

Effectiveness of Structured Teaching Programme on Knowledge Regarding Listeriosis in Pregnancy among Antenatal Mothers in Sagar Hospital, Bangalore

Laishram Dabashini Devi* and Vidya P

*College of Nursing Sciences, Dayananda Sagar University, India.

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ABSTRACT

Listeriosis is a food borne infection during pregnancy caused by eating food contaminated with the bacterium called “*Listeria monocytogenes*”, which primarily causes abortion, septicemia or meningitis. Contaminated meats, dairy products and sea foods are implicated in outbreaks of listeriosis. According to CDC data, pregnant women are 20 times more susceptible than other healthy adults to get listeriosis. Incidence of listeriosis in pregnancy is 12 per 100,000 in the general population all over the world. A major reason for this is unaware of hygienic food practices among mothers during pregnancy. If the mother is aware of her food selection, preparation and handling during pregnancy, listeriosis can be prevented. The aim of the study is to assess the effectiveness of structured teaching programme regarding listeriosis in pregnancy among antenatal mothers in Sagar Hospital, Bangalore. The objective of the study were to assess the pre-test knowledge score of antenatal mothers regarding listeriosis in pregnancy, determine the effectiveness of structured teaching programme on listeriosis in pregnancy among antenatal mothers by comparing the pre-test and post-test knowledge scores and to determine the association between pre-test and post-test knowledge scores of antenatal mothers with selected demographic variables. An evaluative approach was adopted and a pre experimental design was used for the study. Antenatal mothers at Sagar Hospital, Bangalore were the samples and the sample size was 50. The mothers were selected by convenience sampling technique. The structured teaching programme was administered at the end of the pre-test and the post-test was carried out seven days later using the same tool as that of the pre-test. The data was analysed by using descriptive and inferential statistics. Findings of the study revealed that the post-test mean score was 23.80 with the standard deviation of 4.708 and the respondents knowledge were significantly higher than, the mean pre-test knowledge scores 17.58 with a standard deviation of 4.899 and computed paired ‘t’ value 7.07 is higher than table value 1.69 at $P < 0.05$ level. Hence the structured teaching programme on listeriosis in pregnancy was effective and statistically significant. The study reveals that there is no significant association between selected demographic variables like age, religion, type of family, education, occupation, monthly family income and previous knowledge regarding listeriosis in pregnancy in relation with pre-test knowledge scores of antenatal mothers at $P > 0.05$ level. The present study also reveals that there is no association between selected demographic variables like age, religion, type of family, education, occupation, monthly family income, previous knowledge regarding listeriosis in pregnancy in relation with post-test knowledge scores of antenatal mothers at $P > 0.05$ level. The study concluded that the structured teaching programme was effective in terms of gain in knowledge of antenatal mothers regarding listeriosis in pregnancy.

Keywords: Effectiveness, Knowledge, Listeriosis, Antenatal mothers

INTRODUCTION

Pregnancy is the happiest moment in the life of a woman. Pregnancy brings in joy with the ever-increasing waistline, pains and aches. Pregnancy is a unique, exciting and often joyous time in a women’s life. Pregnant women need to be a responsible to provide better health for her future child. It is vital, that she prepares her body to become a suitable environment for the baby to grow in by staying happy and healthy emotionally and mentally as the growing fetus depends entirely on its mother’s healthy body for all needs. Consequently, pregnant women must take steps to remain

healthy and well-nourished [1-3]. Health and nutrition is important during pregnancy, not only for the developing baby, but for her own well-being. Focusing on healthy diet,

Corresponding author: Laishram Dabashini Devi, College of Nursing Sciences, Dayananda Sagar University, India, Tel: 7829320300; E-mail: roshini999.bk@gmail.com

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exercise, regular checkup, rest and weight gain, along with maintaining overall health, can reduce most of the complications during pregnancy [4]. Good nutrition is an essential part of daily life. It becomes even more essential during pregnancy because a mother's and her baby's health greatly depend on good nutrition. Pregnant women need more nutrients than other women. Pregnant women become hungrier, especially during the first two trimesters of pregnancy, as a result they eat more food. The mother's diet is directly related to the health of growing baby because all the nutrients that are needed for the baby's growth comes from food. Throughout the childbearing period mothers should be very aware of everything what they ingest. Adapting healthy eating habits at this time is important for mother and her baby [5]. Caution must be taken while consuming certain foods in order to avoid food poisoning. Food poisoning during pregnancy can lead to miscarriage, premature birth or severe illnesses to the baby. Raw or undercooked foods contain bacteria that are harmful. There are a number of infections that a woman may contract during her pregnancy, which can cause significant harm to mother as well as baby [6]. The health of pregnant women and babies can be affected by infection and one of such emerging infection is listeriosis, this is a bacterial infection caused by a gram-positive, motile bacterium, *Listeriosis monocytogenes*. Listeriosis is a serious problem, primarily occurring in pregnant women, new born infants and elderly patients whose immunity is weak [7-9].

