RESEARCH
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A QUASI-EXPERIMENTAL STUDY TO ASSESS THE EFFECT OF MATERNAL CARE BUNDLE ON MATERNAL WELL-BEING AMONG POSTNATAL MOTHERS IN SELECTED HOSPITALS

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Abstract
Introduction: The birth of a child is one of the biggest events in a woman's life and demands a lot from her like lifestyle adjustments. Proper breastfeeding, positive conditioning, venting emotions, seeking support from others, practicing relaxation techniques, eating enough healthy food, exercising, resting, praying, and taking care of herself and her baby. The early postpartum period is critical for both mother and child, and morbidity and mortality are rampant if adequate care is not provided. Knowledge of follow-up care plays an important role in reducing such complications[1]. **The Objective** of the study was to assess the effect of maternal care bundle on maternal well--being among postnatal mothers in selected hospitals. **Methods and Material:** The quasi-experimental non-equivalent control group post-test-only design was used. A total of 60 samples (30 in the experimental and 30 in the control group) were selected by purposive sampling method and fulfilled inclusion criteria. The tool used for the study had a demographic variable, a four-point Likert scale maternal well-being assessment scale. **Result:** It was observed that maternal well-being among the experimental group, all postnatal mothers (100%) reported very good well-being, as they scored between 45-60, while in the control group, 25 (84.34%) mothers felt good well-being, 4 (13.33%) mothers felt average well-being, 1 (3.33%) poor well-being in postnatal mothers. The result shows that there is no significant association between demographic variables and the control group, with age, parity, family type, mother's education, occupation, and monthly income showing no significant association. The experimental group shows that demographic variables have no significant association with maternal care bundle and demographic variables. However, the application of the maternal care bundle and maternal well-being showed no significant association with demographic variables and the maternal care bundle. The null hypothesis is accepted for both control and experimental groups, as the calculated p-value is more than 0.05. Conclusion: The study concludes that the maternal care bundle is an effective, suitable, and non-pharmacological technique that is easy to implement and effective in providing personal care, breastfeeding, newborn care, and rest and sleep to postnatal women and ultimately prevents unwanted complications which occur due to inappropriate management of postpartum period. It also helps to create a strong bond between newborns and mothers. Nurses can implement this bundle to provide quality care to their patients.
Keyword: Maternal care bundle, maternal well-being, postnatal mothers, rest and sleep, breast feeding.

INTRODUCTION

The term "puerperium" refers to the six weeks immediately after childbirth. This is a dynamic time when the body's systems return to their pre-pregnancy state and the physiological changes that occur during pregnancy are resolved. During labor and delivery and the first 1-2 weeks after delivery, many of the complications cause postpartum maternal morbidity. During the first few days after delivery, complications are managed in the hospital. However, there is a possibility that these complications will continue, and the postpartum morbidity of these women is assessed at the postnatal checkup.[2]

During the post-partum period mothers most commonly experience fatigue and discomfort, such as perineal pain, and lower abdominal and uterine pain. Timely and effective management of this problem is an important aspect of care. Pharmacological intervention can lead to side effects for mothers and babies. Pharmacological intervention may lead to discomfort for the mother and feeding problems as well. So non-pharmacological interventions are easier without side effects. Prone positioning was found effective in many health conditions related to respiratory and abdominal health issues.[3]

The goal of maternal care is to reduce maternal morbidity and mortality by encouraging the growth and maturation of systems for providing risk-appropriate care specific to maternal health needs. This involves developing collaborative relationships between hospitals of different levels of maternal care in proximate regions, ensuring personnel and resources for unexpected obstetric emergencies, judicious risk assessment, and readily available consultation and referral when high-risk care is needed.[4]

NEED FOR STUDY

Over a two-decade period, there were approximately 10,000 maternal fatalities in India out of 4.3 million live births, a decrease of roughly 70% from 398/100,000 live births in 1997-98 to 99/100,000 (90-108) in 2020. Obstetric hemorrhage (47%; greater in poorer states), pregnancy-related infection (12%), and hypertensive disorders of pregnancy (7%), were the main causes of maternal death. Despite a 70% reduction in maternal death rates nationwide, the poorer states still trail behind.[5]So, to restore the normal physical, physiological, psychological, and emotional status of the mother pain reduction is a necessary measure. To reduce the post-labor pain and help the involution of the uterus nonpharmacological method is used such as a prone position. The prone position creates constant pressure against the mother's uterus which keeps it contracted helping to reduce pain and help for the involution of the uterus. Decrease the demand for painkillers. Improve sense of well-being. Mother feels better.[6]

Problem Statement

"Effect of Maternal Care Bundle on maternal well-being among postnatal mothers of selected Hospitals."

