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A Study to assess the effectiveness of planned teaching programme related to home care of acute lymphocytic leukemia (ALL) on knowledge among caregivers of children receiving chemotherapy in selected hospitals of Sangli, Miraj and Kupwad Corporation area

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Abstract

Nowadays the acute lymphocytic leukaemia, the most common type of childhood leukaemia, has a very high rate (60-70%) of survival. Incidence of leukaemia is almost 30% in children. The majority of paediatric cases of acute leukaemia occur below age 5 years. Acute Lymphocytic Leukaemia is most common malignancy accounting for one fourth of all childhood cancer and three fourth of all newly diagnosed patients with leukaemia. To minimize/prevent the symptoms and further consequences a proper home care is needed to the children receiving chemotherapy. This knowledge allows educating and practicing about the home care of children receiving chemotherapy. Based on the above facts the investigators felt the need to implement plan teaching programme in order to improve the knowledge of care givers about the home care of children receiving chemotherapy with Acute Lymphatic Leukaemia as well as to assess the effectiveness of same in terms of caregivers about home care children with Acute Lymphocytic Leukaemia (ALL). The study was conducted in selected hospitals of Sangli-Miraj city. Joshi cancer center, Siddhivinayak Ganpati cancer Hospital, etc. In this study the population consists of care givers of children suffering with acute lymphocytic leukaemia receiving chemotherapy in selected hospitals of Sangli-Miraj and Kupwad corporation area. Sampling technique used in the study was non-probability purposive sampling technique was used. Samples were selected according to the criteria, after obtaining permission from head of the selected hospitals of Sangli, Miraj and Kupwad areas. Study consisted of 40 caregivers of children with ALL receiving chemotherapy in selected hospitals.

Keyword: Acute Lymphocytic Leukaemia, Paediatric, Chemotherapy, Hospitals.

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1. Introduction

Leukemia was first observed by pathologist Rudolf Virchow in 1845. Observing an abnormally large number of white blood cells in a blood sample from a patient, Virchow called the condition *leukemia* in German, which he formed from the two Greek words *leukos*, meaning "white", and *haima* meaning "blood". Around ten years after Virchow's findings, pathologist Franz Ernst Christian Neumann found that one deceased leukemia patient's bone marrow was colored "dirty green-yellow" as opposed to the normal red. This finding allowed Neumann to conclude that a bone marrow problem was responsible for the abnormal blood of leukemia patients. By 1900 leukemia was viewed as a family of diseases as opposed to a single disease. By 1947 Boston pathologist Sidney Farber believed from past experiments that aminopterin, a folic acid mimic, could potentially cure leukemia in children. The majority of the children with ALL who were tested showed signs of improvement in their bone marrow, but none of them were actually cured. This, however, led to further experiments.

In 1962, researchers used combination chemotherapy to attempt to cure leukemia. The tests were successful with some patients surviving long after the tests. In 2010, globally, approximately 281,500 people died of leukemia. In 2000, approximately 256,000 children and adults around the world developed a form of leukemia, and 209,000 died from it. This represents about 3% of the almost seven million deaths due to cancer that year, and about 0.35% of all deaths from any cause. Of the sixteen separate sites the body compared, leukemia was the 12th most common class of neoplastic disease, and the 11th most common cause of cancer-related death. In 2012 leukemia developed in 352,000 people globally and caused 265,000 deaths. It is the most common type of cancer in children, with three quarters of leukemia cases in children being ALL. However, about 90% of all leukemia is diagnosed in adults, with AML and CLL being most common in adults [1].

One third of cancer cases reported in children are leukaemia cases. Nowadays the acute lymphocytic leukaemia, the most common type of childhood leukaemia, has a very high rate (60-70%) of survival. Incidence of leukaemia is almost 30% in children. The majority of paediatric cases of acute leukaemia occur below age 5 years. Acute Lymphocytic Leukaemia is most common malignancy accounting for one fourth of all childhood cancer and three fourth of all newly diagnosed patients with leukaemia [2].

Leukaemia is general term used to describe a group of malignant disorder affecting blood and blood forming tissues of the bone marrow lymph system and spleen leukaemia occurs in all age groups. Leukaemia can be treated with surgery, radiotherapy, chemotherapy or combination of these. Chemotherapy is the use of anti neoplastic agent to attempt to kill tumor cells by interfering with cellular function and reproduction. There are some effects of chemotherapy drugs such as hair loss, mucosities, mouth sores, skin reactions, nausea and vomiting, constipation, diarrhoea etc. The children suffering with leukaemia has also more chances of infection and bleeding [3].

