

# A Comparative Study to Assess the Knowledge Regarding Puerperal Changes and its Management Among Primi Postnatal Mothers with Vaginal Delivery and Caesarean Section at A Selected Maternity Hospitals, Bangalore with A View Develop on Informational Booklet

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## ABSTRACT

**Background:** Puerperium is the time following delivery during which pregnancy-induced maternal anatomical and physiological changes return to the non-pregnant state. Puerperium period of 6 weeks can be divided into: (a) immediate – within 24 hours (b) early – up to 7 days (c) remote – up to 6 weeks. The postpartum period, also known as puerperium, starts following the expulsion of the placenta until complete physiological recovery of various organ systems.

The uterus shrinks back to its normal size and resumes its pre birth position by the sixth week. During this process, called involution, the excess muscle mass of the pregnant uterus is reduced, and the lining of the uterus (endometrium) is reestablished, usually by the third week.

**Material And Method:** The Descriptive research approach with Comparative descriptive research design was selected to conduct the study at Mallasandra Maternity Hospital and Arodaya NABH Hospital Mallasandra Bangalore. It consists of 30 samples of primi postnatal mother mother with vaginal delivery and 30 samples of primi postnatal mother with caesarean section were selected by non-probability convenient sampling technique. The tool developed and used for data collection was structured self-administered questionnaire. Expert validated the tool and the tool was found reliable and feasible. Collected data was analysed by using descriptive and inferential statistics.

**Result:** It has been found that none of the subject possessed adequate knowledge, 20.0% of the subjects possessed with moderate knowledge and 80.0% of the subjects possessed inadequate knowledge regarding puerperal changes and its management in vaginal delivery and with respect to caesarean section none of the subjects possessed adequate knowledge, 26.7% of the subjects possessed moderate knowledge and 73.3% possessed inadequate knowledge. The overall knowledge scores on puerperal changes and its management among vaginal delivery and caesarean section is 24.0%. With regard to general information of puerperium the mean knowledge score in mother with vaginal delivery is 25.0%, puerperal changes in vaginal delivery and caesarean section is 23.9% and management of puerperium is 23.3% and 25.4% in caesarean section.

Finding shows that there is a significant association found between the knowledge score and selected

socio-demographic variables with respect to vaginal delivery and caesarean section like age of the mother ( $p=8.91$ ), age at marriage ( $p=12.99$ ), educational status of mother ( $p=15.34$ ), occupation of mother ( $p=13.85$ ) and Family income/month ( $p=10.90$ ). It also shows that there is no significant association found between the knowledge score and selected socio demographic variables like religion ( $p=1.56$ ), gestational week at time of delivery ( $p=0.83$ ) and bad obstetric ( $p=0.00$ ).

**Conclusion:** The study indicated that there is a need to provide knowledge regarding the puerperal changes among primi postnatal mothers with vaginal delivery and caesarean section. The present study assessed the existing knowledge of the primi postnatal mothers regarding puerperal changes. Overall findings shows that the mothers have a total knowledge score of 24.0% in both vaginal delivery and caesarean section which is inadequate.

**Keywords:** Descriptive, Comparative, Knowledge, Puerperal changes, Management, Primi postnatal mothers, Vaginal delivery, Caesarean section, Informational booklet

## INTRODUCTION

In the globe, vaginal birth is the most prevalent delivery technique. With less morbidity and mortality than a caesarean section, it is seen to be the better delivery procedure. The safest birth method is often vaginal. A shorter hospital stay and a speedier recovery for the delivering woman are two benefits of vaginal deliveries. There have occasionally been scrapes or rips around the vaginal entrance, as well as help with forceps or suction.

A caesarean delivery involves making an incision in the uterus (hysterectomy) and an open abdominal incision (laparotomy). Since 2020, when the first recorded cesarean section was place, the process has seen significant development. When a vaginal childbirth is not safe, a C-section, also known as a caesarean birth, is a surgical operation used to deliver the baby. A cesarean section might be scheduled in advance or carried out on short notice. It is slightly more risky and requires a longer recovery period than vaginal delivery.

