

Effectiveness of Computer Assisted Teaching on Knowledge Regarding Prevention of Puerperal Sepsis among Primigravida Mothers

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Abstract

A study to assess the effectiveness of computer assisted teaching on knowledge regarding prevention of puerperal sepsis among primigravida mothers in selected hospitals at Amritsar. The sample consists of 60 primigravida mothers. Nonprobability convenience sampling technique was used. The tool consists of 2 sections, section 1 consists of demographic variables and section 2 consists of a structured knowledge questionnaire. Split half method was used to test the reliability of the tool and the correlation was tested by using Karl Pearson's correlation formula. The time given for pre- and post-test was 40 minutes each. The computer assisted teaching was administered to them and post-test was held on the 7th day. The study result revealed that maximum number of primigravida mothers had inadequate knowledge, and no one had adequate knowledge in pre-test. Although maximum percentage had moderately adequate knowledge and minimum percentage had adequate knowledge in post-test. The calculated value is less than 0.05 for education, occupation, family income, and source of information; hence, the result is significant at 5% level. From the analysis it is concluded that significant association is found between the demographic variables of education, occupation, family income and source of information of the respondents, and level of knowledge regarding prevention of puerperal sepsis. The results showed that the significant difference suggesting that the computer assisted teaching was effective in increasing knowledge of the primigravida mothers ($t = 20.22$). The mean post-test knowledge scores (59.28) were higher than the mean pre-test knowledge scores (39.06).

Keywords: knowledge, prevention of puerperal sepsis, primigravida mothers, puerperal sepsis

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INTRODUCTION

Puerperium is the time from the delivery of the placenta through the first few weeks after the delivery. This period is usually considered to be 6 weeks in duration. By 6 weeks after delivery, most of the changes of pregnancy, labor, and delivery have resolved, and the body has reverted to the non-pregnant state. During this period strict care is needed to prevent post-natal complications. Incidence of PS shows wide variations among published

literature. Around the world it is fraught because the etiology and epidemiology of sepsis vary enormously as a result of local conditions in particular with regard to hygiene during delivery and rates of reproductive tract infections. It ranges from 1% to as high as 17%. In USA, puerperal infection occurs in between 1 and 8% of all deliveries and about 13 die from puerperal sepsis/100,000 deliveries. In UK, the number of direct maternal deaths from 1985 to 2005 due to genital

tract sepsis/100,000 maternities was 0.4–0.85.9. Global incidence reported to be 4.4% of live births. The incidence reported for Pakistan is 10–15%. India accounts for 16% of the world's population and 21% of the world's global burden of disease.^[1]

The central and state government spends 0.9% of GDP (gross domestic product) on health. Three quarters of the total health spending in the country is out of pocket MOHFW (ministry of health and family welfare) 2000. Almost 16.4% of the maternal deaths that occurred in a rural community in northern India in the year 1989 were due to puerperal sepsis.^[2] The average number of maternal deaths per day was 8.5 in 1850s, while, in the 1890s, this number reached to 12 maternal deaths per day.

Although the trend has been changing toward institutional deliveries but still home birth is preferred by the mothers who are illiterate, unaware and living in rural areas,^[2] low socioeconomic status, poor nutrition, primiparas, anemia, prolonged rupture of membranes, prolonged labor, multiple vaginal examinations in labor, cesarean section, obstetrical maneuvers, retained secundines within the uterus, and postpartum hemorrhage are common risk factors. The leading cause of maternal death is puerperal sepsis, which has also been found to be responsible for 35.3% of maternal deaths.^[3]

The signs and symptoms of puerperal sepsis includes temperature of 100.4F (38.0 °C) or higher, which normally occurs on any two successive days of the first ten postpartum days. Other common signs and symptoms are anorexia, extreme lethargy, elevated white blood count, profuse, foul smelling vaginal discharge, sometimes frothy, malaise, tachycardia, nausea and vomiting, pelvic pain, chills, abdominal rigidity, and rebound tenderness.^[3]