A descriptive study was done on comparison of health related quality of life children during maintenance therapy with acute lymphoblastic leukemia versus siblings and healthy children in India. This study validated that the quality of life of children with ALL during maintenance therapy was significantly poorer than that of siblings and healthy children [4]. To minimize/prevent the symptoms and further consequences a proper home care is needed to the children receiving chemotherapy [5]. Childhood leukaemia has remained a focal point of extensive etiology, diagnostic and therapeutic research since its recognition as a clinical entity over a century ago. It is one of the most common cancers in children, comprising more than a third of all childhood cancers. Leukaemias are the most frequent neoplastic disease that occur in children and occur in children and youth. According to the literature on the subject, they constitute 30-35% of all neoplastic cases in the age group of 0-19 years [6]. It is generally know that people are not really interested in problems that do not concern them. However, when the disease occurs among their closest family members, they look for information on the subject. The diagnosis of disease scores the caregivers of children and makes him/her think about its causes and effects, about treatment and its consequences. The caregiver activity participate in treatment, want to control the situation and try to get as much information as possible to be able to cope with the treatment effects. Among the most distressing aspects of childhood leukaemia are necessary repeated invasive procedures. Parental distress specific to procedures remained relatively high and constant over the 2-3 years of leukaemia treatment. Stress specific to caregivers/parenting is particularly is relevant both in treatment and after treatment ends as it captures parent child interactions in acute situations as well as the border. Realm of parent-child relationship impacted on by the illness and its treatment [7]. Caregivers play an essential role for children in hospital and home. Caregivers of patients with leukemia require keeping knowledgeable about the information regarding home care of leukaemia. This knowledge allows educating and practicing about the home care of children receiving chemotherapy. Based on the above facts the investigators felt the need to implement plan teaching programme in order to improve the knowledge of care givers about the home care of children receiving chemotherapy with Acute Lymphatic Leukaemia as well as to assess the effectiveness of same in terms of caregivers about home care children with Acute Lymphocytic Leukaemia (ALL) [8].

2. Method

A Study to assess the effectiveness of planned teaching programme related to home care of Acute lymphocytic leukemia (ALL) [9], on knowledge among caregivers of children receiving chemotherapy in selected hospitals of Sangli, Miraj, and Kupwad corporation area.

The research design adopted for the present study was pre experimental design. Keeping in view the objective of the study, the research selected for the study was one group pre-test post-test design (01 x 02).

Table 1 The research design

Pre-test	Planned teaching	Post-test
Day 1	Day 2	Day 7
01	x	02

One group pre-test post-test Experimental Design:

Key: 01 – Pre-test knowledge score
02 – Post-test knowledge score
X - Planned teaching programme
01→ X → 02

The study was conducted in selected hospitals of Sangli-Miraj city. Joshi cancer center, Siddhivinayak Ganpati cancer Hospital, etc. In this study the population consists of care givers of children suffering with acute lymphocytic leukaemia receiving chemotherapy in selected hospitals of Sangli-Miraj and Kupwad corporation area. Sampling technique used in the study was non-probability purposive sampling technique was used. Samples were selected according to the criteria, after obtaining permission from head of the selected hospitals of Sangli, Miraj and Kupwad areas. Study consisted of 40 caregivers of children with ALL receiving chemotherapy in selected hospitals of Sangli, Miraj and Kupwad areas.

The reliability of the tool was determined by s by test retest method with an interval of 5 days. The reliability was calculated by using Karl person method. The reliability coefficient 'r' of the questionnaire was 0.9, which is more than 0.7, hence it was found to be reliable.

A pilot study is a small scale version or trial run of the major study [10]. The pilot study was been conducted in Joshi Cancer Hospital, Miraj. The pilot study for present research was conducted from 9/12/2014 to 16/12/2014 to assess the feasibility of the study. The subjects of pilot study were excluded from the final study [11].