The puberty that follows childbirth also causes psychological changes in women, such as losing one's sense of self, adjusting to parenthood, assuming new roles as mother and father, and males experiencing feelings of abandonment. These changes can cause problems for a relationship. Women's perceptions of their bodies might be impacted by perineal trauma, hormonal changes that can lessen sexual desire, and dry vagina. changes in the marital relationship, such as roles shifting, spending time together, and having sex; sociocultural influences, such as beliefs about when to resume sex, social support; and changes in lifestyle, particularly with regard to caring for a newborn.

Postpartum physiological alterations are the physical changes that occur in a woman's body during the postpartum period after giving birth. The pre-pregnancy physiology and nursing start to recover with these changes. These postnatal changes are usually normal and treatable with medication and comfort measures, while some difficulties may occur. Women who give birth via cesarean section could go through specific physiological changes after giving delivery.

## METHOD AND MATERIAL:

**Research Approach:** Quantitative research approach

**Research Design:** Non-experimental, Comparative descriptive research designs were used to assess the knowledge regarding puerperal changes and its management among primi postnatal mothers with vaginal

delivery and caesarean section at a selected maternity hospital, Bangalore.

**Targeted Population:** Primi Postnatal Mothers present in selected Hospital, Bangalore.

**Setting of the Study:** The study will be conducted at selected maternity hospital, Bangalore.

**Sample Size:** Sample for the study consist of 60 primi postnatal mothers, 30 primi postnatal mothers belong to the vaginal delivery and 30 primi postnatal mothers belong to the caesarean section.

**Sampling Technique:** In the present study, a non-probability convenient sampling technique to assess the knowledge of the primi postnatal mothers regarding puerperal changes has adopted.

**Data Collection Method:** Structured Knowledge Questionnaire on puerperal changes in primi postnatal mothers

**Data Analysis:** Using Descriptive and Inferential Statistics.

## RESULT:

Descriptive and inferential statistics were used to analyze the data collected. The findings have been tabulated according to the plan for data analysis and interpreted under the following objectives:

- To assess the existing knowledge on puerperal changes and its management among postnatal primi mothers with vaginal delivery and caesarean section.
- To compare the knowledge among primi mothers with vaginal delivery and cesarean section regarding puerperal changes and its management.
- To determine the association between knowledge score of primi mother, with vaginal delivery and caesarean section and selected demographic variables.
- To develop the informational booklet on puerperium changes and its management.

## Section – A

**Table – 1 Classification of Respondents According to Socio-Demographic Data N=60**

Characteristics	Category	Respondents					
		Vaginal delivery (n=30)		Caesarean delivery (n=30)		Combined (n=60)	
		N	%	N	%	N	%
Age Group (years)	21-25	8	26.7	5	16.7	13	21.6
	26-30	12	40.0	19	63.3	31	51.7
	31-35	10	33.3	6	20.0	16	26.7
Age at marriage (years)	18-20	13	43.3	5	16.7	18	30.0
	21-23	6	20.0	9	30.0	15	25.0
	24-26	9	30.0	13	43.3	22	36.7
	27 & above	2	6.7	3	10.0	5	8.3
Gestational week at time of delivery	<37 weeks	0	0.0	0	0.0	0	0.0
	38-40 weeks	27	90.0	21	70.0	48	80.0
	>40 weeks	3	10.0	9	30.0	12	20.0
Bad Obstetric	Yes	0	0.0	3	10.0	3	5.0
	No	30	100.0	27	90.0	57	95.0

