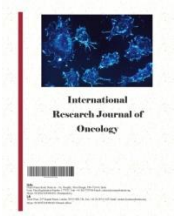

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Effectiveness of Structured Teaching Program on Knowledge Regarding Side Effects of Chemotherapy and Its Home Management among Cancer Patients Receiving Chemotherapy in Selected Regional Cancer Hospital Shimla at Himachal Pradesh, India

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Introduction: Cancer is a multi-factorial disease in which cellular reproduction process goes out of control. Chemotherapy is a widely used treatment for cancer in which cytotoxic drugs or anti-neoplastic drugs are used to kill or shrink fast-growing cells in the body, but it also result in various side effects which depend on the type of drug, dosage, frequency and its duration of administration. Several home remedies are also used to overcome these side effects. Thus, the study aimed to develop and evaluate the effectiveness of structured teaching program on knowledge regarding side effects of chemotherapy and its home management among cancer patients.
Methods: Quasi experimental, Non- equivalent control group research design was used in the study. Total 60 participants were selected in the study by non-probability purposive sampling technique from Regional cancer hospital, Shimla, Himachal Pradesh. The data was collected by structured knowledge questionnaire tool with interview method for evaluating knowledge level of

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cancer patients. Structured teaching program was administered in two days for 1 hour (30 minutes in each day).

Results: Result showed that the mean pre test score and standard deviation of knowledge level in experimental group is 10.83± 4.13 and 23.33± 2.64 of post test respectively and mean difference of 12.5 Which is highly significant at p value < 0.05 which means the knowledge level of cancer patients was improved after implementation of the structured teaching program By contrast in control group little difference between pre and post test score of knowledge level among cancer patients which is not significant. There was association found between gender, marital status and previous knowledge ($p<0.05$).

Conclusion: The findings of present study showed that the structured teaching program was effective and help in improving knowledge level of cancer patients receiving chemotherapy. Educating the cancer patients will help them to become more knowledgeable about their own health, treatment and also help in managing side effects at home.

Keywords: Cancer; chemotherapy; home management; knowledge; side effects; structured teaching program.

1. INTRODUCTION

Cancer is a multi-factorial disease in which cellular reproduction process goes out of control [1-3]. Cancer is a disease which is identified by uncontrolled, uncoordinated and unwanted cell division [4-7]. The cancerous cells result in various symptoms of cancer by pressuring, crushing and destroying surrounding non-cancerous cells and tissues [8].

Chemotherapy is a main treatment of cancer in which anti-neoplastic drugs cyto-toxic drugs or is used to shrink or damage the fast-growing cells in the body by inhibiting the microtubules, protein synthesis and DNA synthesis [9]. It has been proven that chemotherapy effectively and efficiently damages the cancer cells, but it can also result in harmful side effects that can severely affect the individual's quality of life [8]. According to American Cancer Society the most common side effects of chemotherapy include nausea, vomiting, hair loss, fatigue, increased chance of bruising and bleeding, anemia and infection, but these side effects of chemotherapy are different from person to person [10].

Several managements are done at home to treat chemotherapy's side effects [11,12]. However research on the potential profits of natural remedies and alternative and complimentary therapies is still limited, certain research studies recommend that some remedies may be beneficial in minimizing, preventing or treating side effects.

1.1 Statement of Problem

A study to assess the effectiveness of structured teaching program on knowledge regarding side effects of chemotherapy and its home management among cancer patients in selected hospital of Himachal Pradesh.

1.2 Objectives of the Study

1. To assess the pre-test score of knowledge regarding side effects of chemotherapy and its home management among cancer patients receiving chemotherapy in experimental and control group.
2. To evaluate the effectiveness of structured teaching program on knowledge regarding side effects of chemotherapy and its home management among cancer patients receiving chemotherapy in experimental group.
3. To find out the association between pre-test score of knowledge regarding side effects of chemotherapy and its home management among cancer patients receiving chemotherapy with their selected socio-demographic variable in experimental group.

2. MATERIALS AND METHODS

A Quantitative quasi-experimental research design was used in this study. The population of the study was cancer patients who receiving chemotherapy from Regional cancer hospital Shimla Himachal Pradesh. Data of pre test was collected through interview method regarding socio-demographic variables and knowledge regarding side effects of chemotherapy and its home management was assessed by using self-structured questionnaire providing around 30 minutes to each participants. Following that the data collected from the control group from the 30

participants who receiving chemotherapy from the day care centre who fulfilling the inclusive criteria by using the non-probability sampling technique. Data for the pre-test was collected as same in experimental group. The participants of experimental were informed about the structured teaching program, main objectives and its duration. After the pre-test, the structured teaching program was administered to the experimental group in In-patient department at chemotherapy centre; the structured teaching program was administered for two days with duration of 30 minutes each day. The post test was conducted on 7th day of administering structured teaching program the post test was conducted from both the groups (experimental and control group).

2.1 Data Collecting Tool

2.1.1 Semi-structured questionnaire

Semi-structured questionnaire was used as a tool for data collection. The questionnaire in this study consisted of the following two parts:

Part I: Socio-demographic variable it include: age, gender, residential area, educational status, and marital status, type of family, occupation, previous knowledge, and duration of receiving chemotherapy.

