

A Study to Assess the Knowledge on Prevention of Selected Puerperal Complications Among Postnatal Mothers Who Have Undergone Cesarean Section at Government Maternity Hospital, Tirupati

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Abstract—Background: The puerperium, or postpartum period, is critical phase physiologically and emotionally & vulnerable phase in a woman's life, typically extending for six weeks after childbirth. During this time, a woman undergoes various anatomical, physiological, and emotional changes as her body returns to its pre-pregnant state. During this time, the mother undergoes physical and psychological adjustments, and if not properly cared for, she is vulnerable to various puerperal (postpartum) complications. These complications can include infections, hemorrhage, (post-partum bleeding), mastitis, thrombophlebitis, urinary tract infections, postnatal depression and wound healing problems-especially after cesarean delivery .

Objectives:

- To assess the knowledge of post cesarean mothers on prevention of puerperal complications.
- To find the association of knowledge of post cesarean mothers on prevention of puerperal complications with the selected demographic variables.
- To assess the knowledge of postnatal mothers on level of practices check list on puerperal complications

Methods: The research approach used for the present study was non experimental approach and cross sectional descriptive design was adopted non – probability convenient sampling technique was used .The setting of the study was Government maternity hospital, Tirupati The tool used in the study was structured questionnaire section – 1 consists of socio demographic data.

Section-2 consists of knowledge assessment

questionnaire on prevention of puerperal complications among post cesarean mothers' section -3 consists of knowledge assessment questionnaire on practices check list regarding puerperal complications among post cesarean mothers. questionnaire was developed under the guidance of experts, to establish the reliability, karl pearson correlation coefficient method was used. The tool was administered to 10 members. The reliability score was $r = 0.74$ which indicates the tool was highly reliable for final study. Prior permission was taken from medical superintendent maternity hospital, Tirupati. The final data were collected from 100 samples 11-7-2025 to 20-7-2025. Investigator introduced herself to mothers and explained the significance of the study.

Results: In this study out of 100 post cesarean mothers' majority 66 (66%) had inadequate knowledge,25(25%) had moderate knowledge,9(9%) had adequate knowledge on selected puerperal complications the knowledge scores on puerperal complications among mothers had mean score 0.84. The association between the demographic variables with the level of knowledge on puerperal complications with variables of type of family and duration of the marital life were significant at 0.05 level and other variables were not had significant with the puerperal complications and item wise analysis done for the items present in the study.

Conclusions: It was concluded that the findings of the present study were the knowledge on puerperal complications there is a need to educate the mothers in rural and urban areas. Increase awareness about puerperal complications intensive enlightenment of population using the mass media by trained personnel is recommended.

Index Terms—Knowledge, Prevention, Puerperal Complications, Postnatal Mothers, Caesarean Section.

I. INTRODUCTION

The puerperium, or postpartum period, is a critical phase in a woman's life, physiologically and emotionally vulnerable phase in a woman's life, typically extending for six weeks after childbirth. During this time, a woman undergoes various anatomical, physiological, and emotional changes as her body returns to its pre-pregnant state. Triggered by a sharp drop in the levels of estrogen & progesterone produced by the placenta during pregnancy. The uterus shrinks back to its normal size & to its normal size & resumes its pre birth position by the sixth week. Postnatal care is essential during this period to monitor maternal recovery, prevent complications, and promote the health and well-being of both mother and newborn.

Puerperal complications include many of those encountered during pregnancy but those are some that are more common at this time. Typical of these is puerperal pelvis infection a well-known killer of postpartum women¹. According to World Health Organization (WHO), puerperal sepsis is defined as infection of the genital tract occurring at labour or within 42 days of the postpartum period. The puerperal sepsis/pyrexia presents commonly with fever and other symptoms like pelvic pain, foul smelling vaginal discharge and delayed reduction of the uterine size. World literature search revealed a Nigeria study report that puerperal sepsis is second leading causes of death accounting for 26.3% of maternal deaths, while another WHO report estimated 358000 maternal deaths yearly occurring due to child birth problems and out of these up to 15% are associated with puerperal sepsis². Puerperium is the period of adjustment after child birth during which the mother's reproductive system returns to its normal pre-pregnant state triggered by a sharp drop in the levels of oestrogen and progesterone produced by the placenta during pregnancy. The uterus shrinks back to its normal size and resumes its pre-birth position by the sixth week. Even though there is a decline in maternal mortality or morbidity case compared in olden times, still there is incidence. According to WHO maternal mortality is currently estimated to be 529000 deaths

per years, a global ration of 400 maternal deaths per 100000 live births. Between 11-17 percent of maternal deaths happen during child birth itself. (WHO)³.