Four caregivers were taken for pilot study. The sample was selected by purposive sampling technique. The investigator selected the caregivers individually and explained the purpose of the study, cleared their doubts and got written consent from them for the participation of the study. The tool was given to each one and caregivers were asked to fill it immediately. The pre-test was given on 9/12/2014, planned teaching was administered on 10/12/2004, and post test was done on the 16/12/2014. After post-test the data was analyzed with the help of paired t-test. The findings indicated that planned teaching was effective for the care givers of the ALL children in increasing their knowledge regarding home care of children receiving chemotherapy [12-14]. For the final study Permission was taken from the Sri Sidhivinayak Ganpati Cancer Hospital Sangli to conduct the study. The researcher visited hospital and selected the samples according to the criteria. The data gathering process began from 17/12/2014 to 24/12/2014. Informed consent was taken before filling the questionnaire. The investigator approached the care givers, introduced themselves to the care givers and explained the nature and purpose of the study. Care givers doubts where clarified and their consent was obtained. The tool was given to each care giver and asked to fill it immediately [15].

After that planned teaching was given to the care givers on home care of children receiving chemotherapy with ALL. The post-test regarding the same was taken with an interval of 7 days to assess the effectiveness of the planned teaching programme on the same population on which pre-test was been done [16].

3. Result

Frequency distribution of demographic variables Table 2 Distribution of samples according to age

N=40

Age	Frequency	Percent
25-35years	10	25.0
35-45years	22	55.0
45-55years	7	17.5
55-65years	1	2.5
Total	40	100.0

Above table shows that maximum 55% care givers are from the age of 35-45years.

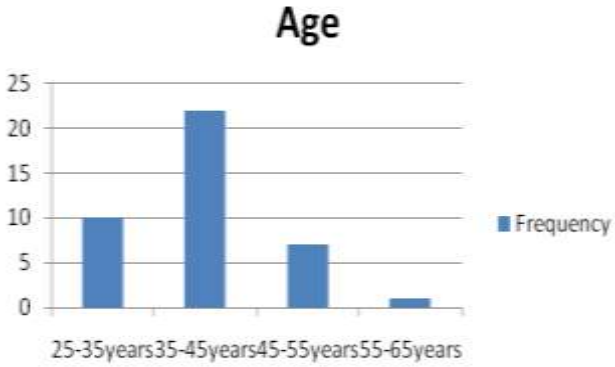

Figure 1 Frequency distribution of samples according to age

Table 3 Distribution of samples according to gender =40

Gender	Frequency	Percent
female	25	62.5
male	15	37.5
Total	40	100.0

Above table shows that maximum 62.5% care givers are female.

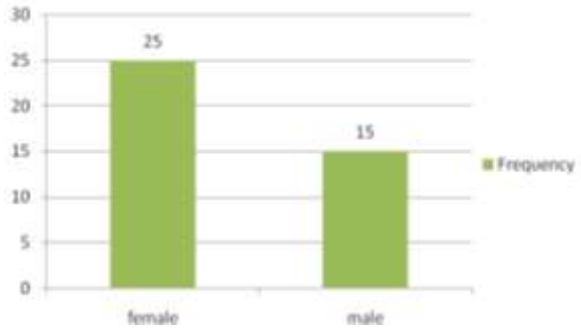

Figure 2 Frequency distribution of sample according to gender

Education	Frequency	Percent
Illiterate	10	25.0
Primary & secondary	25	62.5
Graduate	3	7.5
post-graduate	2	5.0
Total	40	100.0

Table 4 Distribution of sample according to education N=40

Above table shows that maximum 62.5% care givers are from primary & secondary education

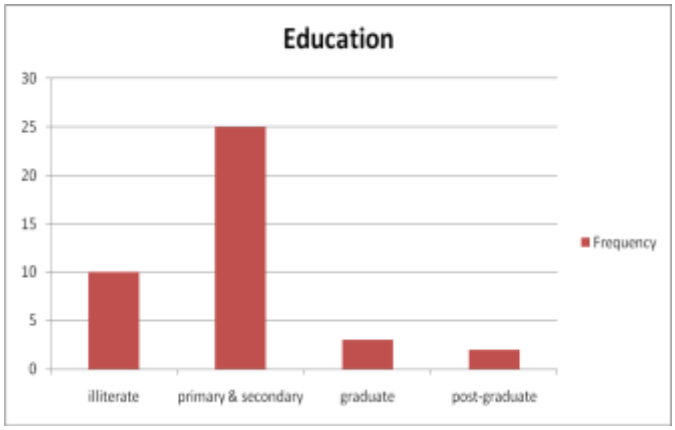

Figure 3 Frequency distribution of sample according to education

Table 5 Distribution of samples according to relation with child N=40

Relation with child	Frequency	Percent
Mother	21	52.5
Father	12	30.0
Grand mother	5	12.5
Grand father	2	5.0
Total	40	100.0

Above table shows that maximum 52.5% care givers are mothers.

