

Effect of Health Care Package on Birth Preparedness and Complication Readiness in Terms of Knowledge, Practice and Labour Outcome Among Primi Gravida Mothers

Preethy Dinesan

Abstract

The study evaluated the effectiveness health care package on birth preparedness and complication readiness in terms of knowledge, practice and labour outcome among primi mothers at a selected hospital of Delhi. It was an experimental research study with pre-test post-test control group design. The study was conducted in antenatal outpatient department of Safdarjung Hospital with 60 primi gravida mothers, 30 in each experimental and control group. Purposive sampling technique was used to select the sample, and assigned to the group by randomly. The pre-test and post-test were conducted by using a structured interview schedule and check list to assess the knowledge and practices respectively regarding birth preparedness and complication readiness. The health care package includes individual teaching, demonstration, pictorial cards, pamphlets, self-activity checklist, and daily foetal movement cont. chart. A structured performa was used to assess the labour outcome. The analysis was done by using both descriptive statistics and inferential statistics, in terms of frequencies, percentage, mean, median, standard deviation, 't' value and 'chi square' value. The study revealed a knowledge deficit among primigravida mothers regarding birth preparedness and complication readiness. The health care package was effective to increase the knowledge and enhanced practices. Even though some of the physiological factors of labour outcome were not affected, a remarkable difference was found was found to establish a good feeding practices and less time of hospital stay. The health care package on birth preparedness and complication readiness was effective to enhance the knowledge and practices of primigravida mothers regarding preparations for birth, to identify complications early so as to seek appropriate care without delay.

Womanhood has been revered in Indian Culture as the manifestation of divine qualities. As the physiology of a female is adapted for the child bearing and child birth, most women sail through it without complications, but some unpredictable turn may occur during this journey which may endanger the life of the mother and the new born. Unfortunately most of the women in the developing countries enter into the pregnancy and child birth without adequate preparation which may lead to an unsatisfied labour experience. Every two minutes, a woman dies of pregnancy-related complications; 99 percent of these occur in developing countries and most could have been prevented with proven interventions. If the mothers have prepared for delivery physically, emotionally, and mentally, their child birth experience will be happier and endure as the happiest moment of life. The nurse-mid-

wife should always be with her throughout this journey not as a shadowy figure, but as an effective guide, care provider and supportive person with professional skill for the safe delivery and leading the young woman towards the role of motherhood.

Literature Review

WHO (2012) reported that every day, approximately 800 die from preventable cause of death related to child birth and pregnancy. Almost all these deaths occurred in low resource settings, and most could have been prevented.

Datta (2013) reported that in developing countries like India, maternal mortality ratio is still high. Different socio demographic factors are responsible beside the medical factors for this high ratio.

Paul K et al (2011) in million death study project stated that the leading cause of maternal deaths in India are haemorrhage, sepsis, complications of abortion and hypertensive disorders. These are all preventable causes of mortality with skilled professional assistance.

The Registrar General of India released the latest

The author is Staff Nurse, Safdarjung Hospital, New Delhi.

Guide: Dr (Mrs) Molly Babu (Head, Dept of Obstetrical Nursing) & Mrs Om Kumari Katuria, Retired Lecturer, RAK College of Nsg, New Delhi.

MMR figures for 2010-2012, which suggest that the MMR has come down to 178 from 212, with an annual decline of 5.7 percent; while Kerala has the lowest MMR at 66, Assam tops at the list with 328. Thus India inches closer to achieving millennium development goal - MMR 109 by the year 2015.

According to UNICEF (2013), India's silent tragedy reported that the stories of women who die in India during pregnancy, delivery or post-partum complications have largely remained untold until now. A powerful new tool that analysis the underlying medical and social reasons behind maternal deaths is being used by health experts, policy makers and communities to save women's lives.

Thus the trained nursing personnel have to go a long forward to ensure the health of the new generation and emergence of a healthy nation by providing safe motherhood and neonatal care.

Need of the Study

Birth preparedness and complication readiness (BP/CR) is a relatively common strategy employed by numerous groups implementing safe motherhood programme. BP/CR is defined as the overarching programme approach to improve the use and effectiveness of key maternal and new-born health services, based on the premise that preparing for birth and being ready for complications reduces all three levels of delays, i.e. delay in decide to seek care, identifying and reaching medical facilities, and delay in receiving adequate care. As the factors contributing to life threatening delays are wide ranging, this approach calls for agents at multiple levels, including women and their families, communities, facility providers, and policy makers to engage BP/CR actions.