At Government Maternity Hospital, Tirupati, hundreds of deliveries occur monthly — many being cesarean sections, which increase the risk of sub involution Mothers often discharged within 3–5 days post-delivery without full uterine assessment Nurses and staff sometimes miss signs such as prolonged lochia, lower abdominal pain, or retained placental bits. Mothers from rural Tirupati areas lack knowledge about what "normal" postnatal recovery.

II. MATERIALS AND METHODS

The present chapter deals with the analysis and interpretation of data collected from maternity hospital, Tirupati of 100 post cesarean mothers. The investigator was selected Government Maternity Hospital, in post natal ward Tirupati. familiar with the setting in terms of the professional experience and language of patients. The inclusion criteria included, Postnatal women who were available at the time of data collection, who can read and write Telugu, willing to participate in the study , who underwent Cesarean section

Sample size : Adjusted Sample Size Formula was adopted, $A = n / (1 + (n - 1) / p)$ to calculate the sample size.

A = Assumed sample, n = No of sample size 100, p=Total number of women who underwent Cesarean in the preceding year.

$$A = n / (1 + (n - 1) / p) \quad A = 100 / (1 + (100 - 1) / 660)$$

$$A = 100 / (1 + (99) / 660)$$

$$A = 100.15$$

Sampling Technique adopted for present study was non probability convenient sampling Techniques was adopted based on inclusion criteria.

The tool consists of three sections:

Section 1: This consist of socio demographic data such as women's age, religion, educational status, occupation, monthly income of family, type of family , marital status, duration of marital life, number of children, source of information.

Section 2: This consist of 25 structured questionnaire related to knowledge regarding selected puerperal complications, that is Q no: 3,7,8,9,11,13,14, 16, 18,

19,22, 24 Among these 12 questions had more than one correct option carries '1' Mark & the wrong answer carries '0' marks. Remaining 13 had only one correct option.

Section 3: This consist of 25 questions in practice check list with yes or no responses on two point scale the total value was 25 based on quatar deviation the scores were divided in to high, moderate, average. practices regarding prevention of puerperal complications.

SCORE INTERPRETATION:

The maximum total score was

<50% (<33) In adequate knowledge.

51-75% (34-65) Moderate knowledge

>75% (66-98%) Adequate knowledge

Data collection procedure:

The investigator obtained prior permission from the medical superintendent, maternity, Tirupati to conduct the study. By using non probability convenient sampling technique 100 post cesarean mothers were selected as the sample, with minimum 10 cases per day from 8am to 1pm for data collection. from 11/7/25 to 20/7/25 The investigator introduced her to the women, maintained rapport by explaining about the purpose of

the study, and took written consent from all the women. The investigator made the women to sit comfortably, pencil and writing pads were given and their knowledge level were assessed by using structured questionnaire as per the women's response. Doubts were clarified the procedure was followed for the 100 samples.

III. RESULTS AND DISCUSSION

The present chapter deals with the analysis and interpretation of data collected from maternity hospital, Tirupati of 100 post cesarean mothers. The study results shown that more than half of the mothers that is 44(44%) were the age group of 22-24 years and 43 (43%) were 19-21 years and least 13 (13%) were 25- 27years. With regard to the occupation of the mother 50 (50%) were homemaker and 29(29%)were private employee and 15 (15%) were cooly, and least 6 (6%) were Govt employee. The source of information regarding puerperal complications among post ceseran section mothers ss38 (38%) were mass media, 23 (23%) were relatives, 16 (16%) were friends, 15 (15%) were health care professionals and least8(8%) were family members.

Table 1: Frequency and percentage distribution of knowledge on selected puerperal complications

Level of Knowledge	Frequency (f)	Percentage (%)	Mean	Standard deviation
Adequate	9	9	0.84	0.39
Moderate	25	25		
Inadequate	66	66		

The above table shows that level of knowledge on Post-Cesarean mothers regarding prevention of selected puerperal complications 9(9%) were adequate knowledge,25(25%) were moderate knowledge, 66(66%) were inadequate knowledge The mean value 0.84 and standard deviation is 0.39.