<b>Religion</b>	Christian	5	16.7	5	16.7	10	<b>16.7</b>
	Hindu	20	66.6	19	63.3	39	<b>65.0</b>
	Muslim	5	16.7	6	20.0	11	<b>18.3</b>
<b>Family income/month (Rs)</b>	15,000 & below	4	13.3	3	10.0	7	<b>11.6</b>
	15,001-20,000	11	36.7	14	46.7	25	<b>41.7</b>
	20,001-25,000	6	20.0	7	23.3	13	<b>21.7</b>
	25,001 & above	9	30.0	6	20.0	15	<b>25.0</b>
<b>Educational status of Mother</b>	Primary	11	36.7	8	26.6	19	<b>31.7</b>
	Higher secondary	12	40.0	11	36.7	23	<b>38.3</b>
	Degree	7	23.3	11	36.7	18	<b>30.0</b>
<b>Occupation of Mother</b>	House wife	18	60.0	18	60.0	35	<b>58.3</b>
	Private job	4	13.3	5	16.7	9	<b>15.0</b>
	Government	6	20.0	4	13.3	10	<b>16.7</b>
	Others	2	6.7	3	10.0	5	<b>8.3</b>
<b>Total</b>		<b>30</b>	<b>100.0</b>	<b>30</b>	<b>100.0</b>	<b>60</b>	<b>100.0</b>

## Section – B

**Table 2 Distribution Of Knowledge Scores Of Subjects Regarding Puerperal Changes And Its Management In Vaginal Delivery And Caesarean Section**

Knowledge Level	Scores	Respondents			
		Number		Percentage %	
		VD	CS	VD	CS
<b>Inadequate</b>	0-10	24	22	80.0	73.3
<b>Moderate</b>	11-20	6	8	20.0	26.7
<b>Adequate</b>	21-30	0	0	0.0	0.0
<b>Total</b>		30	30	100.0	100.0

**Table 2:** Represent that none of the subject possessed adequate knowledge, 20.0% of the subjects possessed with moderate knowledge and 80.0% of the subjects possessed inadequate knowledge regarding puerperal changes and its management in vaginal delivery and with respect to caesarean section none of the subjects possessed adequate knowledge, 26.7% of the subjects possessed moderate knowledge and 73.3% possessed inadequate knowledge.

**Table-3 Over All Knowledge Scores On Puerperal Changes And Its Management Among Vaginal Delivery And Caesarean Section**

Groups	Sample	Max. Score	Knowledge Scores				Subject 't' Test
			Mean	SD	Mean (%)	SD (%)	
<b>Vaginal delivery</b>	30	30	7.20	2.01	24.0	6.7	0.64 <sup>NS</sup>

Caesarean delivery	30	30	7.57	2.31	25.2	7.7
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NS: Non-significant,  $t(0.05, 58df) = 1.96$