Maternal complications include endotoxic shock and peritonitis, septicemia, abscess formation, which can lead to surgery or compromised fertility in future. Exogenous infections come from external contamination and endogenous organisms that consist of mixed flora inhabiting the women's own genital tract. These are the major sources of infection.^[4]

The transferring of infectious organisms can be categorized into nosocomial, exogenous, and endogenous. Aseptic precautions advancements while handling investigation tools as well as the use of antibiotics have played a major role in reducing the occurrence of puerperal sepsis.^[5] The hospital delivery care should be safe, long with providing the benefits of technological and scientific advancements. Despite the advancements in the field of science and technology, puerperal infection still remains a big challenge, due to its prevalence, morbidity and even lethality.^[6]

It has been proved that puerperal infection ranges between 3 and 20% internationally, with a mean rate of 9%, whereas, it varies between 1 and 7.2% in Brazil. However, there can be miscalculations in these rates due to failure in the surveillance system, as well as the inexpressive awareness and involvement of people for a better presentation of reality.^[7]

NEED FOR STUDY

The postnatal period is a very special time where women undergo the transition into motherhood. During this period the mothers are at the risk of various complications which can further lead to the severe illness or fatal results. Puerperal sepsis is one of the leading causes of maternal mortality. It is most common in primigravida as compared to multigravida.^[8]

In India, the puerperal infection is at high incidence among the postnatal mothers.

According to the estimates of World Health Organization (WHO), Geneva, Switzerland, out of the 529,000 maternal deaths globally each year, 136,000 (25.7%) are contributed by India. India has been declared the country with the highest estimated number of maternal deaths (136,000), by the WHO, followed by Nigeria (37,000), Pakistan (26,000).

Maternal mortality in India is 50–100 times higher as compared to that in developed countries. The respective ratio is 9.3 (1991) in UK, 8.0 (1991) in USA, and 6.5 in Japan (1998) per 100,00 live births. Baskar Rao (1982) reported a total of 721 maternal deaths out of 100,000 live births in 1994 in 41 teaching hospitals in India. In 1994, Dr. Bedi reported a total of 582 maternal deaths out of per 100,000 live births in 31 teaching hospitals of India. Thus, a reduction of only 20% was observed in maternal mortality within India in the past 12 years.^[1,9]

Puerperal sepsis took on epidemic proportions, notably in patients lying in hospitals. The introduction of sterile techniques brought a spectacular reduction of its importance within the developed world. However, puerperal sepsis is still continues to be a threat in several developing countries. One out of 20 women giving birth develops an infection, that requires a prompt treatment so that it does not become fatal or leave sequel. Puerperal sepsis leads to tubal occlusion among 450,000 women per year.^[10]

Sepsis significantly affects morbidity and mortality. Reducing maternal mortality is a key goal of international development. As we know puerperal sepsis is prevalent in postnatal mothers. At that time women may or may not have knowledge regarding puerperal sepsis. If puerperal period is complicated, then it may affect the health of the mother. So, women need adequate knowledge about puerperal sepsis.^[11]

Aim of the Study

“To assess the impact of teaching programme regarding prevention of puerperal sepsis among primigravida mothers.”

OBJECTIVES

- (i) To assess the pre-test level of knowledge regarding prevention of puerperal sepsis.
- (ii) To assess the post-test level of knowledge regarding prevention of puerperal sepsis.
- (iii) To assess the effectiveness of computer assisted teaching.
- (iv) To find out association between knowledge score and selected demographic variables.

