvement in these areas is likely to improve the quality of life of people with mental illness and their families.¹

Background of the problem: Mental and behavioural disorders account for 12% of the global burden of disease. The WHO in its World Health Report 2001 has drawn attention to the fact that, of the

45 crore people estimated to be suffering from mental and behavioural disorders globally, 'only a small minority', are adequately cared for. The prevalence of major mental and behavioural disorders in India during 2010 is estimated to be 7.5 crores². Psychiatric disorders account for 5 of 10 leading causes of disability as measured by years lived with a disability. The overall disability adjusted life years (DALYs) burden for neuropsychiatric disorders is projected to increase to 15% by the year 2020³. At the international level, mental health is receiving increasing importance as reflected by the WHO focus on mental health as the theme for the World Health Day (4th October 2001), World Health Assembly (15th May 2001) and the World Health Report 2001 with Mental Health as the focus. At the national level, mental health policy has been the focus of Indian public health initiatives during last two decades. Currently India is implementing a national level programme of integrating mental health with primary health care, the largest such effort in the developing world.³ Research over the last 20 years has established a sound evidence base for the effects of the family environment on mental illness.

*Corresponding author: Neethu Sasi,
Nursing Officer, Rcc Trivandrum, Kerala.

Because of changes in the organization of mental health services in both Western and Asian countries, the past decade has witnessed a substantial increase in demands for family interventions¹. Interventions like psychoeducation has reported greater improvements on family and patient functioning and shorter lengths of patient hospitalizations compared with the routine care.⁴ In India, the community mental health services provide tertiary care through the implementation of supervised domiciliary aftercare programme. In order to address the needs of the patient and family and reduce the stigma of mental illness, rehabilitation programmes have to be community based⁵ The impact of mental illness on the caregivers has been evaluated in the form of burden, caregiving experience, psychiatric/ psychological morbidity, coping, financial burden, needs, stigma, etc.¹ The demands of caring for a mentally ill relative have both an emotional and practical impact on the caregiver, which have been defined and quantified by the concepts of subjective and objective burden. Studies have shown that 95% of the cost of treatment of schizophrenia in India is borne by the family, which uses about half of its income in the patient's treatment.¹ Patients who experience psychiatric hospitalization, tend to incur the highest annual mental health costs, driven primarily by the cost of psychiatric hospitalisation.⁶

Need for the study: The families of mentally ill clients carry a heavy burden. Research has shown that they experience sorrow, shame and guilt. They are often involved in informal caring and there is evidence of families playing an important role in the recovery of the patient. In spite of this, a great deal could still be made to create more family-oriented care. This development depends to a large extent on nurses' view of involving families in the care and the perceived value of family-oriented work.¹ Research contributions have added more depth to understanding of the construct of burden of care by exploring important determinants and factors that likely contribute or mediate the caregiver's perception of burden of care. Relapse rates are higher with non compliance to treatment, expressed emotions, non conducive family environment and other harmful family behaviours. Although the cost of caregiving is considered to be significant, there are no reliable estimates of the costs associated with such care. The majority of available literature categorized the cost of burden of care among the indirect costs of the illness in general.⁷ But evidences are sufficient to state that these have an added effect on the family burden.

Studies conducted in other Asian countries in identifying the perceived learning needs of the family members of patients with severe mental disorders outrides India. The effect of an educational intervention for families of people with Schizophrenia in China has been evaluated after assessing their learning needs and the families responded positively to the teaching programme, revealing it as effective and useful. They experienced to be more relaxed as the outcome of care was better with reduced number of hospital re admissions.⁵ As the families are the primary care providers in India, they need support from government and the society. They also need an understanding of the illness, skills to care for the ill. They must ensure medication compliance, be able to recognize early signs of relapse, handle swift resolution of crisis and reduce social and personal disability.⁸ Residential care is a concern experienced by about one third of caregivers, especially those with poor financial and social support. Care givers express a high need for education and guidance about illness and its management. They must also be informed about the available support systems and other resources. They also expect more empathy, active support and encouragement from professionals.⁸ The outcome of a comparative study of home care, by atrained nurse, versus hospital out-patient supervision in the management of chronic psychiatric patients in Bangalore, India, had revealed that hospital admission was less often needed among those who received homecare.⁹ As the reviews reveal that successful family intervention reduces rates of relapse and improves quality of life of patients with severe mental illness, an educational training programme for the family members may contribute to their knowledge of managing these patients at home more effectively, thereby improving the quality of life of the patients.

MATERIALS AND METHODS

Research approach: The primary objective of the study was to compare the mean pretest and post test knowledge of the subjects receiving education programme. The research approach was quantitative. As the effectiveness of the intervention was to be determined scientifically, experimental approach was found to be appropriate.