**Table 3:** Represent mothers have a total knowledge score of 24.0%.

**Table-4 Aspect Wise Mean Knowledge Scores On Puerperal Changes And Its Management Among Vaginal Delivery Group**

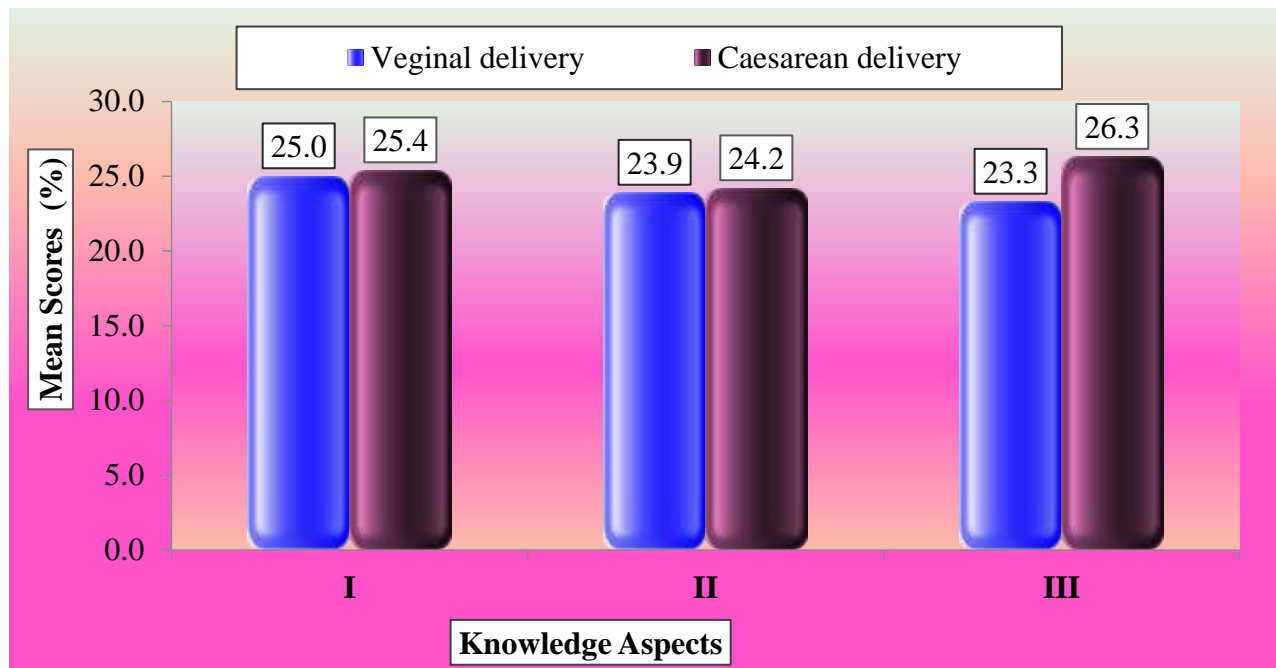
No.	Knowledge Aspects	State ments	Max. Score	Knowledge Scores			
				Mean	SD	Mean (%)	SD (%)
I	General information of Puerperium	8	8	2.00	0.91	25.0	11.4
II	Puerperal changes in vaginal delivery and Caesarean section	12	12	2.87	0.90	23.9	7.5
III	Management of Puerperium	10	10	2.33	0.92	23.3	9.2
	<b>Combined</b>	<b>30</b>	<b>30</b>	<b>7.20</b>	<b>2.01</b>	<b>24.0</b>	<b>6.7</b>

**Table 4:** With regard to general information of puerperium the mean knowledge score in mother with vaginal delivery is 25.0%, puerperal changes in vaginal delivery and caesarean section is 23.9% and management of puerperium is 23.3%.

**Table –5 Aspect Wise Mean Knowledge Scores On Puerperal Changes And Its Management Among Caesarean Delivery Group N=30**

No.	Knowledge Aspects	State ments	Max. Score	Knowledge Scores			
				Mean	SD	Mean (%)	SD (%)
I	General information of Puerperium	8	8	2.03	0.61	25.4	7.7
II	Puerperal changes in vaginal delivery and Caesarean section	12	12	2.90	1.21	24.2	10.1
III	Management of Puerperium	10	10	2.63	1.16	26.3	11.6
	<b>Combined</b>	<b>30</b>	<b>30</b>	<b>7.57</b>	<b>2.31</b>	<b>25.2</b>	<b>7.7</b>

**Table 5:** With respect to caesarean delivery mother the mean knowledge scores of the general information of Puerperium is 25.4%, puerperal changes in vaginal delivery and caesarean section is 24.2% and management of Puerperium is 26.3%.



**Fig 1: Aspect wise Mean Knowledge scores on Puerperal changes and its management among Vaginal delivery and caesarean section.**

## Section: C

**Table: 6 Association Between Demographic Variables And Knowledge Level On Puerperal Changes And Its Management Among Vaginal Delivery And Caesarean Section**

Demographic Variables	Category	Samp le	Knowledge Level				$\chi^2$ Value	P Value
			Inadequate		Moderate			
			N	%	N	%		
Age (years)	21-25	8	7	87.5	1	12.5	8.91*	P<0.05 (5.991)
	26-30	12	12	100.0	0	0.0		
	31-35	10	5	50.0	5	50.0		
Age at marriage (years)	18-20	13	13	100.0	0	0.0	12.99 *	P<0.05 (7.815)
	21-23	6	6	100.0	0	0.0		
	24-26	9	4	44.4	5	55.6		
	27 & above	2	1	50.0	1	50.0		
Gestational week at time of delivery	38-40 weeks	27	21	77.8	6	22.2	0.83	P>0.05 (5.991)
	>40 weeks	3	3	100.0	0	0.0	NS	
Bad Obstetric	Yes	0	0	0.0	0	0.0	0.00	P>0.05 (3.841)
	No	30	24	80.0	6	20.0	NS	
Religion	Christian	5	4	80.0	1	20.0	1.56	P>0.05 (5.991)
	Hindu	20	17	85.0	3	15.0	NS	
	Muslim	5	3	60.0	2	40.0		
Educational status of Mother	Primary	11	11	100.0	0	0.0	15.34	P<0.05 (5.991)
	Higher secondary	12	11	91.7	1	8.3	*	