METHODOLOGY

A pre-experimental design with one group pre- and post-test design was adopted for the study. The study was conducted on antenatal mothers attending antenatal OPD (Outpatient Department) of Hartej Hospital and Manvir Multispeciality Hospital, Amritsar. The target population included primigravida mothers.^[12] The sample size of the study consisted of 60 antenatal mothers who met the criterion of sample selection. Non-probability convenience sampling technique was employed in the selection of the sample. Since there is no standardized tool, a knowledge questionnaire containing multiple choice questions was framed. It consists of two parts:

- (i) Part-I: Baseline data – it deals with demographic characters of primigravida mothers.
- (ii) Part-II: Knowledge questionnaire – it consists of knowledge questionnaire related to definition, risk factors, causes, signs and symptoms complications, treatment, and prevention.

Knowledge regarding prevention of puerperal sepsis <50% – Inadequate

knowledge 51–75% – Moderately adequate Knowledge > 75% – Adequate knowledge.

One of the objectives of the study was to prepare and validate the computer assisted teaching. Computer assisted teaching was prepared based on

- (i) literature review
- (ii) discussion with experts
- (iii) investigators' own experience
- (iv) The steps involved in computer assisted teaching development were:
- (v) preparation of first draft of computer assisted teaching
- (vi) development of criteria checklist and content validation of computer assisted teaching
- (vii) pre-testing of computer assisted teaching
- (viii) preparation of final draft of computer assisted teaching
- (ix) The computer assisted teaching was developed according to the objectives of the study. The investigator prepared overall plan of computer assisted teaching, which covered all areas dealt in the questionnaire.

Method of Data Collection

The data was collected from Hartej Hospital and Manveer Hospital, Amritsar and a formal permission was obtained for conducting the study. The purpose of the study was explained to the primigravida mothers. The confidentiality of their identity and responses was assured in order to ensure their co-operation and prompt response. After obtaining the consent for the study, the tool was administrated to the group. The average time taken to conduct pre-test was 40 minutes. Post-test was performed on the 7th date using the same self-structured knowledge questionnaire. The respondents co-operated well with the investigator and were happy with the computer assisted teaching. At the end of data collection the investigator thanked the respondent for

their co-operation. The investigator faced no problems during the data collection procedure.^[13]

Analysis and Interpretation

Analysis and interpretation of the data were analyzed as per the objectives of the study under the following headings:

- (i) Section I: Description of demographic characteristics of primigravida mothers.
- (ii) Section II: To assess the pre-test level of knowledge regarding prevention of puerperal sepsis among primigravida mothers.
- (iii) Section III: To assess the post-test level of knowledge regarding prevention of puerperal sepsis among primigravida mothers.
- (iv) Section IV: To assess the effectiveness of computer assisted teaching.
- (v) Section V: To find out association between knowledge score and selected demographic variables.

Section I

Objective: Description of demographic characteristics of primigravida mothers (Table 1).

Percentage wise distribution of women according to their age group reveals that highest percentage (63.33%) of them was in the age group of 22–24 years. Twenty percentages of them were in the age group of 25–27 years. Lowest percentage (16.67%) was in the age group of 19–21 years. It shows that most of the women under this study were between the age group of 22 and 24 years.

Percentage wise distribution of women according to their education reveals that highest percentage (40%) of the women had 10+2/up to 12th level education, (31.67%) of them had higher Matric/up to 10th standard. 15% of the women studied graduation, 8.33% of them had post-graduate level, and only 5% of them are studied primary/up to 5th standard.

Table 1. Frequency and Percentage Distribution of Sample According to Demographic Characteristics.

N = 60

Demographic Characteristics		Total	
		Frequency	Percentage (%)
Age	19–21	10	16.67
	22–24	38	63.33
	25–27	12	20.00
Education	Primary/up to 5th standard	3	5.00
	Matric/up to 10th standard	19	31.67
	10+2/ up to 12	24	40.00
	Graduation	9	15.00
	Post-graduation	5	8.33
Occupation	Housewife/homemaker	33	55.00
	Self-employee	8	13.33
	Private employee	13	21.67
	Government employee	6	10.00
Family income (Rs)	Less than Rs 5000	23	38.33
	5001–10,000	25	41.67
	10,001–15,000	9	15.00
	15,000 and above	3	5.00
Religion	Sikh	25	41.67
	Hindu	25	41.67
	Muslim	5	8.33
	Christian	5	8.33
Source of Information	Family, friends, and relatives	42	70.00
	Health personnel	8	13.33
	Mass media	10	16.67
Total		60	100.00

Percentage wise distribution of women according to their occupation depicts that highest percentage (55%) of the women was house wife/homemaker. However, 13.33% of them had self-employee, whereas 21.67% of them were private employee and lowest percentage 10% of them had Government employee. It reveals that majority of women were housewife/homemaker.

