

EFFECTIVENESS OF INFORMATION, EDUCATION AND COMMUNICATION PACKAGE ON KNOWLEDGE ON DEVELOPMENTAL CARE AMONG MOTHERS OF LOW BIRTH WEIGHT BABIES

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ABSTRACT

Babies with low birth weight run the risk of higher mortality and morbidity than the normal babies. These babies are neurologically and physiologically unstable and hence they are subjected to various health problems. Mothers face various difficulties in managing such babies as they are ignorant and lack confidence in handling and caring for such babies. The aim of this study is to assess the effectiveness of information, education and communication package on knowledge on developmental care among mothers of low birth weight babies.

The samples were selected by non-probability convenience sampling technique. The tool used for data collection was a structures questionnaire. The result indicated that in the pretest 40% had inadequate knowledge, 50% had moderately adequate knowledge and 10% had adequate knowledge and in the posttest all the samples had adequate knowledge. The pretest mean score was 16.8 with a S.D of 3.867 and posttest mean score was 28 with S.D of 1.183. The 't' value of 8.763 indicates that there was a high level of significance at $p < 0.001$ between the pretest and posttest level of knowledge showing that the IEC package was effective in improving the knowledge.

KEYWORDS: Low Birth Weight Baby, Developmental Care, Information, Education and Communication (IEC) Package

Article History

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INTRODUCTION

The birth of an infant is an event filled with wonder and joy for most of the families. But, reality does not always measure up to the anticipated expectations generated during the child bearing period.

Neonate signifies the beginning of life as an independent individual. It is the single most hazardous period of life confronted with dramatic challenges due to the transition from dependent intrauterine existence to independent extrauterine life. The worst of it is when the neonate is a high risk infant with problems like low birth weight, which contributes to the high mortality rate.

Low birth weight babies are babies with a birth weight of 2500 gm. or less irrespective of their period of gestation. – WHO Expert Committee

Various maternal factors contribute to low birth weight babies like genetic factors, poor maternal malnutrition, poor weight gain during pregnancy, frequent child birth, multiple pregnancies and inadequate prenatal care. The foetal factors that contribute to low birth weight babies are preterm birth, intrauterine growth retardation.

The life of low birth weight babies begin with serious handicap. They suffer from inability to maintain temperature, respiration, feeding, proneness to infections, etc. hence, they need more attention.

The reason for the distinction of high mortality among low birth weight babies are the lack of trained personnel, poorly equipped new born centres, high cost neonatal care, lack of knowledge on new born care, influence of the household, community factors, low socioeconomic status, female illiteracy, etc.

WHO (2015) has estimated that more than 20.5 million infants worldwide, representing 15% to 20% of all births are born with low birth weight, 95.6 per cent of them in developing countries. The level of low birth weight in developing countries (16.5 per cent) is more than double the level in developed regions (7 per cent).

Preterm birth is the most common direct cause of neonatal mortality. Every year, 1.1 million babies die from complications of preterm birth. Low birth weight is not only a major predictor of prenatal mortality and morbidity, but recent studies have found that low birth weight also increases the risk for non-communicable diseases such as diabetes and cardiovascular disease later in life

In India, 'Low Birth Weight' (LBW) constitutes about 25 to 30% of all live births. LBW babies are considered to be 'at risk' for poor child survival. In Tamil Nadu, 10.8% of all birth constitutes low birth weight babies. Chennai city has the lowest proportion of 17%. Nearly 75% of the neonatal death and 50% of the infant deaths in India occur among the low birth weight infants. Despite the technological advances still the mortality rate remains high. One of the goals of the National Health Policy was to reduce the low birth weight births.

According to Dr. Indira Shekar Rao (2002), survival of the low birth weight babies can be strengthened by training personnel involved in health care delivery system, reorientation of medical education and strengthening of the neonatal units. It is universally accepted that improved survival of low birth weight babies can be successfully achieved by training/educating the mothers and family members on home based care.

The program of Government of India, "Child Survival and Safe Motherhood" and the "Reproduction and Child Health" emphasizes the need to for involving mothers and family members in the "Essential New-born Care".

According to Abhay (2002), says more than half of the child deaths could be prevented if a new model based home care is tried.

The investigator in her personal experience has given care to low birth weight babies and has found that though the baby survives the critical period in the hospital due to the expert care provided, but later once discharged home come with various problems and the death rate was higher. She has also observed lack of confidence and knowledge in caring for such babies among the mothers as parental anxiety regarding the child's future outcome.

