"A study to assess the effectiveness of self instructional module on prevention oflow birth weight babies for primigravidae in selected hospitals at Jaipur, Rajasthan.

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Introduction

Vital statistics such as birth rate, maternal mortality, infant mortality, birth weight, fertilit y rate and infant morbidity are the major indicators of health, in the maternity care services. Birth weight is an important indicator in maternity care. It is the most sensitive and reliable indicatorof the risk to the survival and its healthy growth and development. Birth weight is defined as the first weight taken of an infant, live or still born, preferably within one hour of birth (Lalitha K, 1989)[1]. The normal birth weight is 2500 grams or more. Birth weight less than 2500 grams irrespective of gestational age is low birth weight.[1]

Low birth weight is one of the most important causes for the high infant mortality rate. Survey reveals that, 15.3% of the infant mortality rate is caused due to low birth weight (Population Council New York, 2002).[4]Twenty two million low birth weight babies are born in the world, 90% belongs to the developing countries In India, the incidence of low birth weightis40%. In the rural areas low birth weight varies from 30to 31%.[2]

One of the most important determinant of birth weight is the mother's nutritional status. It is observed that pregnant mothers who were given food supplements providing extra calories and proteins gave birth to babies with higher weights. It is also observed that teenage women are at higher risk of delivering LBW babies, than any women of any other age group up to35-39 years.[3]

The Primigravida mothers under 21 years and the multiparous women with closely spaced pregnancies have a high rate of low birth weight newborns. (Jeans 1986)[6]. The use of tobacco, alcohol and Caffeine are three reasonfor which evidence of the adverse effects of these substances on

pregnancy outcome is increasing. Smoking is a contributing factor in 20 to 40% of the cases of low birth weight babies in the United States and in general is associated with a 150-200grams reduction in Infant birth weight.[4]

Mothers in rural areas show an incidence of 14.5% low birth weight babies. The distribution was similar among the male and female babies. The risk factors predominant in the rural areas are the medical facility beyond two kilometers, poor environmental sanitation, lower socio economic status, three generation type of family and poor quality of antenatal care.[5]

Need Of The Study

A study conducted by Rameshwar S (2015) at Hyderabad revealed that maternal age less than 18years constitutes for 23% of low birth weight babies. Adolescent pregnancies are another cause of low birth weight. The mean birth interval in India is 31 months, and in women of 15- 19 years is 24 months. Thirteen percent of birth occur within 18 months of previous birth and 28% within 24 months. Only 38% of births occur after an interval of 3 years or more. Hence, the knowledge about remedial measures like, delay in marriage or child birth, t ill the women reaches adulthood and observe a minimum spacing of two or three years in between the deliveries, and follow the oneor two child norm, will reduce the incidence low birth weight babies. [6]

Gulmezogulu AM, Hofmeyr GJ (2015) revealed in his findings that, an association between maternal hemoglobin concentration, IUGR and preterm birth has been reported. Maternal Anaemia during early pregnancy was associated with a 32% increased risk of preterm birth, anda significant 39% increased risk of low birth weight. If t he knowledge about iron supplements and iron rich diet is provided to antenatal mothers, the risk of low birth weight will reduce. [7]

Even though, there is advancement in the field of medicine and technology, still the mothers living in the rural areas lack knowledge regarding the services and facilit ies available to them. If mothers are given knowledge, they will play the core role towards the reduction of

low birth weight babies, and will strive towards "Healthy Mother for Healthy Baby". A self instructional module helps to provide knowledge to read and preserve. Thus, the investigator felt, self instructional module is the most effective means of providing knowledge to the primigravidae on prevention of low birth weight babies.

Statement Of The Problem

"A study to assess the effectiveness of self instructional module on prevention of low birth weight babies for primi gravidae in selected hospitals at Jaipur, Rajasthan.

Objectives

The Objectives of the study are :

1.   Determine the existing knowledge of primigravidae regarding the Prevention of low birth weight babies.

2.   Develop and provide the self instructional module on prevention of low birth weight babies.

3.   Evaluate the effectiveness of self instructional module on prevention of low birth weight babies.

Hypothesis

➢   **H$_I$:** The mean Post-test knowledge score of the primigravidae regarding prevention of low birth weight babies will be significantly higher than the mean pre-test knowledge scores.

Review Of Literature

A study conducted by Mhaskar R, Mhaskar A, Swarna R, Narayana R (2018) on epidemiology of low birth weight babies in St. Johns medical college hospital, among 5548 cases revealed that, 194 cases delivered babies less than 1.5 kg. The incidence of LBW is 3.49%. Survival improved with improvement of birth weight.57. 5% babies with birth weight >1.4 kg survived. Female babies constituted 62.3% of the total. Birth weight more than 1.0 kg was in 132 babies i. e. 64. 0%. 100% mortality was observed in babies with birth weight <700gms.[8]

Fernandez A, Khajuria R (2017) stated that in India, out of 20 million babies born every year, about seven million are LBW. The national target of reducing the LBW frequency from the existing 30%to10%bytheyear2012A.D.remains an uphill task especially when majority of Indian mothers have no access even to moderate antenatal care. [9]

Agarwal S, Agarwal A, (2017) conducted a study to estimate the incidence of low birth weight in rural community in Haryana during2010- 2011. Atotal number of 339 newborns were weighed. The incidence of low birth weight was found to be25.3 percent. [10]

A study conducted by Regi T (2018) among 61 mothers of low birth weight babies to assess the factors related to low birth weight of babies in a selected hospital in Jaipur reveals that, 28% of low birth weight were born to mothers of less than 20 years of age, 68. 9% to multigravida mothers, 36.1% to mothers less than 2 years of pregnancy intervals and 44.3% born to mothers without antenatal consultant. 39.3% low birth weight to mothers with anemia, 37.3% with malarial infection and 50%tof moderate low birth weight and very low birth weight newborns were born to 1/3 of the mothers who had the habit of tobacco chewing. [11]

Methodology

Research methodology is a way of systematically solving the research problem, it explains the various steps that are generally adopted by a researcher in studying the research problem along with the logic behind it.