Percentage wise distribution of monthly income of the family reveals that highest percentage (41.67%) of women belonged to the income group of Rs. 5001–10,000. 38.33 percentages of them were from the income group of less than Rs. 5000, whereas percentages (15%) of them were in the income group of Rs. 10,001–15,000 and lowest percentage of 5% of them were in Rs. 15,000 and above.

Percentage wise distribution of women according to their religion shows that highest percentage (41.67%) of them was Hindus and Sikh, where as 8.33% was Muslims, and Christians. It shows that majority of women under this study were Hindus and Sikh.

Percentage wise distribution of women according to the source of information depicts that 70% of the women got information regarding primigravida from family, friends, and relatives, whereas (13.33%) of them got information through health personals and (16.67%) of them got information from mass media. It shows that for most of the women, family/friends, and relatives was the source of information regarding primigravida.

Section II

Objective: To assess the pre-test level of knowledge regarding prevention of

puerperal sepsis among primigravida mothers (Table 2).

Table 2. Frequency and Percentage Distribution of Pre-test Knowledge of Prevention of Puerperal Sepsis of Primigravida Mothers According to Their Level of Knowledge.

N = 60

Level of Knowledge		Grading of Knowledge Score	Pre-test	
			Frequency	Percentage
Inadequate knowledge	<50%	1–14	51	85.00
Moderately adequate knowledge	51–75%	15–22	09	15.00
Adequate knowledge	>75%	23–30	00	00
Total		30	60	100

Data presented in Table 2 show that in pre-test, highest percentage (51%) had inadequate knowledge and 09% had moderately adequate knowledge whereas none was found to have adequate knowledge.

Hence, it is concluded that maximum number of primigravida mothers had

inadequate knowledge and no one had adequate knowledge in pre-test.

Section III

Objective: To assess the post-test level of knowledge regarding prevention of puerperal sepsis among primigravida mothers (Table 3).

Table 3. Frequency and Percentage Distribution of Post-Test Knowledge of Prevention of Puerperal Sepsis of Primigravida Mothers According to Their Level of Knowledge.

N=60

Level of Knowledge Score		Grading of Knowledge Score	Post-Test	
			Frequency	Percentage (%)
Inadequate Knowledge	<50%	1–14	20	33.33
Moderately Adequate Knowledge	51–75%	15–22	30	50.00
Adequate Knowledge	>75%	23–30	10	16.67
Total		30	60	100

Table 3 shows that 33.33% of the respondent's level of knowledge is inadequate, 50% of the respondent's level of knowledge is moderately adequate, and 16.67% of the respondent's level of knowledge is highly adequate. Hence, majority of the respondent's level of knowledge is moderately adequate.

Hence, it is concluded that maximum percentage had moderately adequate knowledge, and minimum percentage had adequate knowledge in post-test.

Assessment of overall knowledge scores of primigravida mothers regarding Prevention of puerperal sepsis (Table 4).

Table 4. Overall Distribution of Mean, SD and Mean Percentage of Knowledge Scores of Primigravida Mothers Regarding Prevention of Puerperal Sepsis.

N = 60

Overall Knowledge	Max	Mean	SD	Mean (%)	Effect	t	P
Pre-test	30	11.72	3.45	39.06	20.22	27.87	<0.001*
Post-test		17.78	3.97	59.28			

*Highly significant.