Research Design: The research design used in the present study was quasi experimental one group pre testpost test design. It can be represented as follows

O₁ X O₂: O₁ represents the pre-intervention measurements- assessment of pretest knowledge of the study participants by using the knowledge assessment questionnaire. X- Intervention-administration of teaching programme regarding domiciliary care of patients with severe mental disorder, in two sessions. O₂ represents the post intervention measurements - assessment of post test knowledge of the study participants by using the knowledge assessment questionnaire on the same group of subjects, seven days after the intervention. The study involved only one group. Those subjects who received the pretest and intervention only were administered the post test.

Variables of the study

Independent variable: Education programme on domiciliary care of patients with severe mental disorder.

Dependent variable: Knowledge regarding domiciliary care of patients with severe mental disorder.

Setting of the study: The present study was done at the psychiatry ward of AIMS, Kochi, which is a 35 bedded unit. AIMS is a super speciality hospital established in 1998, and has a bed strength of 1200. The psychiatry department of AIMS is providing efficient treatments like psychologic, psychiatric, deaddiction and ECT services to both inpatients and outpatients.

Sample size:

The sample size was estimated by means of power analysis. The mean scores in the pilot study was used for the estimation and the minimum sample size was found to be 32. Forty caregivers of patients with severe mental disorder who are admitted in the psychiatry ward of AIMS, Kochi were selected for the study.

Sampling technique: The sample was selected by convenience sampling due to limited no. of samples & time constraints. Pre determined inclusion and exclusion criteria were considered while selecting the samples.

Data collection instruments

Tool 1: Structured interview schedule

The tool used in the present study was a knowledge assessment questionnaire developed by the researcher and it was administered using structured interview technique

The tool consists of 3 sections

Section A: Sociodemographic data of the caregiver

This section includes the caregiver's age, sex, education, occupation, marital status, family income, type of family, relationship with the patient, and length of stay with the patient

Section B: Sociodemographic data of the patient

This section includes the MRD number of patient, age, sex, duration of illness, diagnosis, duration of treatment and family history of mental illness.

Section C: Knowledge assessment questionnaire

This section includes knowledge assessment questionnaire in the form of multiple choice questions developed by the researcher. As a standardised tool for assessing the knowledge of caregivers regarding the domiciliary care of patients with severe mental disorders could not be identified by the researcher, a new tool had to be constructed.

Content validity: The tool was validated by seven experts. The content validity index of the tool was calculated and found as 0.89.

Scoring and interpretation: Total score: 40

For each correct answer one mark was given. Based on the score obtained the participants were categorised as having

- 0- 13: Poor knowledge
- 14- 27 : Moderate knowledge
- 28-40 : Good knowledge

Reliability of the tool: Reliability of the tool was established using split half technique by administering to 10 caregivers of patients with severe mental disorder. The reliability was found to be 0.91.

Procedure for data collection: Data collection was done using structured interview technique, the interviews being conducted in the counselling room of psychiatry ward by the investigator herself. It took average 45 minutes for each interview. Data collection began after all the clients who were admitted in the ward during the pilot study got discharged. Whenever a new patient was admitted in the ward, caregiver satisfying the inclusion criteria was selected and pre test was administered. A group of 5-6 samples were administered the education programme as following lecture cum discussion method. The two sessions, each of 45 minutes duration were given in two consecutive days and knowledge level was re assessed after seven days.

STATISTICAL ANALYSIS AND RESULT

The analysis is presented under the following sections.

Section I: Sample characteristics

Section II: Patient characteristics

Section III: Pre- test knowledge of subjects regarding domiciliary care of patients with severe mental disorder

Section IV: Post- test knowledge of subjects regarding domiciliary care of patients with severe mental disorder

Section V: Comparison of pre-test and post- test knowledge scores.

Section VI: Association between caregiver's level of knowledge and selected demographic variables.

Table 1 shows that 20 (50%) of the care givers were below 50 years of age and 22 (55%) of them were females. Twenty two of the subjects (55%) were parents of the patients with severe mental disorder, who comprised of an adult group. Only four subjects (10%) were children of these patients, others being their spouses. Twenty nine of the caregivers (72.5%) were staying with the patients for 21-40 years and two (5%) were with them for more than 40 years. The majority i.e. 18 (45%) of the study subjects were educated upto the secondary level, 25 (62.5%) being unemployed. Also 27 (67.5%) of them belonged to Hindu religion and 34 out of 40(85%) were married. Twenty two (55%) of the caregivers had a monthly family income between 5000 and 10,000 rupees.