Research Approach

Bearing in mind the nature of the problem and the objectives of the study, one group pre-test and post-test pre- experimental design was used to evaluate the effectiveness of the self instructional module on preventionof low birth weight babies. The quantitative method was used to assess the existing level of knowledge of the primigravidae before implementing the self instructional module.

Research Design

The research design selected for the study is one group pre-test, post-test pre experimental design. In the absence of a control group, subjects act as their own control and pre-treatment and post t reatment data are analysed for differences.

Population

In the present study, population consists of the primigravidae living in the selected hospital Jaipur during the period of data collection.

Sampling

The sample for the   present study was 50 primigravidae residing in selected hospital Jaipur at the time of the study.

Sampling Technique

Non-probability (purposive sampling) technique was adopted because purposive sampling is a procedure in which the researcher finds good evidence that the sample is representative of the total population she wishes to study with a purpose.

Analysis Of Pre Test Knowledge Of Primigravidae On Prevention Of Low BirthWeight Babies

Level of Knowledge	Range of Score	Percentage of Score	Percentage of Respondents
Poor	0 – 10	0 – 31	12
Average	11 – 21	31 – 66	64
Good	22 – 32	66 – 100	24
Total			100

Findings show that highest percentage (64%) ofthesample had an average level of knowledge whose score ranged between 11 – 21,   24% of the sample had good knowledge and 12% had poor knowledge regarding prevention of low birth weight babies. This showsthat 64% of the primigravidae had averagelevelof knowledge regarding prevention of low birth weightbabies.

Section B: Area- wise analysis of knowledge scores of primigravidaeon prevention of low birth weightbabies.

Distribution of area wise Mean, SD and Mean Percentage of Knowledge Scores

Knowledge area	Maximum scores	Mean score	SD	Mean %
Low birth weight in general	12	6	2	50
Importance of antenatal diet in prevention of low birth weight babies	13	7.84	2.72	60.03
Importance of antenatal check up in prevention of low birth weight babies	7	3.62	1.56	51.42
Total	**32**	**17.46**	**4.82**	**54.38**

Analysis shows that the highest mean percentage (60.03%) of knowledge score was in the area of "Importance of antenatal diet in prevention of low birth weight babies" which had a mean standard deviation as 7.84 $\square$ 2.72.The $\square$ mean percentage in the area of "Low birth weight in general" was 50 with mean SD as 2. The mean percentage in the area of "Importance of antenatal check upinprevention of low birth weight babies" was 51.42% with mean SD as 3.62 1.56.However, the mean percentage of total knowledge scorewas 54.38 with mean SD of 17.46 4.82. The mean reveals that the knowledge of primigravidae, regarding prevention of low birth weight babies was average in all the areas, and need to be educated further.

Area-Wise Effectiveness Of The Sim Of Primigravidae On Prevention Of Low Birth Weight Babies

Areas	Max. Possible Scores	Pre-test (X)		Post-test (Y)		Effectiveness (Y-X)	
		Mean SD	Mean %	Mean SD	Mean %	Mean S.D	Mean%
Low birth weight in general	12	6 $\square$ 2	50	11. 36 0. 72	94.66	5.34 $\square$ 2.66	44.66
Importance of antenatal diet in prevention of low birth weight babies	13	7.84 $\square$ 2.72	60.03	12.12 $\square$ 0.85	93.23	4.18 $\square$ 2.94	34.82

Importance of antenatal check-ups in prevention of low birth weight babies	7	3.62 □ 1.56	51.42	6.36 □ 0.66	90.85	2.74 □ 1.72	39.14
Grand total	32	17. 46 4. 82	54.38	29. 76 1. 53	93.13	12.36 □ 5.31	38.73

Above table shows that the total mean wasincreased by12. 36 and mean percentage by 38.73 after the administrationof SIM.

Comparison of area- wise mean and SD of the knowledge scores showed that in the area of "Low birth weight in general", the pre-testmean percentage was only 50% whereas the post-test mean percentage was

94.66 showing an increase of 46.66% in the mean knowledge score of the primigravidae.

The effectiveness of the SIM was 44.66% in the area of "Low birth weight in general", 34.82% in the areaof "Importance ofantenatal diet in prevention of low birth weight babies" and 39.14% in the area "Importance of antenatal check ups in the prevention of low birth weight babies", However overall findings revealed that the percentage of post test score was higher compared to the pre test knowledge score. Hence, itis observed that the SIM was effective in all theareas.

Recommendations

1.   A similar study can be undertaken with a control group design.

2.   The study can be repeated on a larger sample to generalize findings.

3.   An experimental study can be conducted to compare two groups of primigravidae from urban and rural areas.

4.   This study can be made to compare the effectiveness of SIM with other methods of teaching.

5.   A comparative study can be conducted on prevention of low birthweight babies in primigravidae andmultigravidae.

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