Distribution of mean, SD, and mean percentage of knowledge scores of primigravida mothers regarding prevention of puerperal sepsis shows that the mean score (11.72 ± 3.45) which is 39.06% was obtained for pre-test, whereas, the mean score (17.78 ± 3.97) which is 59.28% was obtained for the post-test.

Further the significant difference between the mean scores is tested with paired *t*-test and the results are also given in Table 4. Since the *p* value is less than 0.01 the difference in mean knowledge scores is highly significant. Hence, it is concluded that computer assisted teaching on knowledge regarding prevention of puerperal sepsis among primigravida mothers is effective.^[14]

Section IV

Objective: Association between the levels of knowledge regarding the prevention of puerperal sepsis with respect to their demographic variables.

This section dealt with association between the levels of knowledge regarding the prevention of puerperal sepsis related to the demographic variables. The cross-tabulation analysis was employed effectively and the results of Chi-square analysis were observed.

Association between the levels of knowledge regarding the prevention of puerperal sepsis during pre-test with respect to demographic variables.

This section dealt with association between the levels of knowledge regarding the prevention of puerperal sepsis related to the demographic variables. The cross-tabulation analysis was employed effectively and the results of Chi-square analysis were observed and shown in Table 5.

In order to find the association between the level of knowledge and demographic variables Chi-square test is used at 5% level of significance and the results are given in Table 5.

Table 5. Association Between the Levels of Knowledge With Respect to Demographic Variables – Pre-Test.

N = 60

Sr. No	Demographic Characteristic		Freque ncy	Level of Knowledge				χ^2 Value	df	Table Value					
				Inadequate <50%		Moderately Adequate 51–75%									
				N	%	N	%								
1.	Age	19–21	10	10	16.67	0	0	5.03	2	5.99 (<i>p</i> < 0.05) NS					
		22–24	38	33	55.00	5	8.33								
		25–27	12	8	13.33	4	6.67								
2.	Edu cati on	Primary	3	3	5.00	0	0	28.78	4	18.47 *** (<i>P</i> < 0.001)					
		Matric	19	19	31.67	0	0								
		10+2	24	23	38.33	1	1.67								
		Graduation	9	5	8.33	4	6.67								
		Post-graduation	5	1	1.67	4	6.67								
3.	Occ upat ion	Housewife/H omemaker	33	32	53.33	1	1.67	16.97	3	16.97 ***(<i>P</i> < 0.001)					
		Self-employee									8	7	11.67	1	1.67
		Private employee									13	10	16.67	3	5.00
		Government employee									6	2	3.33	4	6.67

4.	Family income (In Rs)	Less than Rs. 5000 5001–10,000 10,001–15,000 Rs. 15,000 and above	23 25 9 3	21 24 5 1	35.00 40.00 8.33 1.67	2 1 4 2	3.33 1.67 6.67 3.33	15.49	3	11.34 ** (P<0.001)
5.	Religion	Sikh Hindu Muslim Christian	25 25 5 5	23 21 5 2	38.33 35.00 8.33 3.33	2 4 0 3	3.33 6.67 0 5.00	9.80	3	7.82* (p < 0.05)
6.	Source of Information	Family, friends and relatives Health personnel Mass media	42 8 10	41 6 4	68.33 10.00 6.67	1 2 6	1.67 3.33 10.00	21.76	2	13.82 ** (P<0.01)
Total			60	51	85.00	9	15.00			

f = frequency, df = degree of freedom, χ^2 = Chi-square, ** = highly significant, * significant, NS = not significant.

It is noted from the Table 5 that the calculated value is less than 0.05 for education, occupation, family income, religion, and source of information hence the result is significant at 5% level. From the analysis it is concluded that there is significant association is found between the demographic variables of education, occupation, family income, religion and source of information of the respondents and level of knowledge regarding prevention of puerperal sepsis.