Part II: Knowledge questionnaires it includes 30 items.

3. RESULTS AND DISCUSSION

Section A: Frequency and Percentage Distribution of Socio-Demographic Variable of Cancer Patients in Experimental and Control Group.

With regards age, the maximum participants in experimental group 8 (26.67%) were in age group of 35 – 44 years whether in control group maximum participants were 8 (26.67%) falling in age group of more than 64 years. With regards to gender, in experimental group there was equal proportionate of study participants in both gender that is 15(50%), but in control group largest proportion of study participants 20(66.67%) were female. With regards to residential area, the majority of study participants in experimental group 28(93.33%) and in control group 27(90%) were belongs to rural area. With regards to educational status, the most of participants in experimental group 18 (60%) and 13 (43.33%) in control group were having secondary education. With regards to marital status, the highest percentage of the study participants 28 (93.33%) in experimental group as well as in control group were married. With regards to type of family, 18(60%) of participants in experimental group and 19 (63.33%) of participants in control group were lived in joint family. With regards to occupation, in experimental and control group the more number of the study participants are unemployed 19 (63.33%) and 24 (80%) respectively. With regards to previous knowledge, maximum percentage of participants 26 (86.67%) in experimental group and all participants in control group 30 (100%) had no previous knowledge regarding chemotherapy and its side effects. With regards to duration of receiving of chemotherapy, in experimental as well as control group majority of study participants 22 (73.33%) and 19(63.34%) had less than 1 year of duration of receiving chemotherapy.

Section B: Pre test score of knowledge in experimental and control group regarding side effects of chemotherapy and its home management among cancer patients receiving chemotherapy.

Fig. 1 the figure shows that in both the groups' (experimental and control group) the 100% of study participants were had inadequate knowledge, and none of the study participants had moderate adequate and adequate knowledge regarding side effects of chemotherapy and its home management.

Fig. 2 Post test score of knowledge in experimental and control group regarding side effects of chemotherapy and its home management among cancer patients receiving chemotherapy.

The Fig. 2 revealed that in experimental group none of study participants had inadequate knowledge, 50% of participants were had moderately adequate knowledge and 50% were had adequately knowledge.

By contrast in control group 93.33% and 6.67% of study participants had inadequate and moderate adequate knowledge and none of the study participants had adequate knowledge regarding side effects of chemotherapy and its home management.

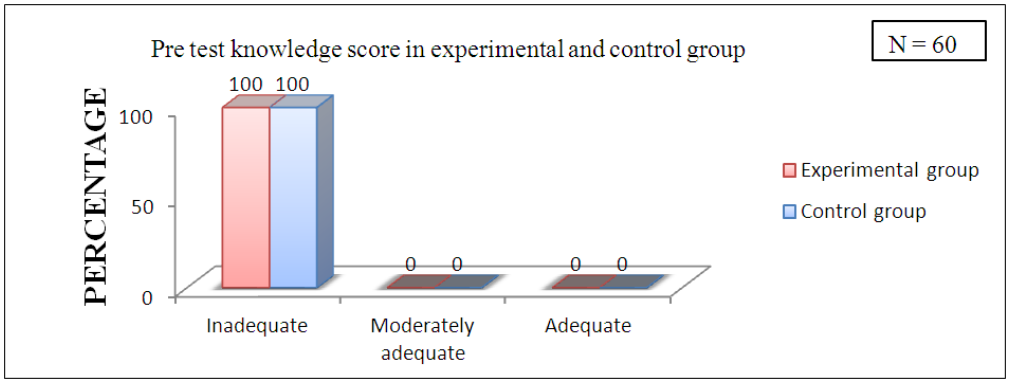

Fig. 1. Percentage Distribution of Cancer Patients Based on Pre-Test Knowledge Score in Experimental and Control Group

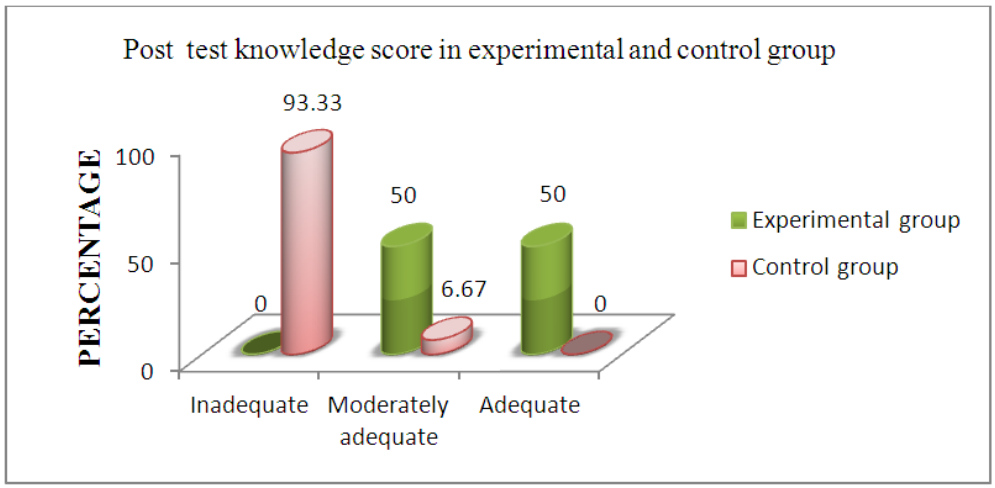

Fig. 2. Percentage Distribution of Cancer Patients Based on Post-Test Knowledge Score in Experimental and Control Group

