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.

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ABSTRACT

Vital statistics such as birth rate, maternal mortality, infant mortality, birth weight, fertility rate and infant morbidity are the major indicators of health, in the maternity care services. Birth weight is an important indicator in maternity care. The main of study is to assess the effectiveness of self-instructional module on prevention of low birth weight babies for primi gravidae. The research approach adopted for the study evaluative method. Pre experimental research design was used. Sample select for the study was 50 primigravidae. Purposive sampling technique was used. The major finding showed that the the total mean was increased by 12.36 and mean percentage by 38.73 after the administration of 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-test mean 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. However overall findings revealed that the percentage of post test score was higher compared to the pre test knowledge score. Hence, it is observed that the SIM was effective in all the areas. This indicates that SIM helps to improve the on knowledge of on prevention of low birth weight babies for primi gravidae.

KEY WORDS: Effectiveness, Self-Instructional Module, Prevention, Low Birth Weight, Primi Gravidae.

INTRODUCTION

Vital statistics such as birth rate, maternal mortality, infant mortality, birth weight, fertility 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 indicator of 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). Birth weight less than 2500 grams irrespective of gestational age is low birth weight.¹

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 weight is 40%. In the rural areas, low birth weight varies from 30 to 31%.²

One of the most important determinants 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.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). Tobacco, alcohol, and caffeine consumption are three reasons why evidence of these chemicals' negative impacts on birth outcomes is growing. In the United States, smoking is a major contributor in 20 to 40% of instances of low birth weight newborns, and is related with a 150-200 gram drop in infant birth weight in general.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 18 years 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, till the women reaches adulthood and observe a minimum spacing of two or three years in between the deliveries, and follow the one or two child norm, will reduce the incidence low birth weight babies.⁶

Gulmezogulu AM, Hofmeyer GJ (2015) revealed in his findings that, an A link has been shown between maternal haemoglobin concentration, IUGR, and premature delivery. Early-pregnancy maternal anaemia was linked to a 32 percent higher risk of preterm delivery and a
substantial 39 percent higher risk of birth weight. If the 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 facilities 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.

AIM OF THE STUDY: The main aim of the study was to effectiveness of self-instructional module on prevention of low birth weight babies for primi gravidae.

METHODOLOGY Given the nature of the subject under investigation and the goal to be achieved, The use of a quantitative research method was explored. The main objective of the study is Evaluate the effectiveness of self instructional module on prevention of 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. The research design selected for the study is one group pre-test, post-test pre experimental design. Population consists of the primigravidae. The sample for the study was 50 primigravidae. Non-probability (purposive sampling) technique was adopted. If subjects were discovered engaged in their emergency even after earlier appointments, care was taken not to disturb them and appropriate time was taken. Interviewing the individuals was used to fill out the study instrument. Frequency and percentage were used to characterize the sample characteristics. The efficiency of organized education was measured using Pearson's co-relation coefficient. The instrument's topic validity and reliability were assessed, and the results indicated that the tool was trustworthy.

The pilot study was done on 10 samples and found that the study was feasible for the final study. The prepared instrument along with the objectives, blue print and criteria checklist was submitted to 5 experts in the fields of obstetrics, pediatrics and nursing. After scrutiny, the tool was found to be adequate and relevant. Expert suggestions and recommendations were accepted, and essential modifications were made in order to adapt the instrument. A blueprint for an integrated knowledge questionnaire was created, including three sub-sections. It showed how things were distributed among topic categories based on three domains:
knowledge, understanding, and applications. Both inferential and descriptive statistics will be used to analyse the data. The variables will be described using the mean, standard deviation, and mean percentage. To assess the module's efficacy (Y-X), a one-group pre-test (X) and post-test (Y) pre-experimental design will be employed. The significance level of the module's efficacy will also be examined using the paired 't' test. Tables, graphs, and diagrams will be used to convey the information.