Objectives

1. To assess the effect of maternal care bundle on maternal well-being among postnatal mothers.
2. To find the association between maternal well-being and selected variables among postnatal mothers.

Scope of the Study

1. A maternal care bundle is an effective non-pharmacological intervention to facilitate maternal well-being.
2. It can increase the level of maternal satisfaction at motherhood.
3. It is beneficial to reduce postpartum complications that occur during a puerperal period which are preventable improve maternal and newborn health and create a strong bond between the mother and her newborn.
4. It is effective in faster recovery of a mother during the puerperal period.

Assumption

1. Maternal rest bundle will help the mother and baby's well-being and early recovery.
2. The degree of well-being will differ from mother to mother.

Hypothesis

H0- There will be no significant effect of maternal care bundle on maternal well-being among postnatal mothers at 0.05 level of significance.

H1- There will be a significant effect of maternal care bundle on maternal well-being among postnatal mothers.

Delimitation

The study is delimited to

1. Mothers who are delivered with normal vaginal delivery.
2. 60 mothers who are admitted to a postnatal unit of the selected hospitals.

Ethical Consideration

1. The study proposal has been sanctioned by the institutional committee of the college.
2. Official permission is obtained from the concerned authorities of selected hospitals.
3. Informed written consent is taken from all subjects.
4. Confidentiality of data is ensured.

CONCEPTUAL FRAMEWORK

The conceptual framework selected for this study is based on General system theory. General system theory describes how to break a whole into parts & then learn how the parts work together in a system. These concepts may be applied to different kinds of systems, e.g., molecules in chemistry, cultures in sociology, and organs in anatomy & health in nursing. The conceptual framework of General System Theory initially introduced by Von Bertalanffy (1930s)

METHODS AND MATERIALS

To achieve the objectives of the study, a quantitative approach is considered appropriate, as the investigator aimed to find out the effect of maternal care bundle on maternal well-being among postnatal mothers. The design adopted in this study was a quasi-experimental control group post-test-only design. The study was conducted in a selected postnatal ward of a selected hospital in a selected area. These 750-bed hospitals are selected to cater to the needs and problems of women of all age groups, either obstetrics or gynecological. Moreover, it also provides training and research facilities for nurses in gynecology and obstetrics. This hospital had well-equipped antenatal wards, labor room, and postnatal wards. Along with this, it also provides need-based services to all indoor and outdoor patients and the community as a whole. The reasons for selecting this hospital are administrative support and cooperation, availability of samples, and convenience of transportation. variables of this study, the independent variable is the maternal care bundle, and the dependent variable is maternal well-being. 60 post-natal women who fulfilled the following criteria were the sample.

- Mothers who had a normal vaginal delivery and who are within the normal puerperium period.
- Postnatal mothers who are willing to participate in the study.

The description of the tool is as follows:

Section A: Demographical data which includes age, family type, education, economic status, occupation, obstetrical score, weeks of gestation at delivery, and condition of the newborn.

Section B: Maternal well-being assessment scale for postnatal mothers:

Four-point Likert scale was developed, it consists of 20 items. The items assess the level of maternal well-being among postnatal mothers. Each item scores at no time (0) sometimes (1) most of the time (2) all of the time (3). The maximum score is 60 and the minimum score is 20.

The tool was validated by experts from the OBGY department and a pilot study was conducted to check the feasibility, The main study was conducted for three months.