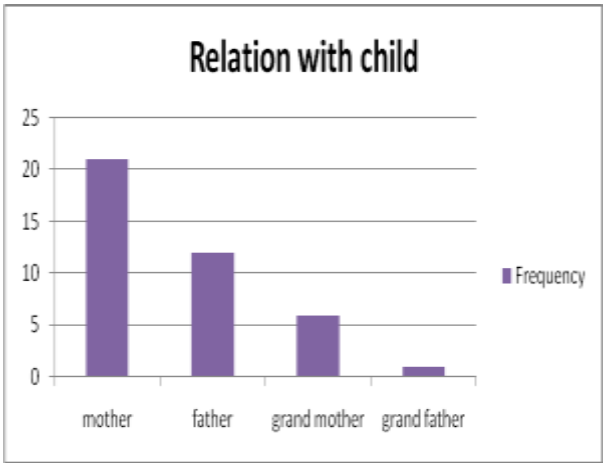

Figure 4 Frequency distribution of sample according to relation with child.

Table 6 Distribution of samples according to family income N= 40

Income	Frequency	Percent
2000-5999	26	65.0
6000-8999	6	15.0
9000-12000	6	15.0
12000 above	2	5.0
Total	40	100.0

Above table shows that maximum 65.0% care givers have income Rs .2000-5999/month.

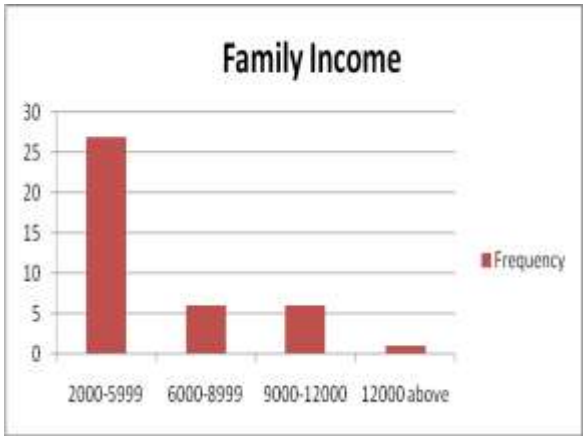

Figure 5 Frequency distribution of samples according to family income

According to table no.2 55% of caregivers belong to age group of 35-45 years.
According to table no. 3 62.5% of caregivers belong to gender female.
According to table no. 4 62.5% of care givers belong to primary and secondary education.
According to table no. 5 52.5% of caregivers are mothers.
According to table no. 6 65% of caregivers have income Rs.2000-5999/month.
Analysis of pre-test and post-test knowledge score.
Table 7 Comparison between mean score of pre-test & post-test knowledge score.

	Mean	Std. Deviation	Std. Error Mean	t	p value
Pre test score	13.08	2.635	0.417	-13.266	0.000
Pre test score	17.48	1.71	0.27		

Table 7 Shows that knowledge of the care givers of pre test score mean is 13.08, standard deviation is 2.635 and in post test score mean is 17.48, standard deviation is 1.71't' value is -13.266 and 'P' value is 0.000 i.e., it is highly significant as the p value is less than 0.005.Therfore is an increase in the knowledge score after planned teaching programme.

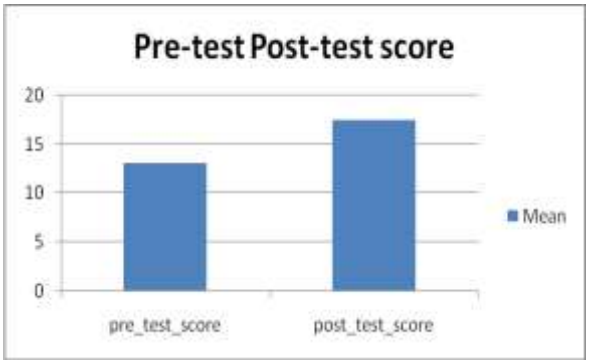

Figure 6 Pre test & post test knowledge score

Comparison between mean score of pre-test & post-test knowledge score.
Analysis of association of pre-test knowledge score with selected demographic variables

Table 8 Association of demographic variables

SN	Demographic variable	P value	Chi-square	Association
1	Age	1.000	o.217	Not
2	Gender	o.448	0.576	Not
3	Relation with child	0.647	2.504	Not
4	Family income	0.886	1.655	Not

Table 8 shows that there is no association between knowledge of care givers with demographic variables like (age, gender, relation with child, education, income).