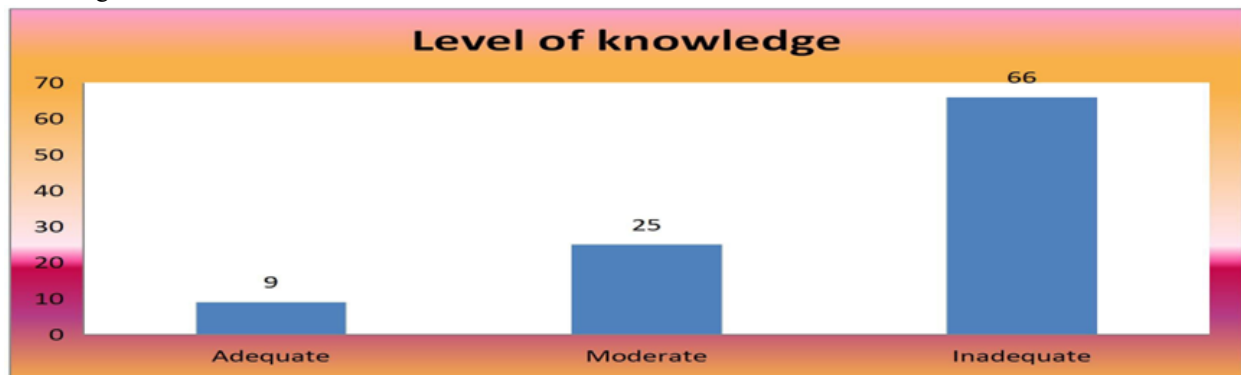


Fig 1 : Frequency and distribution of level of knowledge on selected puerperal complications among post ceseran mothers.

Table 2: Frequency and percentage distribution on knowledge practices

Level of practice	Frequency (f)	Percentage (%)	Mean	Standard deviation
Adequate	8	8	0.54	0.00145
Moderate	39	39		
Inadequate	53	53		

The above table shows that level of knowledge on practices among post cesarean mothers regarding puerperal complications. 8 (8%) were adequate. 39(39%) were moderate, and least 53 (53%) were inadequate. The mean value 0.54 and standard deviation is 0.00145.



Fig 2: frequency and distribution of level of practice

ITEM ANALYSIS ON KNOWLEDGE QUESTIONNAIRE ON PUERPERAL COMPLICATIONS AMONG POSTCESERAN MOTHERS

- Pertaining The normal amount of blood loss occur in any type of delivery majority of correct response given by 56(56%) respondents. regarding the amount of blood loss indicates post partum Hemorrhage after vaginal delivery correct response given by 56 (56%) of respondents. 53(53%) were given regarding blood loss indicates Postpartum Hemorrhage.
- Regarding complications can occur during puerperal period after c section majority of them given Post partum Hemorrhage 38(38%), puerperal pyrexia 11(11%), sub involution uterus, 9 (9%) mastitis 10(10%) puerperal sepsis 5(5%) deep vein thrombosis 5(5%) post partum depression 2(2%).
- With respect to the symptoms indicates post partum Hemorrhage majority of given boggy uterus 36(36%) persistent bleeding 18(18%) decreased hemoglobin levels 15(15%) visible Excessive vaginal bleeding 9(9%) decrease blood pressure 6(6 %)
- Regarding cause leads to post partum

Hemorrhage majority of them given 35(35%) presence of uterine atony, 18(18%) retained placenta membrane bits. 11(11%) trauma injury at any part of genital tract 14(14%) defect in clotting mechanism of blood

- symptoms indicate post ceseran mother need to identify Post Partum Hemorrhage Majority of them given 40(40%) of Excessive bleeding per vagina 9(9%) sub involution, 7(7%) hard uterus, 3(3%) boggy Uterus.
- Regarding body temperature in puerperal fever correct response given by 55% of respondents
- Regarding most common cause of post partum fever majority of given 41% infection in any part of the body, 5% breathlessness 10% swollen & pain in the breast, 5% Anxiety & stress
- Pertaining complications of post partum fever majority given 54% septicemia & shock
- Regarding the meaning of sub involution of the uterus majority given 40% foul smell 15% vaginal discharge 14% Abnormal uterine bleeding 3% pain in lower abdomen, 5% increased uterine height & soft texture
- Pertaining of the milk secretion starts after delivery majority of them given 52% 3rd or 4th day .
- Regarding the breast will be swollen during

puerperium 44% over accumulation of milk 12% delayed breast feeding 6% changes in the Hormonal production.7% ineffective or infrequent milk removal.