FINDING AND RESULTS

Table 1: Frequency and percentage distribution of demographic variables in experimental and control group n = 60

		Experiment (n=30) (%)	Control (n=30) (%)
Age (Years)	Up to 20	6 (20%)	6 (20%)
	21 – 25	13 (43.33%)	11 (36.66%)
	26 – 30	8 (26.66%)	10 (33.33%)
	31 & above	3 (10%)	3 (10%)

		Experiment (n=30) (%)	Control (n=30) (%)
Obstetrical score	Primigravida	10 (33.33%)	13 (43.33%)
	Multigravida	20 (66.66%)	17 (56.66%)
GA (Weeks) at delivery	Up to 37 weeks	6 (20%)	5 (16.66%)
	More than 37 weeks	24 (80%)	25 (83.33%)
Type of family	Joint	30 (100%)	30 (100%)
	Nuclear	0	0
Education	Secondary	18 (60%)	17 (56.66%)
	Higher Secondary	5 (16.66%)	6 (20%)
	Graduate/ postgraduate	7 (23.33%)	7 (23.33%)
Occupation	Housewife	30 (100%)	30 (100%)
Monthly income (Rs)	Up to 15000	14 (46.66%)	12 (40%)
	15001 – 20000	11 (36.66%)	9 (30%)
	20001 & above	5 (16.66%)	9 (30%)
Condition of neonate: Good		30 (100%)	30 (100%)

INTERPRETATION

- Majority of the women in the experimental group and control group are aged between 21 and 25 years, i.e. 13 (43.33%) and 11 (36.66%) respectively. 8 (26.66%) of them were age group 26-30 years in the experimental group whereas 10 (33.33%) of them in the control group and 3 (10%) mothers belonged to the 31 and above age group in the experimental and control group.
- The majority of the women in the experimental group and control group had obstetrical scores of multigravida 20 (66.66%) and 17 (56.66%) respectively. 10 (33.33%) of them were primigravida in the experimental group whereas 13 (43.33%) of them were in the control group.
- Majority of the women in the experimental group and control group had gestational age in weeks at the time of delivery 24 (80%) and 25 (83.33%) respectively. 6 (20%) of them were having gestational age in weeks at the time of delivery in experimental group whereas 5 (16.66%) of them in the control group.
- All women in the experimental and control groups belong to joint families i.e 60 (100%).
- Education of women in experimental and control groups was secondary education 18 (60%) in the experimental group and 17 (56.66%) were in the control group. Higher secondary education was 5 (16.66%) in the experimental group and 6 (20%) in the control group. Graduation or post-graduation was 7 (23.33%) in the experimental group and 7 (23.33%) in the control group.
- The occupation of women among the experimental and control group was housewife 60 (100%).
- Majority of the women's monthly income among experimental and control groups were up to 15000, i.e. 14 (46.66%) and 12 (40%) respectively. Monthly income up to 15001- 20000 was in the experimental group 11 (36.66%) whereas in the control group was 09 (30%). Monthly income between 20000 and above in the experimental group is 5 (16.66%) and 9 (30%).
- The condition of the neonate in the experimental and control groups is good i.e. 60 (100%).

Table 2, Analysis of data effect of maternal rest bundle on maternal well-being among postnatal mothers in experiment and control group

Maternal well-being score	Experiment (%)	Control (%)
0 – 15 (Poor)	0	0
16 – 30 (Average)	0	4 (13.33%)
31 – 45 (Good)	0	25 (83.34%)
46 – 60 (Very good)	30 (100%)	1 (3.33%)
Total	30 (100%)	30 (100%)

INTERPRETATION

Maternal well-being among the experimental group, all postnatal mothers (100%) reported very good maternal well-being, as they scored between 45-60, while in the control group 25 (84.34%) mothers felt good well-being, 4 (13.33%) mothers felt average well-being, 1 (3.33%) mother felt very good wellbeing, and no one felt poor maternal well- being in postnatal mothers.

Table 3: Comparison of Maternal well-being score among postnatal mothers in experiment and control group

Parameter	Experiment (n=30)		Control (n=30)		MW test Z Value	P Value
	Mean	SD	Mean	SD		
Maternal well-being score	56.70	2.103	33.43	4.392	6.65	<0.00001

INTERPRETATION

The mean maternal well-being score in the experimental group is 56.70 and SD is 2.103 where n=30. The mean maternal well-being score in the control group is 33.43 and SD is 4.392. the MW test Z value is 6.65 and the P value is more than 0.0001 i.e., the mean maternal well-being score was significantly higher in the experimental group than the control group.