Table 1. Distribution of subjects based on demographic characteristics

n=40			
Sl. No.	Demographic variable	Frequency	Percentage (%)
1.	Age		
	a)<30 yrs	2	5.0
	b)31-40	3	7.5
	c)41-50	15	37.5
	d)51-60	11	27.5
	e)>60 yrs	9	22.5
2.	Sex		
	a)Male	18	45.0
	b)Female	22	55.0
3.	Relationship with the patient		
	a) Parent	22	55.0
	b) Son/daughter	4	10.0
	c) Spouse	14	35.0
4.	Duration of stay with the patient		
	a)Upto 20 yrs	9	22.5
	b) 21-40 yrs	29	72.5
	c) >40 yrs	2	5.0
5.	Education		
	a)Primary	6	15.0
	b)Secondary	18	45.0
	c)Higher secondary	12	30.0
	d)Graduate and above	4	10.0
6.	Occupation		
	a)Un employed	25	62.5
	b)Self employed	8	20.0
	c)Daily wage workers	1	2.5
	d)Government employee	1	2.5
	e)Private employee	3	7.5
	f)Professionals	2	5.0
7.	Religion		
	a)Hindu	27	67.5
	b)Christian	11	27.5
	c)Muslim	2	5.0
8.	Marital status		
	a)Married	34	85.0
	b)Widowed	6	15.0
9.	Income		
	a)<5000 Rs.	9	22.5
	b) 5000-10,000	22	55.0
	c) >10,000	9	22.5

Section II Patient characteristics: Table 2 shows the distribution of patients with severe mental disorders based on their diagnosis. Majority of the patients i.e. 62.5% had mood disorders and 32.5% were diagnosed with schizophrenia. Only two out of 40 (5%) had schizoaffective disorder. Table 3 depicts the level of knowledge of care givers assessed by using a self-administered questionnaire in the pre-test. It is evident from the Table that 75% of the subjects had an average level of knowledge, 25% of them had poor knowledge and none of them had good knowledge regarding the domiciliary care of patients with severe mental disorder. Table 4 shows the mean pretest knowledge score of caregivers regarding various components of domiciliary care of patients with severe mental disorder. The mean percentage score was also found in order to compare the knowledge scores with respect to these components. Knowledge related to Communication and healthy family environment ranked high with a mean score of 2.6 (65.8%) followed by that of Medication compliance with a mean score of 1.1(55%) when compared to the mean score of other components. From this Table it is evident that limited knowledge was found in the area related to rehabilitation with a mean score of 0.9(29.3%).

Table 2. Distribution of patients based on their diagnosis

n=40		
Diagnosis	Frequency	Percentage (%)
Schizophrenia	13	32.5
BPAD	25	62.5
Schizoaffective disorder	2	5

Table 3. Frequency and percentage of subjects based on pretest knowledge level

n=40		
Level of Knowledge	Frequency	Percentage (%)
Poor (0-13)	10	25
Average(14-27)	30	75
Good (28-40)	0	0

Table 4. Mean and Standard deviation of knowledge score in the pre-test with respect to the components of domiciliary care.

n = 40						
Sl. No	Area	Max Possible Score	Mean	Mean percentage %	Range	S.D
1	Basic knowledge of severe mental disorder	8	2.9	36.	5	1.36
2	Treatment of severe mental disorders	12	6.3	52.8	8	2.19
3	Symptom management	3	1.4	45.8	3	0.95
4	Relapse prevention	8	3.1	38.8	8	1.53
5	Communication and healthy family environment	4	2.6	65.8	4	0.87
6	Medication compliance	2	1.1	55	2	0.71
7	Rehabilitation	3	0.9	29.3	3	0.73
	Total score	40	18.27	45.68	20	5.33

Table 5. Frequency and percentage of subjects based on post test knowledge level

n =40		
Level of Knowledge	Frequency	Percentage (%)
Poor (0-13)	0	0
Average (14- 27)	11	27.5
Good (28-40)	29	72.5

Table 6. Mean, range and Standard deviation of knowledge score in the post-test with respect to the components of domiciliary care.

n =40						
Sl.no.	Knowledge	Max Possible Score	Mean	Mean percentage (%)	Range	S.D
A	Basic knowledge of severe mental disorder	8	5.3	66.7	6	1.4
B	Treatment of severe mental disorders	12	8.8	72.9	8	2.36
C	Symptom management	3	2.5	84.3	1	0.5
D	Relapse prevention	8	5.4	67.8	6	1.87
E	Communication and healthy family environment	4	3.7	91.2	2	0.73
F	Medication compliance	2	1.9	94.0	1	0.33
G	Rehabilitation	3	1.3	44.3	3	0.72
	Total score	40	28.72	71.8	20	5.49

Table.7. Mean , Median, Mode, Range and Standard Deviation of knowledge scores.

n=40					
Tests	Mean	Median	Mode	Range	Standard deviation
Pre test	18.27	19	17	20	5.33
Post test	28.72	30	29	20	5.49