So, only the investigator has taken up this study to assess the effectiveness of the Information, Education and Communication package on the knowledge on developmental care among mothers of low birth weight.

STATEMENT OF THE PROBLEM

A pre-experimental study to assess the effectiveness of Information, Education and Communication package on knowledge on developmental care among mothers of low birth weight babies admitted to Selected Hospital, Chennai, Tamil Nadu

OBJECTIVES

- To assess the pretest level of knowledge score on developmental care among mothers of low birth weight babies.
- To assess the posttest level of knowledge score on developmental care among mothers of low birth weight babies.
- To compare the pretest and posttest level of knowledge score on developmental care among mothers of low birth weight babies.
- To associate the posttest level of knowledge with selected demographic variables.

CONCEPTUAL FRAMEWORK

The Conceptual framework selected for this study was based on general system theory by Ludwig Von Bertalanffy (1968)

RESEARCH DESIGN

The research design used in this study was pre-experimental one group pretest posttest design.

Pretest	Intervention	Posttest
O ₁	X	O ₂

VARIABLES IN THE STUDY

Independent variable in this study is Information, Education and Communication package on developmental care of low birth weight babies, while knowledge is the dependent variable.

SAMPLE

The sample comprised of 100 postnatal mothers who were selected through non probability convenience sampling technique.

METHODS

The tool consisted of the questionnaire on developmental care of low birth weight. Data was collected from the samples by administering structured interview schedule after obtaining consent from participants. Each session lasted for 20-25 minutes and the data was collected over a period of four weeks.

RESULTS

Table 1: Demographic of the Mothers of Low Birth Weight Baby

Demographic Variables	Frequency	Percentage	
Age of Mother	a) <20 years	00	00
	b) 21-25 years	60	60%
	c) 26-30 years	40	40%
	d) >30 years	00	00
Education	a) Illiterate	00	00
	b) Primary	00	00
	c) Secondary	60	60%
	d) Higher secondary	30	30%
	e) Graduate	00	00
	f) Post graduate	10	10%
Religion	a) Hindu	70	70%
	b) Muslim	10	10%
	c) Christian	20	20%
Income of the family	a) <10000	00	00
	b) 10001 – 20000	10	10%
	c) 20001 – 30000	80	80%
	d) >30000	10	10%
Type of family	a) Joint	10	10%
	b) Nuclear	90	90%
Parity	a) 1	50	50%
	b) 2	50	50%
	c) >3	00	0
Number of antenatal Check-up	a) 1	00	0
	b) 2	00	0
	c) 3 or more	100	100%
	d) none	00	00
Previous experience	a) No	100	100%
	b) Yes	00	00

The distribution of demographic variables of mothers of low birth weight babies showed that 60% of the mothers belonged to the age group of 21-25 years and 40% of the mothers belonged to the age group of 26-30 years. 60% of the mothers had secondary education, 30% had higher secondary education and 10% had postgraduate education. 70% of the mothers were Hindus, 10% were Muslims and 20% of the mothers were Christians. 10% of them had an income of Rs. 10001 – 20000, 80% had an income of Rs. 20001-30000, and 10% had an income of > Rs 30000. 10% lived in joint family and 90% were in nuclear family. 50% of the mothers were second para and 50% were third para. 100% of the mothers had 3 or more visits. None of them had previous experience of having cared for a low birth weight baby.