Objectives

1. To develop a health care package on birth preparedness and complication readiness for primi mothers.
2. To assess and evaluate the knowledge of primi mothers regarding birth preparedness and complication readiness.
3. To assess and evaluate the practices of primi mothers regarding birth preparedness and complication readiness.
4. To assess the labour outcome of primi gravida mothers.

Review of Literature

In a cross-sectional, community-based, mixed methods study, DK Mukherjee et al (2013) found that overall BP/CR index of the study population in Uttar Dinajpur, West Bengal, was 34.5. The study concluded that preparedness in health system, ensuring competence, and mo-

tivation of workers are needed for promoting BPCR among the study population.

Araya, L. (2011), conducted a study to assess knowledge and practices with respect to birth preparedness and complication readiness among antenatal clients in selected health Centres of Euthopia to identify poor comprehensive knowledge and practices on preparations for birth and its complications. The empowerment of women through expansion of educational opportunities were recommended for improving birth preparedness and complication readiness.

Agarwal & Sethi (2010) in a cross-sectional study with 312 mothers of infants aged 2-4 months in 11 slums of Indore, India found that skilled attendance during delivery was three times higher in well-prepared mothers compared to less-prepared mothers (OR: 3.0, CI 1.6-5.4). The study concluded that the antenatal outreach sessions can be used for promoting BPACR.

Methodology

Modified Birth Preparedness and Complication readiness (BPCR) Model for reducing delays, adapted from JHPIEGO was used as the conceptual framework. An experimental research approach with pre-test, post-test control group design was adopted for the study.

RE OK1 OP1 X OK2 OP2 LO1

RC OK1 OP1——OK2 OP2 LO1

RE- Experimental group

RC-Control group

O- Observation

K1- Knowledge before giving health care package.

K2- Knowledge after giving health care package.

X- intervention, the introduction of health care package.

—— - No intervention

P1- Practice before giving health care package.

P2- Practice after intervention

LO1- Labour outcome.

Variables under study: Independent variable was the Health care package on birth preparedness and complication readiness. Dependent variables were knowledge and practices related to BP/CR, and labour outcome of primi mothers. Extraneous Variables included age, education, occupation, type of family, number of antenatal visits.

Setting of the study: The study was conducted at the antenatal OPD of Safdarjung hospital, New Delhi. The labour outcome was assessed from the post-natal wards

Table 1: Mean, mean difference, standard deviation difference, standard error of mean difference and 't' value of pre-test and post-test knowledge scores of antenatal mothers in experimental group regarding birth preparedness and complication readiness (N=30)

Knowledge Score	Mean	Mean difference	SD D	SEMD	't' value
Pre-test	10.5	13.96	.754	.755	18.479*
Post-test	24.46				

* $df(29) = 2.04$, $p < 0.05$, at 0.05 level of significance

of Safdarjung hospital.

Sampling technique: Random selection of samples with random assignment to experimental and control group was done.

Sampling criteria: The inclusion criteria for selection of samples were primigravida mothers who had completed 37 weeks of pregnancy without any high risk factor, attending antenatal OPD of Safdarjung hospital, who were willing to participate in the study and who were able to communicate either in Hindi or English.

Sample Size: 60 samples. 30 in each experimental and control group)

Data collection tools and techniques

- Structured interview schedule for sample characteristics and demographic variables by interviewing.
- Structured interview schedule for assessing knowledge regarding BP/CR by interviewing.
- Observation check list to assess the practices related to BP/CR by observation.

Table 2: Mean, Mean difference, Standard deviation of difference, Standard error of mean difference and 't' value of pre-test and post-test practice scores of antenatal mothers in the experimental group regarding birth preparedness (n=30)

Experimental Group					
Practice Scores	Mean	Mean difference	SDD	SEMD	't' Value
Pre-test	3.933	3.36	0.472	.333	10.084*
Post-test	7.30				

$t(29) = 2.04$

Table 3: Mean, Mean difference, Standard deviation of difference, Standard error of mean difference and 't' value of labour outcome of experimental and control group (N=60)

Labour outcome	Mean	Mean difference	SD _D	SE _{MD}	't' Value
Experimental group	37.066	3.733	2.334	0.832	4.486*
Control group	33.33				

* $t(58) = 2.00$, $p < 0.05$, significant at 0.05 level

- Structured performa for labour outcome to collect data regarding labour outcome by record analysis.