OBJECTIVES OF THE STUDY

1. To assess the pre-test knowledge score of antenatal mothers regarding listeriosis in pregnancy.

2. To determine the effectiveness of structured teaching programme on listeriosis in pregnancy by comparing the pre-test and post-test knowledge scores.
3. To determine the association between pre-test and post-test knowledge scores of antenatal mothers with selected demographic variables.

RESEARCH METHODOLOGY

A pre experimental design (one group pre-test and post-test) is adopted. The investigator selected Sagar Hospital, Bangalore as the settings for the present study. The samples for this research study are 50 antenatal mothers in Sagar Hospital, Bangalore. In this study, convenience sampling technique is used for selecting the sample.

RESULTS

Table 1 indicates the distribution of respondents by age where, majority of the antenatal mothers 25 (50%) belongs to the age group of 26-30 years, 20 (40%) belongs to the age group of 21-25 years and minimum 5 (10%) belongs to the age group 31-35 years, majority of the antenatal mothers 24 (48%) were Hindu, 17 (34%) were Christian and 9 (18%) were Muslim, majority 27 (54%) of antenatal mothers were from joint families and remaining 23 (46%) were from nuclear families, 7 (14%) have completed their PUC, 43 (86%) have completed their Degree and above, majority 42 (84%) were employed and 8 (16%) were house wife, majority of the respondents 36 (76%) possess an income of Rs. 20,000-30,000 per month and 12 (24%) is noticed with an income of Rs. 10,000-20,000 per month, 50 (100%) respondents have no knowledge about listeriosis in pregnancy.

Table 1. Frequency and percentage distribution of respondents by demographic variables (N=50).

Age (years)	No. of antenatal mothers	Percentage
21-25	20	40
26-30	25	50
31-35	5	10
Religion	No. of antenatal mothers	Percentage
Hindu	24	48
Christian	17	34
Muslim	9	18
Type of family	No. of antenatal mothers	Percentage
Joint	27	54
Nuclear	23	46
Education	No. of antenatal mothers	Percentage
Primary	0	0

Secondary	0	0
PUC	7	14
Degree and above	43	86
Occupation	No. of antenatal mothers	Percentage
Employed	42	84
House wife	8	16
Monthly family income (Rs)	No. of antenatal mothers	Percentage
10,000-20,000	12	24
20,000-30,000	36	76
Previous knowledge	No. of antenatal mothers	Percentage
Yes	0	0
No	50	100

Table 2 represents the frequency and percentage distribution of respondents on pre-test knowledge level, in which, 2 (4%) of the respondents have inadequate knowledge, 43 (86%) of the respondents have moderate knowledge level and 5 (10%) of the respondents have adequate knowledge level regarding listeriosis in pregnancy.

Table 2. Frequency and percentage distribution of respondents on pre-test knowledge level on listeriosis in pregnancy.

Knowledge	Category	Respondents	
		Frequency	Percentage
Inadequate	0-33% Score	2	4%
Moderate	34-66% Score	23	86%
Adequate	67-100% Score	5	10%
Total		50	100

Table 3 represents the distribution of respondents on post-test knowledge level where, majority 30 (60%) have adequate knowledge, 20 (40%) have moderate knowledge and none of them have inadequate knowledge on listeriosis in pregnancy after the structured teaching programme.

Table 3: Frequency and percentage distribution of respondents on post-test knowledge level on listeriosis in pregnancy.

Knowledge Level	Category	Respondents	
		Frequency	Percentage
Inadequate	0-33% Score	0	0%
Moderate	34-66% Score	20	40%
Adequate	67-100% Score	30	60%
Total		50	100

Table 4 represents the pre-test and post-test mean, standard deviation, mean percentage and percentage of enhancement with regard to the pre-test. The mean is 17.58 with standard deviation 4.899 and the mean percentage is 53.27. With regard to the post-test, the mean is 23.80 with standard deviation 4.708 and the mean percentage is 72.12.

Table 4. Mean and standard deviation of pre-test and post-test knowledge score.

Knowledge score of antenatal mothers	Max score	Mean	SD	Mean %	Percentage of enhancement
Pre-test	33	17.58	4.899	53.27	35.385
Post-test	33	23.80	4.708	72.12	

Table 5 shows the comparison between pre-test and post-test knowledge scores. With respect to the pre-test the mean is 17.58 with standard deviation 4.899 and the mean percentage is 53.27. With respect to the post-test, the mean is 23.80 with standard deviation 4.708 and the mean percentage is 72.12. The t value is 7.07 at 5% level of

significance which is greater than the table value of 1.69 indicates the effectiveness of the structured teaching programme on knowledge regarding listeriosis in pregnancy. Hence the hypothesis H_1 - There will be significant differences between pre-test and post-test knowledge scores regarding listeriosis in pregnancy is accepted.