Table 8. Comparison of pre -test and post- test knowledge scores by paired t test

n =40				
Tests	Mean	S.D	Mean difference	't' value
Pre test	18.27	5.33	10.45	18.23***
Post test	28.72	5.49		

t(39)= 2.0301, p < 0.001 ***significant at 0.001

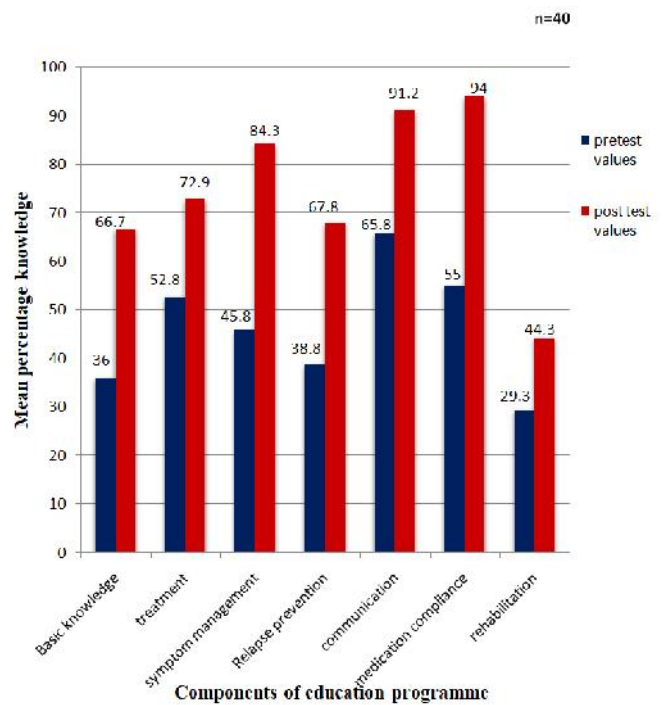


Figure 3. Comparison of the mean percentage knowledge of caregivers regarding the domiciliary care of clients with severe mental disorder before and after the administration of the education programme

Table 5 depicts that majority of the sample ie. 29 (72.5%) had good knowledge and 11 of them (27.5%) had average knowledge regarding the domiciliary care of patients with severe mental disorders . Table also indicates that there was no one in the poor knowledge category. Table 6 shows the mean post test knowledge score of caregivers regarding various components of domiciliary care of patients with severe mental disorder . The mean percentage score was also found in order to compare the knowledge scores with respect to these components. As seen in the table, the knowledge related to medication compliance ranked high in the post test with a mean score of 1.9 (94%) out of the maximum score of two. It was followed by the knowledge regarding Communication and healthy family environment with a mean score of 3.7(91.2%). As in the pretest, the least knowledge was found in the area of rehabilitation with a mean score of 1.3. Table 7 depicts an increase in post knowledge score, with a mean of 28.2 when compared to the mean pre test score of 18.27 . The median value of pretest is 19 and of post test 30. The mode of pretest was 17, while that of post test is 29, and the range for both is 20. The null hypothesis for comparing the mean pre test and post-test knowledge scores of the sample could be stated as “there is no significant difference between the mean pre- test and post test knowledge scores of the caregivers on domiciliary care of patients with severe mental disorder”.

Table 9. Comparison of pretest and post test knowledge scores of various areas

n =40

Sl. No.	Components	Pre-test Mean SD		Post test Mean SD		Mean difference	't' value
A	Basic knowledge of severe mental disorder	2.9	1.36	5.3	1.4	2.4	11.41***
B	Treatment of severe mental disorders	6.3	2.19	8.8	2.36	2.4	7.48***
C	Symptom management	1.4	0.95	2.5	0.5	1.2	7.89***
D	Relapse prevention	3.1	1.53	5.4	1.87	2.3	8.72***
E	Communication and healthy family environment	2.6	0.87	3.7	0.74	1.0	6.65***
F	Medication compliance	1.1	0.71	1.9	0.33	0.8	7.02***
G	Rehabilitation	0.9	0.72	1.3	0.73	0.4	3.79***

$t_{(39)} = 2.0301$, $p < 0.001$ *** significant at 0.001

Table 10-Association between pre-test knowledge score and selected demographic variables

n=40

Demographic Variables	Pre-test knowledge score		Chi- Square	df	p value
	Poor f	Average f			
1.Age					
a.<50 years	4	16	0.13 ^{ns}	1	0.72
b.>50 years	6	14			
2.Sex					
a.Male	4	14	0.14 ^{ns}	1	0.71
b.Female	6	16			
3.Education	7	17	0.14 ^{ns}	1	0.71
a.Upto secondary					
b.Higher secondary and above	3	13			
4.Occupation					
a. Employed	5	10	0.32 ^{ns}	1	0.57
b. Unemployed	5	20			
5. Relationship					
a.Parent	7	15	1.97 ^{ns}	2	0.37
b.Children	0	4			
c.Spouse	3	11			
6. Family history of illness					
a.Yes	7	17	0.14 ^{ns}	1	0.70
b.No	3	13			
7. Duration of stay					
a.Upto 20 years	1	8	0.43 ^{ns}	1	0.51
b.>20 years	9	22			