Table 4: Comparison of Maternal well-being score according to age in experimental and control group

Experimental group						Control group				
Age	n	Mean	SD	F-value	P-value	n	Mean	SD	F-value	P-value
Up to 20	6	55.67	3.386			06	32.17	1.169		
21 – 25	13	56.85	1.908			11	33.36	2.639		
26 – 30	8	56.63	1.061			10	34.50	7.059		
31 & above	3	58.33	1.528	1.12	0.36	03	32.67	2.082	0.37	0.78

INTERPRETATION:
There is no significant difference in maternal well-being scores according to age in the experimental and control group as P>0.05.

Table 5: Comparison of Maternal well-being score according to education in the experiment group and control group.

Experimental group						Control group				
Education	**n**	**Mean**	**SD**	**F-value**	**P-value**	**n**	**Mean**	**SD**	**F-value**	**P-value**
Secondary	18	56.94	1.955			17	33.06	1.952		
Higher secondary	5	57.00	.707			6	32.83	2.787		
Graduate/ post graduate	7	55.86	3.024	0.72	0.50	7	34.86	8.572	0.47	0.63

INTERPRETATION:
There is no significant difference in maternal well-being scores according to education in the experimental and control group as P>0.05.

Table 6 : Comparison of Maternal well-being score according to obstetrical score in experimental group and control group.

Experimental group						Control group				
Obstetrical Score	**Maternal well -being**			**MW test Z Value**	**P- Value**	**Maternal well-being**			**MW test Z Value**	**P- Value**
	n	**Mean**	**SD**			**n**	**Mean**	**SD**		
Primigravida	10	56.60	2.459			13	34.08	6.357		
Multigravida	20	56.75	1.970	0.21	0.84	17	32.94	2.015	0.57	0.568

INTERPRETATION:
There is no significant difference in maternal well-being scores according to obstetrical scores in experimental and control groups as P> 0.05.

Table 7: Comparison of Maternal well-being score according to GA at delivery in the experimental group and control group.

Experimental group						Control group				
Obstetrical Score	**Maternal well-being**			**MW test Z Value**	**P-Value**	**Maternal well-being**			**MW test Z Value**	**P-Value**
	n	**Mean**	**SD**			**n**	**Mean**	**SD**		
Up to 37 weeks	06	57.33	1.506			5	33.80	2.387		
More than 37 weeks	24	56.54	2.226	0.08	0.94	25	33.36	4.725	1.18	0.24

INTERPRETATION:
There is no significant difference in maternal well-being scores according to gestational age at delivery in the experimental and control groups as P>0.05.

DISCUSSION AND CONCLUSION
The conclusions drawn from the findings of the study are as follows:
Postnatal mothers did not know the maternal care bundle before intervention, and the attitude of postnatal mothers towards the maternal care bundle was neutral before intervention.
The Mann-Whiteney test was used to find out the effect of the maternal care bundle on maternal well-being. The implementation of the maternal care bundle shows the effectiveness on maternal well-being as there is a significant increase in the maternal well-being score in the experimental group as the mean of maternal well-being score in the experimental group is 56.70 and in the control group mean is 33.43 and SD in the experimental group is 2.103 and the SD is 4.932 and by Mann-Whiteney test Z value is 6.65 which indicates the maternal care bundle was effective for maternal well-being. Maternal care bundle practice improves postpartum outcomes by ensuring evidence-based care, promoting team collaboration, and redesigning processes for reliability. The implementation of maternal care bundle practices requires support from staff and families, motivation, and knowledge to improve coordination, information on maternal health education, and changing practices in hospitals. Implementation of maternal care bundle during the postnatal period should balance various caring aspects like enhancing effective breastfeeding, adequate rest and sleep by using quiet time daily for at least 2 hours, postnatal breathing exercises for relaxation, consuming a balanced diet, addressing independent predictors of maternal satisfaction like a bond between mother and baby, baby is taking feed normally, mother is recovering fast due to adequate sleep and balanced diet. This is helpful to prevent

further complications that occur during the postpartum period and to improve maternal well-being.

The study shows no significant association between demographic variables and the control group, with age, parity, type of family, mother's education, occupation, and monthly income showing no association. The experimental group also shows no significant association with demographic variables and maternal rest bundle, but maternal well-being showed no significant association. The null hypothesis is accepted for both groups, with a P-value of more than 0.05.

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