Association between the levels of knowledge regarding the prevention of puerperal sepsis during post-test with respect to demographic variables

This section dealt with association between the levels of post-test knowledge regarding the prevention of puerperal

sepsis related to the demographic variables. The cross-tabulation analysis was employed effectively and the results of Chi-square analysis were observed and shown in Table 6.

Table 6 shows that 33.33% of the respondent's level of knowledge is inadequate, 50% of the respondent's level of knowledge is moderately adequate and 16.67% of the respondent's level of knowledge is highly adequate. Hence, majority of the respondent's level of knowledge is moderately adequate. In order to find the association between the level of knowledge and demographic variables Chi-square test is used at 5% level of significance and the results are given in Table 6.

Table 6. Association Between the Levels of Knowledge With Respect to Demographic Variables Post-test.

N = 60

Sr.No	Demographic Characteristic	Frequency	Level of Knowledge						χ^2 Value	df	Table Value
			Inadequate <50%		Moderately Adequate 51–75%		Adequate >75%				
			N	%	N	%	N	%			
1)	Age										
	19–21	10	4	6.67	6	10.0	0	0			
	22–24	38	14	23.3	19	0	5	8.33			
	25–27	12	2	3	5	31.6	5	8.33	8.09	4	9.49 (p < 0.05) NS

				3.33		7 8.33					
2)	Education primary Matric 10 + 2 Graduation Post-graduation	3 19 24 9 5	2 10 7 0 1	3.33 16.6 7 11.6 7 0 1.67	1 9 15 5 0	1.67 15.0 0 25.0 0 8.33 0	0 0 2 4 4	0 0 3.33 6.67 6.67	30.88	8	16.13*** ($p < 0.001$)
3)	Occupation Housewife/Home maker Self-employee Private employee Government employee	33 8 13 6	14 4 2 0	23.3 3 3.33 6.67 0	17 5 6 2	28.3 3 8.33 10.0 0 3.33	2 1 3 4	3.33 1.67 5.00 6.67	15.28	6	12.59*($p < 0.05$)
4)	Family income (In Rs) Less than Rs 5000 5001–10,000 10,001–15,000 Rs 15,000 and above	23 25 9 3	11 7 2 0	18.3 3 11.6 7 3.33 0	9 17 2 2	15.0 0 28.3 3 3.33 3.33	3 1 5 1	5.00 1.67 8.33 1.67	17.97	6	16.81** ($p < 0.01$)
5)	Religion Sikh Hindu Muslim Christian	25 25 5 5	11 6 2 1	18.3 3 10.0 0 3.33 1.67	11 14 3 2	18.3 3 23.3 3 5.00 3.33	3 5 0 2	5.00 8.33 0 3.33	5.36	6	12.59* ($p < 0.05$)
6)	Source of Information Family, friends and relatives Health personnel Mass media	42 8 10	18 2 0	30.0 0 3.33 0	23 4 3	38.3 3 6.67 5.00	1 2 7	1.67 3.33 11.6 7	28.18	4	18.47***($p < 0.001$)
Total		60	20	33.3 3	30	50.0 0	1 0	16.6 7			

f = frequency, df = degree of freedom, χ^2 = Chi-square, ** = highly significant, * = significant, NS = not significant.

It is noted from the Table 6 that the calculated value is less than 0.05 for education, occupation, family income, and source of information, hence the result is significant at 5% level. From the analysis it is concluded that there is significant association is found between the demographic variables of education, occupation, family income and source of

information of the respondents, and level of knowledge regarding prevention of puerperal sepsis.

DISCUSSION

Section I

Percentage distribution: Percentage wise distribution of women according to their age group reveals that highest percentage

(63.33%) of them was in the age group of 22–24 years. Twenty percentages of them were in the age group of 25–27 years. Lowest percentage (16.67%) was in the age group of 19–21 years. It shows that most of the women under this study were between the age group of 22 and 24 years. Percentage wise distribution of women according to their education reveals that highest percentage (40%) of the women had 10+2/up to 12th level education, (31.67%) of them had higher Matric/up to 10th standard. 15% of the women studied graduation, 8.33% of them had post-graduate level and only 5% of them are studied primary/up to 5th standard.