	Degree	7	2	28.6	5	71.4		
<b>Occupation of Mother</b>	House wife	18	18	100.0	0	0.0	*	P<0.05 (7.815)
	Private job	4	3	75.0	1	25.0		
	Government	6	2	33.3	4	66.7		
	Others	2	1	50.0	1	50.0		
<b>Family income/month (Rs)</b>	15,000 & below	4	4	100.0	0	0.0	*	P<0.05 (7.815)
	15,001-20,000	11	11	100.0	0	0.0		
	20,001-25,000	6	5	83.3	1	16.7		
	25,001 & above	9	4	44.4	5	55.6		
<b>Combined</b>		<b>30</b>	<b>24</b>	<b>80.0</b>	<b>6</b>	<b>20.0</b>		

\* Significant at 5% Level

NS: Non-significant

Note: Figures in the parenthesis indicate Table value

**Table 6:** The above data shows that there is a significant association found between the knowledge score and selected socio-demographic variables with respect to vaginal delivery and caesarean section like age of the mother (p=8.91), age at marriage (p=12.99), educational status of mother (p=15.34), occupation of mother (p=13.85) and Family income/month (p=10.90).

The above data also show that there is no significant association found between the knowledge score and selected socio demographic variables like religion (p=1.56), gestational week at time of delivery (p=0.83) and bad obstetric (p=0.00).

## SECTION – D

**Table – 7 Chi Square Test Showing The Association Between Demographic Variables And Knowledge Level On Puerperal Changes And Its Management Among Caesarean Section**

Demographic Variables	Category	Sa mpl e	Knowledge Level				$\chi^2$ Value	P Value
			Inadequate		Moderate			
			N	%	N	%		
Age (years)	21-25	5	2	40.0	3	60.0	6.02*	P<0.05 (5.991)
	26-30	19	14	73.7	5	26.3		
	31-35	6	6	100.0	0	0.0		
Age at marriage (years)	18-20	5	4	80.0	1	20.0	0.38 NS	P>0.05 (7.815)
	21-23	9	7	77.8	2	22.2		
	24-26	13	9	69.2	4	30.8		
	27 & above	3	2	66.7	1	33.3		
Gestational week at time of delivery	38-40 weeks	21	15	71.4	6	28.6	0.13 NS	P>0.05 (5.991)
	>40 weeks	9	7	77.8	2	22.2		
Bad Obstetric	Yes	3	0	0.0	3	100.0	9.17*	P<0.05 (3.841)
	No	27	22	81.5	5	18.5		
Religion	Christian	5	1	20.0	4	80.0	8.73*	P<0.05 (5.991)
	Hindu	19	16	84.2	3	15.8		
	Muslim	6	5	83.3	1	16.7		
	Primary	8	6	75.0	2	25.0		



<b>Educational status of Mother</b>	Higher secondary	11	9	81.8	2	18.2	0.95	P>0.05
	Degree	11	7	63.6	4	36.4	NS	(5.991)
<b>Occupation of Mother</b>	House wife	18	14	77.8	4	22.2	4.12	P>0.05
	Private job	5	2	40.0	3	60.0	NS	(7.815)
	Government	4	3	75.0	1	25.0		
	Others	3	3	100.0	0	0.0		
<b>Family income/month (Rs)</b>	15,000 & below	3	3	100.0	0	0.0	1.27	P>0.05
	15,001-20,000	14	10	71.4	4	28.6	NS	(7.815)
	20,001-25,000	7	5	71.4	2	28.6		
	25,001 & above	6	4	66.7	2	33.3		
<b>Combined</b>		<b>30</b>	<b>22</b>	<b>73.3</b>	<b>8</b>	<b>26.7</b>		

\* Significant at 5% Level,

NS: Non-significant

Note: Figures in the parenthesis indicate Table value

## DISCUSSION:

The first objective, the analysis and distribution of structured knowledge scores of subjects obtained has been done on the basis of standard knowledge questionnaire and also by using frequency and percentage method.