4. Discussion

The main aim of the present study was to assess the effectiveness of planned teaching programme related to home care of acute lymphocytic leukemia (ALL) on knowledge among care givers of children receiving chemotherapy in selected hospitals of Sangli, Miraj & Kupwad Corporation area". Comparison of mean scores and standard deviation among pre-test and post-test group for effectiveness of planned teaching programme on knowledge among caregivers is done.

The statistical data shows that there is highly significant difference in mean score and standard deviation. Statistically the values show that there is no association between scores and demographic data Findings related to assess the effectiveness of planned health teaching related to home care of children receiving chemotherapy with ALL among care givers. Before the pre-test the samples were not having adequate

knowledge related to home care of children receiving chemotherapy among care givers of ALL children, after the planned health teaching programme the samples gained adequate knowledge, and the post test score was increased.

The study shows that the intervention of planned teaching programme was significantly effective to improve the knowledge among caregivers. And when compared together it was statistically found that there is highly significant difference among the pre-test and post-test score. Most of the care givers 55% belong to the age group of 35-45 years, 25% belongs to age group of 25-35 years, 15% belongs to age group of 45-55 years and 5% belongs to age group of 55-65 years. Most of the care givers were females 62.5% and males were 37.5% Most of the care givers 62.5% were having primary and secondary education, 25% were illiterate, 7.5 were graduate and 5% post graduate. Most of the care givers 52.5% were mothers, 30% were fathers, 12.5% were grandmother and 5% grandfather. There were 65% of care givers whose family income is between 2000-5999/month, 15% with 6000-8999/month, 15% with 9000-12000/month and 5% were having family income above 12000/month. The findings of the study show that the intervention of planned teaching programme was significantly effective to improve the knowledge among caregivers. Statistically found that there is highly significant difference among the pre-test and post-test score. Statistically the values show that there is no association between scores and demographic data. The nurse working in hospital setting both in inpatient and outpatient services, play an important role in assessing factors affecting care givers of ALL children and which can help to plan further interventions about management of factors. They can carry out health education both on one to one basis. Planned teaching related to home care of children receiving chemotherapy will help to improve the knowledge of care givers of ALL and to minimize the associated complication.

Now a day much importance is given to the awareness and promotion of health than the curative aspects. As the need of society is continuously changing newer components must be incorporated in the nursing curriculum. Nursing education must emphasis on preventive and rehabilitative aspects. The basic training of nurses in India includes teaching of certain units related to care of children receiving chemotherapy.

Nurse as an administrator can play and organize educational programme. Nurse administrator can organize planned teaching programme, health education programme, exhibition for the parents/caregivers of children knowledge care of children to improve their knowledge on home care of children receiving chemotherapy. No profession can exist without research to develop its body of knowledge to test its strategies. The health care environment today is dynamic and more demanding. There is need to promote research based practice and use of evaluation methods to measure outcome and document the quality and cost effective care as nursing moves towards an independent professional practice mode. Nursing research is an essential aspect of nursing as it uplifts the profession and develops new nursing norms and body of knowledge another research has been added to the nursing literature. The nursing research design, findings and the tool can be used as avenues for further research.

Conclusion

The main aim of the present study was to assess the effectiveness of planned teaching programme on knowledge among care givers of ALL related to home care of children receiving chemotherapy in selected hospitals of sangli, miraj and kupwad corporation area.
An exploratory study was used to assess the effectiveness of planned teaching programme on knowledge among care givers of ALL related to home care of children receiving chemotherapy in selected hospitals of Sangli, Miraj and Kupward corporation area.

Health education is an important nursing responsibility. Nurse works in various setting like hospital, community health centers etc. and therefore should make use of the opportunity in assessing care givers of children receiving chemotherapy with ALL. So it is a nurses role to bring this problem related to care givers of ALL children receiving chemotherapy into focus and gain information about it to plan further actions.

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