Description of the treatment (intervention)

The treatment of the study was health care package, which include individual teaching, demonstration, pictorial cards, pamphlets, self-activity checklist and daily foetal movement count chart.

Results

Findings related to the evaluation of the effectiveness of health care package in terms of knowledge of primigravida mothers regarding BP/CR

The data presented in Table 1 indicates that the mean post-test knowledge score of experimental group (24.46) was higher than the pre-test knowledge score (10.10) with a mean difference of 13.96. The obtained mean difference was found to be statistically significant as evident from 't' value of 18.479 for df (29) at 0.05 level. Thus it is established that the difference obtained in mean pre-test and post-test knowledge score was a true difference and not by chance.

This indicates that the knowledge regarding birth preparedness and complication readiness has increased significantly among the antenatal mothers who were exposed to the health care package regarding birth preparedness and complication readiness.

Findings related to the evaluation of effectiveness of the health care package in terms of practices of primigravida mothers on BP/CR

The data given in Table 2 shows that the mean post-test practice score (7.30) antenatal mothers was higher than mean pre-test knowledge score (3.933). The obtained mean difference was found to be statistically significant as evident from 't' value of 10.084 for df (29) at 0.05 level. Thus it is established that the differences obtained in mean pre-test and post-test knowledge score was a true difference and not by chance.

This reveals that after introducing the health care package on birth preparedness and complication readiness, the practice of antenatal mothers enhanced. This indicates that the effectiveness of health care package on practices regarding birth preparedness and complication readiness among primi mothers.

Findings related to the evaluation of the effectiveness of the health care package in terms of labour outcome of primigravida mothers.

The data presented in Table 3 indicates that the mean labour outcome score (37.6) of experimental group was higher than the labour outcome score (33.3) of control group with a mean difference of 3.733. The obtained mean difference was found to be statistically

Table 4: Frequency and percentage distribution of primigravida mothers by age, income, education, religion, type of family, number of antenatal visits and occupation (N=60)

Personnel data	Experimental group (n=30)		Control group (n=30)		Total	
	f	Percentage (%)	f	Percentage (%)	f	Percentage (%)
Age in years						
18-22	18	60	8	27	26	43
23-27	8	27	14	46	22	37
28-32	4	13	8	27	12	20
Income (Rs.)						
<5000	2	6	2	6	4	7
5001-10000	15	50	15	50	30	50
10001-20000	10	34	9	30	19	32
>20000	3	10	4	14	7	11
Education						
Uneducated	2	6	2	6	4	7
Primary	3	10	2	6	5	8
Secondary	4	13	4	14	8	13
Higher secondary	13	43	14	47	27	45
Graduation & more	8	27	8	27	16	27
Religion						
Hindu	24	80	24	80	48	80
Muslim	4	14	2	6	6	10
Christian	2	6	3	10	5	8
Others			1	4	1	2
Type of family						
Joint family	27	90	24	80	51	85
Nuclear family	3	10	6	20	9	15
No. of ANC visits						
<4	3	10	2	6	5	8
4-7	9	30	10	34	19	32
>7	18	60	18	60	36	60
Occupation						
Home maker	29	97	27	90	56	94
Employed	1	3	3	10	4	6

significant as evident from 't' value of for df (58) at 0.05 level. Thus it is established that the differences obtained in mean labour outcome scores was a true difference and not by chance.

This indicates that the subjects who were exposed to the health care package on birth preparedness and complication readiness had an enhanced labour outcome those who are not exposed to the intervention.

Findings of the study

- ◆ Among the primigravida mothers who had participated in the study, 43 percent were in the age group of 18-22 years of which 60 percent were in the experimental group and 27% in the control group (Table 4).
- ◆ Initially the mothers in the experimental and control group did not differ in the knowledge level as evident from the 't' value of 0.57 at 0.05 level.
- ◆ The mean post-test knowledge scores (24.46) of primi gravida mothers of experimental group was higher than the mean pretest knowledge, with a 't' value of 18.479 which is significant at 0.05 level.