In the present study, the overall knowledge of the subjects reveals that none of the subjects possessed adequate knowledge, 20% of the subjects possessed moderate knowledge and 80% of the subjects" possessed inadequate knowledge in vaginal delivery and 26.7% of the subjects possessed moderate knowledge and 73.3% of the subjects" possessed inadequate knowledge regarding puerperal changes and its management on caesarean section. The overall mean knowledge scores of the subjects regarding the knowledge on puerperal changes and its management are 24.0% in vaginal delivery and 25.2% in caesarean section.

The findings are supported by pre experimental study was conducted on Uttar Pradesh, India, to assess the effectiveness of planned teaching program on knowledge regarding changes normal puerperium in postnatal mother among GNM third-year students at Kanpur's chosen nursing school. 40 samples were collected using non probability purposive sampling technique. On assessment of knowledge it revealed that subject had 57.50% inadequate knowledge, 42.50 moderate knowledge and 0% adequate knowledge. The overall mean percentage score was 46.86% in pretest. Additionally, their post-test knowledge assessment showed that they had 87.50% adequate knowledge and a moderately 00% adequate knowledge of 12.50%. The post-test result showed an overall mean percentage score of 85.8. The findings indicate a statistically significant correlation between the pre- and post-test knowledge scores.<sup>[1]</sup>

To ascertain the efficacy of an educational program addressing the knowledge of women on maternity care during the postpartum period who attend the primary health care clinics in Amara City, Iraq, a quasi-experimental design was carried out. was completed using a non-probability (Purposive sample) method to gather data from 172 multi-gravid women who were chosen from eight primary health care centers, making up the research group of 86 and the control group of 86, through analysis of data was the age range of the women between (16-40 ≥ ) years and there was a statistically significant difference in women's knowledge for maternal care in the postpartum period between the pretest and post test for study group, there was statistically significant inverse correlation between women's age and their overall knowledge in



the post test.<sup>[2]</sup>

Based on the second objective, the score of the mother revealed that 60% of the vaginal delivery mothers have inadequate knowledge and 40% of moderate knowledge and with respect to caesarean section 100% have inadequate knowledge level.

The finding is supported by a pre experimental study was conducted with 60 samples between the age group of 18- 40 years admitted in postnatal wards of Sree. Balaji Medical College and Hospital. Its objective was to assess the pretest and post test level of knowledge regarding postpartum management among postnatal mothers. A pre-experimental one group pretest and post-test design was adopted for this study. Non probability convenience sampling techniques was used to select the sample. Postnatal mothers who had normal vaginal or instrumental and LSCS and both primi para and multi-para mothers were included in this study, most of the women 42 (70%) had normal vaginal delivery, 6(10%) had instrumental delivery and 12(20%) had L.S.C.S. Most of the women were 34(56%) belong to primi para and 26(44%) belong to multi para. The study revealed that in the pretest 46(76.7%) had inadequate knowledge and 14(23.3%) had moderately adequate knowledge. In the post-test 42(70%) gained adequate knowledge and 18 (30%) gained moderately adequate knowledge.<sup>[3]</sup>