$\chi^2_{(1)} = 3.84$, $\chi^2_{(2)} = 5.99$ $p > 0.05$, ns- not significant

Table 11. Association between post-test knowledge score and selected demographic variables

n=40

Demographic Variables	Post-test knowledge score		Chi - Square	df	p-value
	Average f	Good f			
1.Age					
a.<50 years	3	17	2.00 ^{ns}	1	0.16
b.>50 years	8	12			
2.Sex					
a.Male	6	12	0.153 ^{ns}	1	0.69
b.Female	5	17			
3.Education	8	16	0.423 ^{ns}	1	0.51
a.Upto secondary					
b.Higher secondary and above	3	13			
4.Occupation					
a.employed	4	11	0.008 ^{ns}	1	0.93
b.unemployed	7	18			
5. Relationship					
a.Parent	6	16	1.992 ^{ns}	2	0.37
b.Children	0	4			
c.Spouse	5	9			
6. Family history of illness					
a.Yes	9	15	1.886 ^{ns}	1	0.17
b.No	2	14			
7. Duration of stay					
a.Upto 20 years	1	8	0.684 ^{ns}	1	0.40
b.>20 years	10	21			

$\chi^2_{(1)} = 3.84$, $\chi^2_{(2)} = 5.99$ $p > 0.05$, ns- not significant

Table 8 shows that the mean pre-test knowledge score is 18.27 and the mean post-test score is 28.72. Paired t- test was used to compare the pre- test and post- test scores. As the calculated test statistic value (18.23) is higher than the Table value 2.0301, at 39 degrees of freedom, ($p < 0.001$), the null hypothesis was rejected and the already stated research hypothesis was accepted.

That is the mean post -test knowledge score of the caregivers of patients with severe mental disorder is significantly higher than their mean pre- test knowledge score. In order to compare the knowledge scores of the caregivers regarding the various aspects of the domiciliary care of patients with severe mental disorder before and after the administration of the education programme, the score obtained for each section were presented in the above bar graph (Figure -3). The knowledge score in each component is increased in the post test. The maximum knowledge was seen in the area of communication and healthy family environment in the pre test, but in the posttest, maximum score is for the component, medication compliance. The null hypothesis for comparing the mean pre test and post-test knowledge scores of the sample was stated as "there is no significant difference between the mean pre- test and post test knowledge scores of the caregivers in each of the components of the domiciliary care of patients with severe mental disorder". Table 9 shows that there is an improvement in all the content areas. As the calculated test statistic values in all the sections were higher than the Table value 2.0301, the null hypothesis was rejected and the research hypothesis accepted, ie. the mean post test knowledge score of each component was significantly higher than the mean pretest knowledge scores of each component.

Section VI: Association between caregiver's level of knowledge and selected demographic variables

The null hypothesis that was stated is "there is no significant association between the mean pre- test knowledge score of the caregivers and selected demographic variables". The data presented in Table 10 shows that the calculated χ^2 values are less than the Table values at corresponding degrees of freedom ($\chi^2_{(1)} = 3.84, \chi^2_{(2)} = 5.99, p > 0.05$) and hence the null hypothesis is accepted, and the research hypothesis is rejected, ie. there is no significant association between the pre test knowledge of caregivers and their selected demographic variables. The null hypothesis which was stated is "there is no significant association between the mean post- test knowledge score of the caregivers and selected demographic variables". Table 11 shows that the calculated χ^2 values are less than the Table value at corresponding degrees of freedom ($\chi^2_{(1)} = 3.84, \chi^2_{(2)} = 5.99, p > 0.05$). Hence the null hypothesis is accepted, and the research hypothesis is rejected, that is there is no significant association between the post test knowledge of caregivers and their selected demographic variables.

DISCUSSION

The discussion is organised under the following headings:

Sociodemographic variables of the subjects

Objectives of the study

ISociodemographic variables of the subjects: Half of the caregivers (50%) were below 50 years of age and the other half were above 50 years of age (Table 1). This finding is worth discussing because the next part of the Table shows that 55% of the subjects were parents of the patients. This fact points towards the impact of long term burden that these families might be suffering for being the caregivers of patients who comprised of an adult age group. The young adults who are supposed to look after their elderly parents as per Indian culture are sick and to be cared for by the parents, which is the current scenario in severe mental disorder. The female participants constituted about 55% of the total sample. About 72.5% of the caregivers were staying with the patients for 21- 40 years. Quarter of

the caregivers were unemployed though the majority (45%) of them were educated upto secondary level; a finding that points towards the problem of unemployment even when the educational status is high.