◆ The mean post-test knowledge scores (24.46) of primi gravida mothers of experimental group was higher than the mean post-test knowledge of control group mothers with a 't' value of 5.721 which is significant at 0.05 level.

These findings revealed that the health care package on BP/CR is effective for enhancing the knowledge of preparations of birth, normal labour process, and identification of complications during antenatal, intranatal and post-natal period.

◆ The mean post-test practice scores (7.3) of primi-gravida mothers of experimental group was higher than the mean pre-test practice score (3.933) of mothers in the experimental group, with a 't' value of 10.084 which is significant at 0.05 level.

◆ The mean post-test knowledge scores (7.3) of primi mothers of experimental group was higher than the mean post-test knowledge (4.1) of mothers in the control group, with a 't' value of 5.721 which is significant at 0.05 level.

◆ These findings revealed that the health care package on BP/CR is effective for enhancing the desirable practices during full term pregnancy and preparations of birth.

◆ The mean labour outcome score (37.6) of experimental group was higher than the labour outcome score of control group with a mean difference of 3.733.

◆ Frequency and percentage distribution of labour outcome of experimental and control group of primi gravid mothers shows that

- The health care package regarding the birth preparedness and complication readiness is effective for maintaining good feeding practices.
- The mothers in the experimental group were discharged with their babies earlier as compared to the control group mothers.

Discussion

The findings of the study revealed that the knowledge and practices related to the BP/CR is still low in antenatal mothers. These findings are conformity with the study findings of Araya Luchiya (2011) who identified that poor comprehensive knowledge and practices on preparations for birth and its complications among antenatal mothers by conducting an institutional based study at Ethiopia. Mukherjee (2013) found that over all BP/CR Index of the study population was low by conducting a cross sectional, community based survey in West Bengal.

Implications of the study

Nursing practice: Nurses should be accountable to pro-

vide information and counselling services in ANC OPDs other than the routine work. So it is the responsibility of the nurses to improve their knowledge and practice of primimothers through various interventions like teachings, booklets, demonstrations etc. Nursing care is no more only task oriented, fragmented care, it demands a comprehensive and holistic care for the well being of the client. The modern philosophy of obstetrical nursing care stresses the importance of meeting the total needs of antenatal mothers through holistic manner.

Nursing education

- The nursing curriculum should emphasis the birth preparedness and complication readiness matrix since it is very helpful to ensure the safe mother hood and seeking skilled care in developing and underdeveloped countries.
- Nurse educators should motivate the students to give emphasis on education of birth preparedness during antenatal postings.
- Students must be provided enough theoretical and practical information related to the danger signs.
- Students should be motivated not to neglect the minor complaints of antenatal mother since it is concerned with two human lives.
- Students must be provided enough community as well as institutional exposure for their practices in ANC.

Nursing administration

- Nurse administrators need to provide learning and teaching facilities to nurses in terms of manpower, time and resources and inculcate as the part of their job in clinical area.
- There has to be efficient supervision by nurse administrators to ensure systematic services provided

Nursing research

- There is a scarcity of literature related to the birth preparedness and complication readiness globally, and especially in India the research works to be conducted more in this area to ensure evidence based practice.
- Even though some Surveys were conducted to assess the knowledge and practice of birth preparedness among mothers in community base, more interventional studies to be conducted in this area in our country.

Recommendations

- ♦ The study can be replicated on a large sample to validate the findings and make generalisations.

- ♦ Further studies must focus on the other components of the BP / CR matrix, the family, the community and institution.
- ♦ The similar studies can be conducted using more effective strategies in the health care package like videos and multimedia, which can be played in the antenatal OPDs through close circuit television.

Conclusion

Even though the participants were registered with the ANC OPD of a tertiary level hospital, they were unaware of the basic knowledge and practices of the birth preparations. Education and counselling on different aspects of birth preparedness were not provided to all mothers. Respondents' knowledge of preparations of birth and danger signs was very low. The health care package was effective to increase their knowledge regarding birth preparation and danger signs during antenatal, natal and post-natal period. The health care package regarding birth preparedness and complication readiness helped the mothers to increase the desirable practices during term, and birth preparations. The health care package helped the mothers to establish a good feeding practice among the mothers in the experimental group. The experimental group antenatal mothers had less time of hospital stay after delivery as compared to the control group members.

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