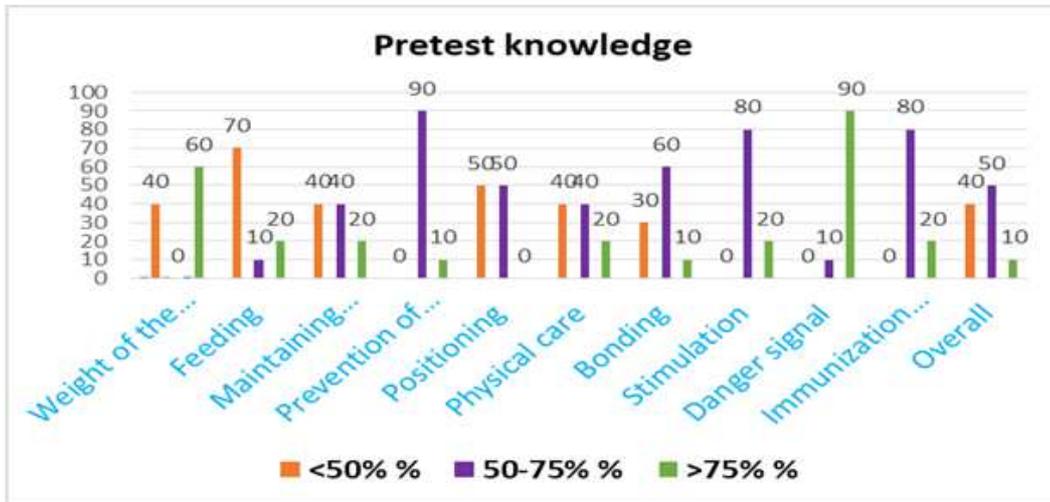


Figure 1: Pretest Knowledge Score.

- Regarding the weight of the baby, 40% had inadequate knowledge, and 60% had adequate knowledge.
- Regarding the feeding, 70% had inadequate knowledge, 10% had moderately adequate knowledge and 20% had adequate knowledge.
- Regarding the maintenance of body temperature, 40% had inadequate knowledge, 40% had moderately adequate knowledge and 20% had adequate knowledge.
- Regarding the prevention of infection, 90% had moderately adequate knowledge, and 10% had adequate knowledge.
- Regarding the positioning, 50% had inadequate knowledge, and 50% had moderately adequate knowledge.
- Regarding the physical care, 40% had inadequate knowledge, 40% had moderately adequate knowledge and 20% had adequate knowledge.
- Regarding the bonding, 30% had inadequate knowledge, 60% had moderately adequate knowledge and 10% had adequate knowledge.
- Regarding the stimulation, 80% had moderately adequate knowledge and 20% had adequate knowledge.
- Regarding the danger signal, 10% had moderately adequate knowledge and 90% had adequate knowledge.
- Regarding the immunization and follow-up, 80% moderately adequate knowledge and 20% had adequate knowledge.
- The overall knowledge in the pretest showed that 40% had inadequate knowledge, 50% had moderately adequate knowledge and 10% had adequate knowledge.

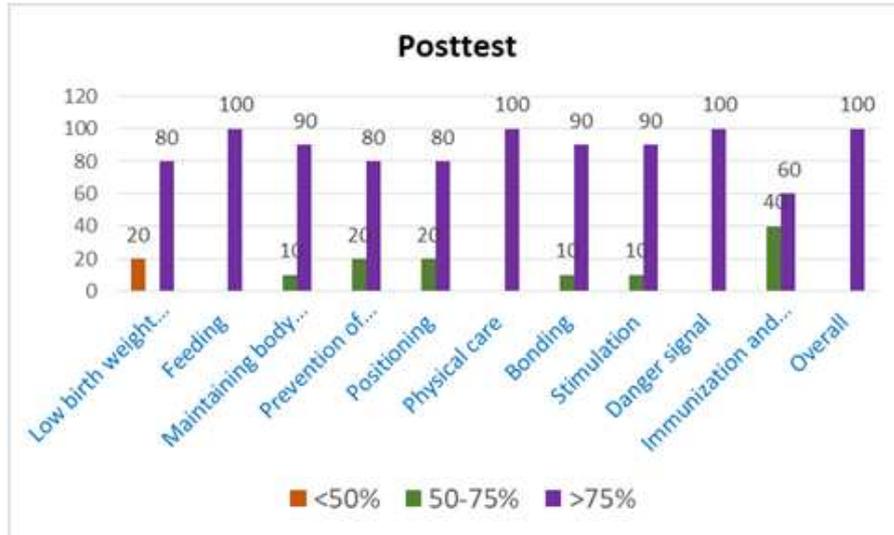


Figure 2: Posttest Knowledge Score.

- Figure 2 reveals the frequency and percentage distribution of the level of knowledge of mothers in the posttest.
- Regarding the weight of the baby, 20% had inadequate knowledge, and 80% had adequate knowledge.
- Regarding the feeding, all the mothers had adequate knowledge.
- Regarding the maintaining the body temperature, 10% had moderately adequate knowledge and 90% had adequate knowledge.
- Regarding the prevention of infection, 20% had moderately adequate knowledge and 90% had adequate knowledge.
- Regarding the positioning, 20% had moderately adequate knowledge, and 8(80%) had adequate knowledge.
- Regarding the physical care, all the mothers had adequate knowledge.
- Regarding the bonding, 10% had moderately adequate knowledge and 90% had adequate knowledge.
- Regarding the stimulation, 10% had moderately adequate knowledge and 90% had adequate knowledge.
- Regarding the danger signal, all the mothers had adequate knowledge.
- Regarding the immunization and follow-up, 40% moderately adequate knowledge and 60% had adequate knowledge.
- The overall knowledge in the posttest showed that all the mothers had adequate knowledge.