Objectives of the study

The first objective of the study was to determine the knowledge level of care givers on domiciliary care of patients with severe mental disorder by a pretest using knowledge assessment questionnaire developed by the researcher. The knowledge score was assessed among 40 caregivers and the mean pre-test knowledge score was found to be 18.27 with a SD of 5.33 and mean percentage score 45.68 (Table 7). It was also found that no one among the subjects had good knowledge, 25% had poor knowledge and 75% had average knowledge regarding the domiciliary care of patients with severe mental disorder (Table 3). As the investigator wanted to know what are the areas the subjects are having less knowledge, mean percentage scores of knowledge level of each component was calculated. 'The scores of basic knowledge about severe mental disorder', 'rehabilitation' and 'relapse prevention' were found to be lowest than other areas of knowledge with a mean percentage 29.3, 36, and 38.8 respectively. These findings support the assumption of the study that care givers have inadequate knowledge regarding the domiciliary care of patients with severe mental disorders. While reviewing the related literature, the investigator did not come across any similar studies that assessed the knowledge of family members regarding domiciliary care of patients with severe mental disorder as such, both in the Indian and global scenario.

The second objective of the study was to assess the knowledge level of caregivers after the education programme by a post test. It was found that 72.5% of the subjects had good knowledge, 27.5% had average knowledge and none of them scored poor, in the post test (Table 5). The mean post test knowledge score was 28.72 with a standard deviation of 5.49 and the mean percentage score 71.8 (Table 7). The investigator also analysed the post test knowledge scores of each of the components of domiciliary care. The knowledge related to medication compliance, communication and healthy family environment ranked high in the post test with a mean score percentage of 94 and 91.2 respectively. An increase was found in all components of domiciliary care (Table 6) including basic knowledge about severe mental disorder, rehabilitation and relapse prevention (mean score percentage 66.7, 67.8 and 44.3 respectively). Many of the previous studies on family psycho education assessed the changes in care practices and family functioning after their intervention but not their knowledge regarding domiciliary care of patients with severe mental disorder. The study was carried out on the assumption that an educational intervention can improve the care giver's knowledge regarding the domiciliary care of patients with severe mental disorder. The effectiveness of psychoeducation and mutual support group program was assessed by Chien WT⁴ in a randomized controlled trial conducted among the family caregivers of Chinese people with schizophrenia. He found a significant decrease in family burden in terms of finance, daily life and activities, interactions with patient, mental health and also improvement in all aspects of family functioning such as problem-solving, communication and interpersonal relationship ($p < 0.01$). These improvements could be attributed to the increase in their knowledge in corresponding aspects after the education intervention even though knowledge was not assessed in that study. This fact gives support to the present study which showed an increased knowledge among the caregivers regarding the domiciliary care of patients with severe mental disorder in the post test.

Another important point the investigator noticed is that there was no sample drop out during the entire study, which could be considered as one of the strengths of the study. The high attendance rate of the family caregivers may be explained by the fact that the families were likely to be more optimistic and enthusiastic about the potential for positive change during the illness and possible prevention of patients' relapse. This also indicates a need for family-centred services to offer

accessible and early intervention at home or in the community when patient discharge is being planned to take place in the near future.

The third objective of the study was to compare the mean pre test and post test knowledge scores. The mean pre test knowledge score was 18.27 which was increased to 28.72 in the post test, making a mean difference of 10.45. The paired 't' test (Table 8) revealed that the increase in mean score in the post test is statistically significant, ($t_{(39)} = 2.0301$, $p < 0.001$) proving that the education programme is effective in improving the care givers' knowledge regarding the domiciliary care of patients with severe mental disorder. Also while comparing the mean pre test and post test knowledge scores of each component of the education programme, the t values calculated (A=11.41, B=7.48, C=7.89, D=8.72, E=6.65, F=7.02, G=3.79) were also higher than the Table value (2.0301 at 0.05 level of significance) at 39 degrees of freedom. Hence there is a significant increase in the knowledge level at each aspect of the domiciliary care, after the education programme. This further adds upon to the effectiveness of education programme on domiciliary care of patients with severe mental disorder and the increased scope of community mental health nurses in providing similar education programmes to family members in the community setting in order to reduce the relapse rates, family burden and to improve the quality of life. After reviewing the related literature and research studies, the investigator identified a scarcity of studies that assessed the caregivers' knowledge regarding domiciliary care of patients with severe mental disorder, either in an Indian setting or abroad. But there are studies which assessed the impact of family psycho education, recovery movement on family interventions for schizophrenia etc. which were found to be effective in reducing the family burden of care and in improving functioning of the patients.