- Pertaining The symptoms of infection in the breast 53% were correct respondents
- Regarding complications of breast engorgement 41% cracked nipples, 9% Infection in the breast,8% pus collection in the breast 6% nipple damage
- Pertaining The preventive measures to relieve breast engorgement majority 36% feed baby more often 16% express excessive milk & discarded 11% massage breast gently at each feed 6% Apply awarm or cold cloth around the breast
- Pertaining The deep Vein thrombosis occur in post partum women majority of them 52% formation of blood clots in deep vein of the legs
- Regarding the comoon cause for deep vein thrombosis in mothers after child birth, majority of them 54%. Respondants
- Pertaining common symptoms of Deep vein thrombosis leg pain 41% swelling 11% tenderness 9%,redness 1%
- Regarding serious complications of Deep vein thrombosis majority of them given correct option 53% blood clot blocks lungs
- Pertaining The prevention of Deep vein thrombosis correct response given by 53% of respondents
- Regarding the hours of ceseran section mother need to be ambulated correct response given by 56% of respondents.

KNOWLEDGE ON LEVEL OF PRACTICES AMONG POST CESERAN MOTHERS REGARDING PUERPERAL COMPLICATIONS

- ✓ Majority 76% of mothers had knowledge that the puerperal period after childbirth is a crucial phase to maintain the health of both mother and baby.
- ✓ Regarding good hygienic practices during the postpartum period, 61% of respondents possessed correct knowledge.
- ✓ On the importance of adequate hydration, 55% of mothers were aware that drinking sufficient water is necessary.
- ✓ Concerning a well-balanced diet rich in proteins, carbohydrates, fats, minerals, and vitamins, 60% of mothers knew it is essential after delivery.
- ✓ For monitoring vaginal discharge for foul smell

and bleeding, 53% of mothers responded correctly.

- ✓ 51% of mothers were aware of that need to check their breasts for swelling and pain.
- ✓ 55% of respondents knew that reporting lower abdominal pain after delivery requires early medical consultation.
- ✓ Regarding consumption of roughage (vegetables and fruits) to prevent constipation, 56% of mothers had correct knowledge.
- ✓ 52% of mothers had knowledge about feeding the baby from one breast until it softens before switching to the other breast.
- ✓ Concerning the frequency of breastfeeding every 1-2 hours to avoid engorgement, 52% of mothers were aware.
- ✓ 55% of women had knowledge on wearing a well-fitting supportive bra to relieve breast engorgement.
- ✓ 56% of post-cesarean mothers were aware of the importance of maintaining the correct position of the baby during breastfeeding.
- ✓ 56% of respondents had knowledge regarding proper latching to avoid cracks and soreness.
- ✓ 49% of mothers knew that adequate sleep and rest (10 hrs/day) helps in preventing breast complications.
- ✓ 50% of mothers were aware of relaxation techniques such as meditation and diversional activities.
- ✓ They aware of 52% of mothers had knowledge on early mobilization within 6-12 hrs after delivery to prevent deep vein thrombosis (DVT).
- ✓ 51% of respondents were aware about use of compression stockings for DVT prevention.
- ✓ 54% respondents were aware about being active/wearing loose clothing to prevent thrombosis.
- ✓ 55% of mother's they know leg circulation exercises it helps to prevent clots in legs.
- ✓ 48% of mothers were aware that any new or worsening symptoms like leg pain, swelling, or other symptoms must be reported immediately.
- ✓ Regarding early breastfeeding helps to reduce the risk of postpartum hemorrhage, 53% of respondents had correct knowledge related to breast feeding
- ✓ 50% of mothers had awareness On symptoms of postpartum hemorrhage ie. (severe bleeding, soft

uterus, and symptoms of giddiness),

- ✓ 51% of respondents had correct knowledge Concerning strict hygienic principles such as hand-washing, wearing clean clothes, and wound care.
- ✓ 50% of mothers were aware Regarding changing sanitary pads frequently and washing hands after urination and defecation.
- ✓ Their said 51% of respondents had to be open for seeking help and sharing physical/mental discomfort with family members.

Association of socio demographic variables with level of knowledge shows there was significant association of socio demographic variables with level of knowledge on post cesarean mothers regarding puerperal complications. like educational status of the husband, occupation of the husband, area of living, gravity significant at 0.05 level and the other variables like Type of family, and Duration of the marital life significant at 0.01 level. Remaining variables like age in years, religion, educational status of the mother, occupation of the mother, Total monthly income of the family in rupees, No of living children, source of information are not significant.

Association of socio demographic variables with level of knowledge on practices shows the significant association between the demographic variables vs level of knowledge, practices on puerperal complications among post cesarean mothers like Type of the family, duration of the marital life in years at 0.05 level remaining variables like age in years, religion, educational status of the mother & husband, occupation of mother & husband, Total monthly income of the family in rupees, area of living, Gravity, No of living children, sources of information were not significant

Limitations: The limited sample size places a limitation on the generalization of the study findings.

Conflict of Interest: The authors confirm that they have no conflicts of interest for this study.

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