The quantitative approach with descriptive design and convenience sampling technique on incidence of minor ailments of puerperium and related knowledge among postnatal mothers. Here the researcher selected 100 postnatal mothers attending Obstetrics and Gynaecology ward, AIMS, Kochi. Population: Target population were all the postnatal mothers attending obstetrics and gynaecology department and accessible population were all postnatal mothers in the obstetrics and gynaecology ward during the period of data collection. There was a total of 100 samples that are within 7 days after delivery. The study showed that the major problems found among postnatal mothers are after-pain, perineal discomfort, constipation, and fatigue. Majority of the subjects had average knowledge score, and some had good knowledge, and only a few have poor knowledge score. Minor ailments were postpartum pain (67%), perineal discomfort (50%), constipation (43%), and fatigue (67%). Majority of the postnatal mothers had average knowledge (65%) level, and some of them had good knowledge (21%) score, and some of them had poor knowledge (14%) score. In this study, the postnatal mothers are divided into two groups based on the postnatal days such as one group belongs between 1 and 3 days and other group belongs to 4–7 days.<sup>[4]</sup>

In the third objective the data shows that there is a significant association found between the knowledge scores and selected socio-demographic variables like age groups ( $p=5.99$ ), age at marriage ( $p=7.8$ ), religion of the mothers ( $p=5.99$ ), educational status of the mothers ( $p=5.99$ ), occupation of the mothers ( $p=7.8$ ), family income per month ( $p=7.8$ ), gestational week at the time of delivery ( $p=5.99$ ), and bad obstetric ( $p=3.8$ ) at 0.05 level.

The finding of the study was supported by a comparative study was conducted in Departments of Obstetrics& Gynecology of Lady Reading Hospital, Khyber Teaching Hospital and Hayatabad Medical Complex, Peshawar from November 2009 to January 2010. A total of 100 women; 50 cases of Normal Vaginal Delivery and 50cases of caesarean Sections were included in the study through purposive, non-probability sampling technique. A semi-structured demographic proforma and Edinburg Post-Natal Depression Scale (EPNDS) were used for data collection by interviewing the cases between 1st and 8th post-partum weeks. Chi square test was applied as the test of significance and P- value of less than 0.05 was considered significant. The mean age of the sample was  $29.68 \pm 6.8$  years (Range 15-52years). In women that undergoes Caesarean Section ( $n=50$ ), 29 (58%) were found as having depressive symptoms while in the group of women that gave birth through Normal Vaginal delivery ( $n=50$ ), 12 (24%) were ha-

ving depression ( $p$ -value  $< 0.001$ ).[5]

Pre-experimental one group pre test post-test design, 200 primi gravid mothers who met sampling criteria were selected by using non-probability convenience sampling for the present study. The knowledge of primi gravid mothers were assessed using a structured knowledge questionnaire followed by a planned health education programme and next day it was conducted with the same structured questionnaires for the post test. The association in among post-test knowledge level of primi gravid mothers with selected demographic variables shows that the variables such as age in years ( $p < 0.027$ ), educational status ( $p < 0.009$ ), type of family ( $p < 0.041$ ), first breast milk given to the baby ( $p < 0.001$ ) and mother being ask either she is performing exclusive breast-feeding ( $p < 0.001$ ) found significantly associated with post-test knowledge level of primi gravid mothers. Hence for these variables there search hypothesis is accepted, whereas for other variables religion ( $p < 0.245$ ), monthly family income in Rs. ( $p < 0.745$ ), occupational status of the mother ( $p < 0.654$ ), diet pattern ( $p < 0.813$ ), period of gestation ( $p < 0.441$ ), type of delivery ( $p < 0.847$ ), gender of baby ( $p < 0.458$ ) and Birth weight of baby ( $p < 0.329$ ) found non-significant, hence for these variables the research hypothesis is rejected.[6]

## CONCLUSION:

With reference to the assessment of knowledge level, none of the subjects possessed adequate knowledge, 20 % of subjects possessed moderate knowledge 80 % of subjects possessed inadequate knowledge in vaginal delivery and 26.7% of subjects possessed moderate knowledge 73.3% of subjects possessed inadequate knowledge in caesarean section regarding puerperium changes and its management.

## ABBREVIATIONS:

$\chi^2$ : Chi-square

CS: Caesarean section

df : Degree of freedom

F: Frequency

e: Margin of error

N: Population

P: Probability

n: Sample Size

$\sigma$  : Standard Deviation

SD: Standard Deviation

t: Table value

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