The outcome of a comparative study of home care, by a trained nurse, versus hospital out-patient supervision in the management of chronic psychiatric patients in NIMHANS, Bangalore, conducted by Pai S⁹ had revealed that hospital admission was less often needed among those who received home care by a trained nurse. Nasr T³⁵ in a randomized controlled trial that studied the effect of psychoeducation on family burden of schizophrenia patients, reported a significant reduction in the level of burden in families who received psychoeducation as compared to those who did not receive psychoeducation ($p < 0.05$). Glynn SM³⁴ illustrated the impact of the recovery movement on family interventions for schizophrenia. The family intervention programmes have included psychoeducation, crisis intervention, emotional support, and teaching of skills in order to cope with symptoms and other difficulties. Family psychoeducation has been shown to reduce symptoms and improve functioning in individuals with schizophrenia and to reduce burden in their families. These family interventional studies had shown to improve the functional aspects of the patient as well as the family. This implies that their knowledge regarding each of the disease and care aspect also might have improved after being exposed to the intervention to get this desired result. The findings of the present study therefore is in concordance with the previous studies. Another important factor the investigator noticed was that majority of the studies were done among schizophrenia patients and their family members which means the impact of the other severe mental disorders in the families and the effect of psychoeducation are yet to be studied in detail.

The fourth objective was to find the association between knowledge of caregivers on domiciliary care and selected demographic variables by using chi square test. Association between caregivers pretest knowledge level and selected demographic variables like age, sex, educational level, monthly income, duration of stay with the patient, relationship with patient etc. was done using chi square test. No significant association was found between caregivers' pre test knowledge and demographic variables (Table 10). Similarly the researcher also analysed association between post test knowledge and selected socio demographic variables (Table 11). But again no association was found. One of the reasons for this finding may be that the present study was conducted in a single setting, in a small sample size of 40 which was not selected randomly and there was no control

group. Another reason for not getting any association between the knowledge score and socio demographic data may be the attitude of society towards mental illness which is still affected by the stigma associated with it. This makes their knowledge level about mental illness and its management to be still low. The study subjects were the caregivers of patients with severe mental disorder. Even though they are directly involved in the patient care, they have only less knowledge; and their education level or increased number of years of stay with the patient do not change their knowledge level. This may be due to their attitude towards mental illnesses in general. Further, these findings are in par with the findings of Riebschleger J³⁹ who evaluated the early outcomes of a developing Youth Education and Support (YES) pilot intervention of multifamily group psychoeducation for children of a parent with a psychiatric illness. Although the intervention was found to be effective, they could not identify any significant association between pre test and post test knowledge scores and sociodemographic variables like age, educational status etc.

CONCLUSION AND RECOMMENDATIONS

Based on the findings of the study it was concluded that the education programme regarding the domiciliary care of patients with severe mental disorder was effective in improving the knowledge of caregivers regarding the same. Statistical analysis proved that there was significant improvement of knowledge in each component of the domiciliary care of patients with severe mental disorder.

Recommendations

- Similar study can be replicated in a large sample.
- Selection of samples should be done by using probability sampling technique
- A similar study can be done after assessing the perceived learning needs of the caregivers of clients with severe mental disorder.
- Study can be conducted as a true experimental study with randomization, intervention and control group.
- Long term study which assess the effect of education programme for caregivers on client outcomes like relapse and client functioning, quality of life etc.
- Similar studies can be conducted in a community setting.
- Prospective studies may be conducted to assess the effect of educational interventions on family burden, caregiver stress etc.

REFERENCES

1. Avasthi A. Preserve and strengthen family to promote mental health. Indian J Psychiatry. 2010 Apr-Jun; 52(2): 113–26.
2. Gururaj C, Girish N, Issac M.K, Mental, Neurological and substance abuse disorders: strategies towards a systems approach. NCMH background papers- Burden of Disease in India 2009:19-29
3. Mental Health Research in India. Technical Monograph on ICMR Mental Health Studies. Available from URL: <http://www.icmr.nic.in>
4. Chien WT. Effectiveness of Psychoeducation and Mutual Support Group Program for Family Caregivers of Chinese People with Schizophrenia. Open Nurs J 2008; 2: 28–39.
5. Zheng LI, Arthur DG. An education intervention for families of people with schizophrenia in China. Journal of psychosocial nursing. Feb 2006;44(2):38-47.
6. Zhu et al. Costs of treating patients with schizophrenia who have illness-related crisis events. BMC Psychiatry. 2008;8(72).
7. Awad AG, Voruganti LN. The burden of schizophrenia on caregivers: a review. Pharmacoeconomics. 2008;26(2)p 149-62
8. Agarwal S P. Mental Health :an Indian perspective. 1st edition. New delhi: Elsevier ;2004. P-84,155-58.
9. Pai S, Channabasavanna SM, Raghuram R . Home care for chronic mental illness in Bangalore: an experiment in the