Table 5. Comparison between the pre-test and post-test knowledge level regarding listeriosis in pregnancy.

Analysis of knowledge score	Pre-test score			Post-test score			t-value	Inference
	Mean	SD	Mean%	Mean	SD	Mean%		
Knowledge score of antenatal mothers	17.58	4.899	53.27	23.80	4.708	72.12	7.07	S

HS: Statistically significant at $P < 0.05$

$t(0.05, 49 \text{ df}) = 1.69$

Table 6 shows the association of level of pre-test knowledge with selected demographic variables. It is evident from the above table that there is no significant association with the

variable like age, religion, type of family, education, occupation monthly family income, previous knowledge regarding listeriosis in pregnancy.

Table 6. Association between pre-test knowledge score with selected demographic variables.

Demographic variable	Categories	Pre-test knowledge score of antenatal mothers		Chi-square value	df	P-Value	Inference
		Below median ≤ 17.5	Above median ≥ 17.5				
Age	≤ 25 years	10	10	0.000	1	1.000	NS
	≥ 25 years		15				
Religion	Hindu	10	14	1.282	1	0.258	NS
	Christian/Muslim	15	11				
Type of family	Joint	14	13	0.081	1	0.777	NS
	Nuclear	11	12				
Education	PUC	5	2	0.664	1	0.415	NS
	Degree	20	23				
Occupation	Employed	20	22	0.149	1	0.700	NS
	House wife	5	3				
Monthly family income	$< 20,000$	7	5	0.439	1	0.508	NS
	$> 20,000$	18	20				
Previous knowledge	Yes	0	0	Nil	Nil	Nil	NS
	No	25	25				

$\chi^2(0.05, 1 \text{ df}) = 3.841$

Table 7 shows the association of level of post-test knowledge with selected demographic variables. It is evident from the above table that there is no significant association

with the variable like age, religion, type of family, education, occupation, monthly family income and previous knowledge regarding listeriosis in pregnancy.

Table 7. Association between post-test knowledge score with selected demographic variables.

Demographic variable	Categories	Post-test knowledge score of antenatal mothers		Chi-square value	df	P-Value	Inference
		Below median	Above median				
		≤ 23	≥ 23				
Age	≤ 25	8	12	0.000	1	1.000	NS
	> 25	12	18				
Religion	Hindu	9	15	0.120	1	0.729	NS
	Christian/Muslim	11	15				
Type of family	Nuclear	12	15	0.483	1	0.487	NS
	Joint	8	15				
Education	PUC	2	5	0.062	1	0.803	NS
	Degree	18	25				
Occupation	Employed	17	25	0.000	1	1.000	NS
	Housewife	3	5				
Monthly family income	<20,000	5	7	0.018	1	0.892	NS
	>20,000	15	23				
Previous knowledge	Yes	0	0	Nil	Nil	Nil	NS
	No	25	25				

$\chi^2 (0.05, 1 \text{ df})=3.841$

DISCUSSION AND CONCLUSION

The present study found that, the pre-test knowledge level among 50 respondents, 2 (4%) had inadequate knowledge scores, 43 (86%) had moderate knowledge and 5 (10%) had adequate knowledge. In the pre-test the mean value was 17.58 with a standard deviation of 4.899. The present study found that, the post-test knowledge scores among 50 respondents revealed that 30 (60%) had adequate knowledge scores, 20 (40%) had moderate knowledge and no subjects had inadequate knowledge. In post-test the mean value was 23.80 with a standard deviation of 4.708. In the present study, the post-test mean score was 23.80 with the standard deviation of 4.708 and the respondents post-test knowledge score were significantly higher than, the mean pre-test knowledge scores 17.58 with a standard deviation of 4.899 and computed paired 't' value 7.07 is higher than table value 1.69, which shows the structured teaching programme was effective at $P<0.05$ level. The study result revealed that the structured teaching programme was effective in terms of gain in knowledge of Antenatal mothers regarding listeriosis in pregnancy. Chi-square was computed to find the

association between selected demographic variables with pre-test knowledge scores of antenatal mothers on listeriosis in pregnancy, which shows there is no association between selected demographic variables like the age with computed $\chi^2=0.000$ at 1 df, religion with computed $\chi^2=1.282$ at 1 df, type of family with computed $\chi^2=0.081$ at 1 df, education with computed $\chi^2=0.664$ at 1 df, occupation with computed $\chi^2=0.149$, monthly family income with computed $\chi^2=0.439$ at $P>0.05$ level. The present study also reveals that there is no association between selected demographic variables like age, religion, type of family, education, occupation, monthly family income, previous knowledge regarding listeriosis in pregnancy in relation with post-test knowledge scores of antenatal mothers at $P>0.05$ [10-12].

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