Table 1. Mean, Standard Deviation and Mean Difference of Pre-Test and Post-Test Knowledge Score among Cancer Patients in Experimental and Control Group N= 60

Group	Pre- test		Post- test		Mean difference	t- value	df	p value
	Mean	SD	Mean	SD				
Experimental group n=30	10.83	4.13	23.33	3.93	12.5	15.869	58	0.000*
Control group n=30	9.13	2.64	10.1	3.64	.87	1.0297	58	0.56

Section C: Effectiveness of structured teaching program on knowledge among cancer patients receiving chemotherapy.

The above Table 1 shows that, paired t- test result shows, in experimental group, the mean pre test score and standard deviation 10.83± 4.13 and the mean and standard deviation of post test was 23.33± 3.93 and the mean difference was 12.5, which was highly significant at p value .000, it means the knowledge level of cancer patients was improved after implementation of structured teaching program.

Whereas in control group the pre and post test level of knowledge of study participants, the mean and standard deviation of pre test was 9.13± 2.64 and post test was 10.1±3.64 and mean difference was .87 which was not significant it means the knowledge level had inadequate.

Section D: Association between pre test knowledge score with socio- demographical variables of cancer patients in experimental group.

Table 2. Association of Selected Socio Demographical Variables with Pre-Test Knowledge Score among Cancer Patients in Experimental Group N =30

Sr. No.	Socio Demographic	Experimental group (N=30)			
	Variables	**Mean and S.D**	**test Value**	**df**	**p Value**
1.	**Age**				
	<35	8.67±4.04	F=1.42	Between 4	
	35 – 44	10.62±3.58		group	0.256^{NS}
	45 – 54	13.62±3.59			
	55 – 64	11.14±4.94		Within 25	
	>64	8.4±3.78		group	
2	**Gender**				
	1. Male	9±3.54			
	2. Female	12.66±3.95	t=2.672	28	0.012*
3	**Residence**				
	Rural	10.82±4.2	t=0.058	28	0.954^{NS}
	Urban	11±4.24			
4	**Educational Status**				
	No formal education	11.25±2.21		Between 3	
	Primary	10.5±6.12	F=0.429	group	0.734^{NS}
	Secondary	10.5±3.98			
	Graduation or above	14±3.58		Within 26	
				group	
5	**Marital Status**				
	Single	5.5±2.12	t=1.98	28	0.049*
	Married	11.21±3.99			
Sr. No.	**Socio Demographic**	**Experimental Group(N=30)**			
	Variables	**Mean and S.D**	**test Value**	**df**	**p Value**
6	**Type of family**				
	Joint family	10.11±3.86	t = 0.915	28	0.368^{NS}
	Nuclear	11.91±4.09			
	Extended family	0			
7	**Occupation**				
	Unemployed	11.15±4.43	F=1.321	Between 3	
	Self employed	10.5±3.72		group	0.281^{NS}
	Private Sector	9±7.07		Within 26	
	Government Sector	10.67±2.51		group	
8	**Previous knowledge about chemotherapy**				
	Yes	14.75±1.71			
	No	12.75±1.48	t=2.159	28	0.041*
9	**Duration of receiving chemotherapy**				
	< 1 year	10.63±4.24		Between 2	
	1-2 years	10.8±4.76	F=0.210	group	0.812^{NS}
	3- 4 years	12.33±3.05		Within 27	
	>4 years	0		group	

∗ *= Significant, NS = Not Significant*

The association between the pre test score with their socio-demographic variables of the study participants in experimental group. The ANOVA test and independent t test was used to find the association with socio-demographic variables, the group was significant association with gender, marital status and previous knowledge ($p<0.05$).

4. CONCLUSION

The present study was associated with the effectiveness of structured teaching program on knowledge regarding side effects of chemotherapy and its home management among cancer patients receives chemotherapy from selected regional cancer hospital, Shimla, (H.P). The study finding revealed that there was significant improvement in post test knowledge which showed the effectiveness of structured teaching program. The improved knowledge in the cancer patients will help to prevent the chance of occurrence of complication. Further hospital awareness program can be planned to improve the knowledge among cancer patients.

5. RECOMMENDATIONS

In the light of the above findings and personal experience of the investigator of the following recommendations are offered.

1. A study can be conducted on assessment of quality of life among patients with cancer, side effects of chemotherapy and the home management.
2. An experimental study can be undertaken with randomization for effectiveness of the study.
3. A similar study can be done by using other teaching strategies like self-instruction/ computer assisted instruction.

CONSENT

Participants were informed about the purpose of the study and written consent was taken from each participants.

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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