Percentage wise distribution of women according to their occupation depicts that highest percentage (55%) of the women was house wife/homemaker. However, 13.33% of them had self-employee, whereas 21.67% of them were private employee and lowest percentage 10% of them had Government employee. It reveals that majority of women were housewife/homemaker.

Percentage wise distribution of monthly income of the family reveals that highest percentage (41.67%) of women belonged to the income group of Rs. 5001–10,000. 38.33 percentages of them were from the income group of less than Rs. 5000, whereas percentages (15%) of them were in the income group of Rs 10,001–15,000 and lowest percentage of 5% of them were in Rs. 15,000 and above. Percentage wise distribution of women according to their religion shows that highest percentage (41.67%) of them was Hindus and Sikh, where as 8.33% was Muslims and Christians. It shows that majority of women under this study were Hindus and Sikh.

Percentage wise distribution of women according to the source of information depicts that 70% of the women got information regarding primigravida from

family, friends, and relatives, whereas (13.33%) of them got information through health personals and (16.67%) of them got information from mass media. It shows that for most of the women, family/friends and relatives was the source of information regarding primigravida.

Section II

Analysis of the pre-test level of knowledge score regarding prevention of puerperal sepsis among primigravida mothers in selected hospitals, Amritsar.

It was shown that in pre-test, highest percentage (51%) of primigravida mothers had inadequate knowledge regarding prevention of puerperal sepsis, and 09% of primigravida mothers had moderately adequate knowledge regarding prevention of puerperal sepsis whereas none was found to have poor knowledge regarding prevention of puerperal sepsis.

Section III

Analysis of the post-test level of knowledge score regarding prevention of puerperal sepsis among primigravida mothers in selected hospitals, Amritsar.

The post-test score showed that 33.33% of the respondent's level of knowledge was inadequate regarding prevention of puerperal sepsis, 50% of the respondent's level of knowledge regarding prevention of puerperal sepsis was moderately adequate and 16.67% of the respondent's level of knowledge regarding prevention of puerperal sepsis is highly adequate. Hence, majority of the respondent's level of knowledge regarding prevention of puerperal sepsis was moderately adequate.

Section IV

Evaluation of the effectiveness of computer assisted teaching on knowledge regarding prevention of puerperal sepsis among primigravida mothers in selected hospitals, Amritsar.

Distribution of mean, SD, and mean percentage of knowledge scores of primigravida mothers regarding prevention of puerperal sepsis shows that the mean score (11.72 ± 3.45) which is 39.06% was obtained for pre-test, whereas, the mean score (17.78 ± 3.97), which is 59.28% was obtained for the post-test. Further the significant difference between the mean scores is tested with paired t test since the p value is less than 0.01 the difference in mean knowledge scores is highly significant. The mean and median plotted for pretest and posttest scores shows that during pretest, mean and median values were 11.72 and 11, whereas during posttest it was 17.78 and 16.5 revealing the difference of approximately 6 scores. Hence, it is concluded that computer assisted teaching on knowledge regarding prevention of puerperal sepsis among primigravida mothers is effective.

The findings of the current study are similar with the findings of the study conducted to assess the effectiveness of self-instructional module on knowledge of perineal care among primigravida mothers in selected hospitals of Mangalore. The mean and median plotted for pretest and posttest scores showed that during pretest, mean value was 09.5, whereas during posttest it was 26.5 revealing the difference of approximately 17 scores. The difference in the score indicates the effectiveness of SIM (self-instructional module) in increasing the knowledge of primigravida mothers.