- prevention of repeated hospitalization. The British Journal of Psychiatry [serial online]; 1985;147: 175-179. Available from URL :<http://www.bjp.rpsych.org/>
10. Wesley RL. Nursing theories. 2nd ed. springhouse; 1995:95-101
 11. Polit DF, Beck CT. Nursing research principles and methods. 7th ed. Philadelphia: Lippincott Williams and Wilkins; 2006. P 111.
 12. Zahid MA and Ohaeri JU. Relationship of family caregiver burden with quality of care and psychopathology in a sample of Arab subjects with schizophrenia. BMC Psychiatry. 2010; 10: 71.
 13. Jonsson PD, Skarsater I, Wijk H, Danielson E. Experience of living with a family member with bipolar disorder. Int J Ment Health Nurs. 2011 Feb; 20(1):29-37
 14. Diaz-Caneja A, Johnson S. The views and experiences of severely mentally ill mothers--a qualitative study. Soc Psychiatry Psychiatr Epidemiol. 2004 Jun; 39(6):472-82.
 15. King S, Ricard N, Rochon V, Steiger H, Nelis S. Determinants of expressed emotion in mothers of schizophrenia patients. Psychiatry Res. 2003 Mar 25; 117(3):211-22
 16. Miklowitz DJ. The role of family systems in severe and recurrent psychiatric disorders: a developmental psychopathology view. Dev Psychopathol. 2004; 16(3):667-88.
 17. Phillips MR, Pearson V, Li F, Xu M. Stigma and expressed emotion: a study of people with schizophrenia and their family members in China. The British Journal of Psychiatry. 2001 Jun; 466-467.
 18. Boyd JE, Katz EP, Link BG and Phelan JC. The relationship of multiple aspects of stigma and personal contact with someone hospitalized for mental illness, in a nationally representative sample. Soc Psychiatry Psychiatr Epidemiol. 2010 November; 45(11): 1063-70.
 19. Systematic treatment key to healing schizophrenia. The Hindu 2011 May 25; Kozhikode.
 20. LO'Connel K. Needs of families affected by mental illness. Journal of psychosocial nursing. Feb 2006; 44(3):40-47
 21. Peay HL, Hooker GW, Kassem L. Family Risk and Related Education and Counseling Needs. Am J Med Genet A. 2009 March; 149A(3): 364-371.
 22. Sawant N, Jethwani K and Neena S. Understanding family functioning and social support in unremitting schizophrenia: A study in India. Indian J Psychiatry. 2010 Apr-Jun; 52(2): 145-149.
 23. Keshavan, M, Shrivastava A and Gangadhar B. Early intervention in psychotic disorders: Challenges and relevance in the Indian context. 2010 Jan; 52
 24. Sin J, Moone N, Harris P. Siblings of individuals with first-episode psychosis: understanding their experiences and needs. J Psychosoc Nurs Ment Health Serv. 2008 Jun; 46(6):33-40
 25. Smith MJ, Greenberg JS, Seltzer MM, Orsmond GI. Siblings of Adults With Schizophrenia: Expectations About Future Caregiving Roles. Am J Orthopsychiatry. 2007 January; 77(1): 29-37.
 26. Kartalova-O'Doherty Y and Doherty T. Scand J Caring Sci. 2008 March; 22(1): 19-28.
 27. Thompson MS. Violence and the costs of caring for a family member with severe mental illness. J Health Soc Behav. 2007 Sep; 48(3):318-33.
 28. Conley RR, Ascher-Svanum H, Zhu B, Faries D and Kinon BJ. The Burden of Depressive Symptoms in the Long-Term Treatment of Patients With Schizophrenia. Schizophr Res. 2007 February; 90(1-3): 186-197.
 29. O'Brien MP, Gordon JL, Bearden CE, Lopez SR, Kopelowicz A et al. Family problem solving interactions and 6-month symptomatic and functional outcomes in youth at ultra-high risk for psychosis and with recent onset psychotic symptoms: A longitudinal study. Schizophr Res. 2009 February; 107(2-3): 198-205.
 30. Noiseux S, Tribble D, Corin E, St-Hilaire P, Morissette R et al. BMC Health Serv Res. 2010; 10: 161.
 31. Mueser KT, Pratt SI, Bartels SJ, Swain KJ. Randomized Trial of Social Rehabilitation and Integrated Health Care for Older People with Severe Mental Illness. Consult Clin Psychol. 2010 August; 78(4): 561-573.