Table 2: Mean, Standard Deviation and ‘t’ test

Knowledge Aspect	Mean	S.D	‘t’ test
Pretest	16.8	3.867	8.763*** (S)
Posttest	28	1.183	

The table 2 shows that the pretest mean was 16.8 with a S.D of 3.867 and posttest mean of 28 with S.D of 1.183. The ‘t’ value of 8.763 indicates that there was a high level of significance at $p < 0.001$ between the pre and posttest level of knowledge showing that the IEC package was effective in improving the knowledge.

Association of posttest level of knowledge with selected demographic variables.

There was no statistically significant association found between the posttest level of knowledge and the demographic variables.

DISCUSSION

The first objective was to assess the pretest level of knowledge score on developmental care among mothers of low birth weight babies.

In assessing the pretest knowledge, 40% had inadequate knowledge, 50% had moderately adequate knowledge and 10% had adequate knowledge. The mean score of knowledge was 16.8 and standard deviation was 3.867. This indicates that the inadequate and moderately adequate knowledge should be improved to the adequate level.

The second objective was to assess the posttest level of knowledge score on developmental care among mothers of low birth weight babies.

The posttest performance showed that all mothers had adequate knowledge. The overall mean in the post test was 28 with S.D of 1.183. This signified that there was a significant improvement in the level of knowledge after the administration of the IEC package.

The third objective was to compare the pretest and posttest level of knowledge score on developmental care among mothers of low birth weight babies.

This was done by paired 't' test. The overall improvement in the mean showed a 't' value of 8.763 which was statistically significant at $p < 0.001$ level. These findings revealed that there was a significant difference in the level of knowledge between the pre and posttest scores.

This is supported by the study done by Bang Abhay (2002) to assess the effectiveness of a new model on home based neonatal care where it was found that there was 20% decline in mortality rate of Low Birth Weight due to interventions aiming at health education of mothers about care of the newborn.

Hence the research hypothesis "there will be a significant difference between the pretest level of knowledge and the posttest level of knowledge on the developmental care of low birth weight babies" was retained.

The fourth objective was to associate the posttest level of knowledge with selected demographic variables.

The association of posttest level of knowledge of mothers with the age, education, religion, occupation, income, type of family, parity and number of antenatal check-up revealed that there was no significant association of demographic variables with the posttest level of knowledge on developmental care of low birth weight babies.

Hence the research hypothesis "there will be significant association of posttest knowledge with the selected demographic variables" was rejected.

CONCLUSIONS

The birth of an infant is an event filled with wonder and joy for most of the families with dramatic challenges due to the transition from dependent intrauterine existence to independent extra uterine life. The worst of it is when the neonate is a

high risk infant with problems like low birth weight, which contributes to the high mortality rate. The ignorance on the part of the mother and the care taker contributes to maternal anxiety and increasing mortality.

From the results of the study, it was concluded that information, education and communication package on developmental care of the low birth weight babies is an effective method in improving the knowledge of mothers.

Providing an education to these mothers on developmental care would help the mothers to care for the baby at home. Also the morbidity and mortality due to prolonged hospital stay and the financial burden on the family could be reduced.

Based on the above findings, recommendations were drawn for the Nursing service, administration, education and research regarding.

Nursing Practice

- Nurse midwives working in the community, antenatal clinics and as well as in the hospitals can include the aspects of developmental care in the health education of mothers.
- Nurse midwife can also visit their homes and provide effective direct care to the women and later the baby to improve their health.
- The health workers at all levels should be educated regarding the developmental care of low birth weight babies.

Nursing Administration

The nurse midwives as an administrator must be instrumental in chalking out relevant policies, to ensure effective organization of the programme and educate the public to create awareness about developmental care of the low birth weight babies

Nursing Education

More emphasis should be given for the care of low birth weight babies in the curriculum. Student nurses can be given an opportunity to conduct teaching sessions on developmental care of low birth weight babies under supervision.

Nursing Research

The findings of the study can be disseminated to clinical nursing through journals, web site etc. replication of the study can be done at different settings.

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