Section V

Testing hypothesis: The difference between the pre- and post-test knowledge score of the mothers was analyzed using paired “ t ” test. The difference was found to be highly significant ($t = 20.22$). A significant increase was observed in the knowledge score of primigravida mothers following administration of computer assisted teaching regarding prevention of

puerperal sepsis. Findings suggests that computer assisted teaching was effective in improving the knowledge of mothers regarding prevention of puerperal sepsis.

A similar study on breast care was conducted by Mrs. Shobhavati H. Kolari of Smt. M.C. Vasantha College of Nursing Naubad, Bhalki Road, Bidar. There was no significant difference between the pre- and post-test scores. The calculated F value of ANOVA were $F_{(1,108)} = 0.147$ $p = 0.702$, $F_{(3,106)} = 1.378$ $p = 0.254$ and $F_{(3,106)} = 1.409$ $p = 0.244$, respectively, this shows that sometimes planned teaching may not be so effective which is contrary to the present study findings and this study recommended interactive learning methods like role playing, practical sessions and case discussion.¹¹

Association of Pre-test Knowledge Score with Selected Demographic Variables

The association between pre-test knowledge score with selected demographic variables was found by using Chi-square test. The data presented in the table show that there was highly significant association of pre-test knowledge scores with their demographic variables such as association of the pre-test knowledge scores with their demographic variables such as education ($\chi^2 = 28.78$ $p < 0.001$), occupation ($\chi^2 = 16.97$ $p < 0.001$), family income ($\chi^2 = 15.49$ $p < 0.01$), source of information ($\chi^2 = 21.76$ $p < 0.01$), whereas there was significant association of religion ($\chi^2 = 9.80$ $p < 0.05$) with pre-test knowledge scores. However, there was no association of age ($\chi^2 = 5.03$ $p < 0.05$) with the pre-test knowledge scores.

The findings of the current study are contrary with the findings of the study conducted to determine the effectiveness of an information booklet on newborn care for nurses in the selected hospitals of Bangalore revealed that there was no

significant association of pre-test knowledge score and selected demographic variables such as occupation ($\chi^2 = 1.083$ $p < 0.05$), and age ($\chi^2 = 0.020$ $p < 0.05$).

Association of Post-test Knowledge Score with Selected Demographic Variables

The present result reveals that there was highly significant association of the post-test knowledge scores with their demographic variables such as education ($\chi^2 = 30.88$ $p < 0.001$), family income ($\chi^2 = 17.97$ $p < 0.01$), source of information ($\chi^2 = 28.18$ $p < 0.001$), whereas there was significant association of occupation ($\chi^2 = 15.28$ $p < 0.05$) with post-test knowledge scores. However, there was no association of age ($\chi^2 = 8.09$ $p < 0.05$), religion ($\chi^2 = 5.36$ $p < 0.05$) with the post-test knowledge scores.

CONCLUSION

The pre- and post-test knowledge scores of primigravida mothers regarding prevention of puerperal sepsis shows that the lowest pretest score values were between 3 and 6 obtained by 3.3% of primigravida mothers, and highest score values were between 18 and 21 obtained by only 3.3% of the primigravida mothers. However, during post-test, the lowest score values were between 9 and 12 obtained by 3.3% and highest post-test score values were between 25 and 27 was also obtained by only 11.7% of the primigravida mothers. Further, during the pretest the highest percentage (38.3%) of the primigravida mothers scored between 9 and 12, whereas, during the post-test the highest percentage (31.7%) of the primigravida mothers scored between 15 and 18.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are stated:

- (i) A similar study can be undertaken with a large sample to generalize the findings.
- (ii) A comparative study can be undertaken among different state hospitals to determine the mothers' knowledge regarding prevention of puerperal sepsis.
- (iii) A comparative study can be conducted on knowledge of primigravida mothers and multigravida mothers regarding prevention of puerperal sepsis.
- (iv) A qualitative study may be conducted to find the personal experience of postnatal mothers regarding puerperal sepsis.
- (v) A descriptive study can be conducted in order to assess the attitude of primigravida mothers regarding personal hygiene and prevention of puerperal sepsis.

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