RESULTS

Determine the level of knowledge of primigravidae on prevention of low birth weight babies. Primigravidae according to their age shows that highest [48%] were in the age group of 20 –25 years. [76%] were Hindu . [36%] of them had primary school education, 56% were housewives, 52% are living in joint family, (82%) of the respondents were non-vegetarians

Graph -1: bar diagram showing pre test knowledge of primigravidae on prevention of low birth weight babies

Findings show that highest percentage (64%) of the sample 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 shows that 64% of the primigravidae had average level of knowledge regarding prevention of low birth weight babies

Distribution of area wise Mean, SD and Mean Percentage of Knowledge Scores
<table>
<thead>
<tr>
<th>Knowledge area</th>
<th>Maximum scores</th>
<th>Mean score</th>
<th>SD</th>
<th>Mean %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low birth weight in general</td>
<td>12</td>
<td>6</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>Importance of antenatal diet in prevention of low birth weight babies</td>
<td>13</td>
<td>7.84</td>
<td>2.72</td>
<td>60.03</td>
</tr>
<tr>
<td>Importance of antenatal check up in prevention of low birth weight babies</td>
<td>7</td>
<td>3.62</td>
<td>1.56</td>
<td>51.42</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>17.46</td>
<td>4.82</td>
<td>54.38</td>
</tr>
</tbody>
</table>

Graph 2 Area-wise analysis of knowledge scores of primigravidae on prevention of low birth weight babies

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 ± 2.72. The mean percentage in the area of “Low birth weight in general” was 50 with mean ± SD as 6 ± 2. The mean percentage in the area of “Importance of antenatal check up in prevention of low birth weight babies” was 51.42% with mean ± SD as 3.62 ± 1.56. However, the mean percentage of total knowledge score was 54.38 with
The 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

<table>
<thead>
<tr>
<th>Areas</th>
<th>Max. Possible Scores</th>
<th>Pre-test (X)</th>
<th>Post-test (Y)</th>
<th>Effectiveness (Y-X)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean SD</td>
<td>Mean %</td>
<td>Mean SD</td>
<td>Mean %</td>
</tr>
<tr>
<td>Low birth weight in general</td>
<td>12</td>
<td>6 ± 2</td>
<td>50</td>
<td>11.36 ± 0.72</td>
</tr>
<tr>
<td>Importance of antenatal diet in prevention of low birth weight babies</td>
<td>13</td>
<td>7.84 ± 2.72</td>
<td>60.03</td>
<td>12.12 ± 0.85</td>
</tr>
<tr>
<td>Importance of antenatal check-ups in prevention of low birth weight babies</td>
<td>7</td>
<td>3.62 ± 1.56</td>
<td>51.42</td>
<td>6.36 ± 0.66</td>
</tr>
<tr>
<td>Grand total</td>
<td>32</td>
<td>17.46 ± 4.82</td>
<td>54.38</td>
<td>29.76 ± 1.53</td>
</tr>
</tbody>
</table>

Comparison of area-wise mean and SD of the knowledge scores showed that in the area of “Low birth weight in general”, the pre-test mean 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 area of “Importance of antenatal 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, it is observed that the SIM was effective in all the areas.

**DISCUSSION:** The study aimed at effectiveness of self-instructional module on prevention of low birth weight babies for primi gravidae in selected hospitals at Jaipur, Rajasthan. Quantitative research approach was considered. The main objective of the study is Evaluate the effectiveness of self instructional module on prevention of 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. The research design selected for the study is one group pre-test, post-test pre experimental design. , population consists of the primigravidae. The sample for the study was 50 primigravidae. Non-probability (purposive sampling) technique was adopted. If subjects were discovered engaged in their emergency even after earlier appointments, care was taken not to disturb them and appropriate time was taken. Interviewing the individuals was used to fill out the study instrument. Frequency and percentage were used to characterise the sample characteristics. The efficiency of organised education was measured using Pearson's co-relation coefficient. The instrument's content reliability and validity were assessed, and the results indicated that the tool was trustworthy. The investigation was piloted on ten samples and confirmed to be viable for the final study. Result showed Primigravidae according to their age shows that highest [48%] were in the age group of 20 –25 years. [76%] were Hindu . [36%] of them had primary school education, 56% were housewives, 52% are living in joint family, (82%) of the respondents were non-vegetarians. Comparison of area-wise mean and SD of the knowledge scores showed that in the area of “Low birth weight in general”, the pre-test mean 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 area of “Importance of antenatal 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, it is observed that the SIM was effective in all the areas.

**CONCLUSION:** A public health plan that focuses on improving maternal nutrition and education is needed to reduce the frequency of low birth weight. Interventional initiatives
should be supported in all areas associated with social growth and social welfare programmes, not only the health sector. Women should be taught and encouraged to have frequent ANC examinations, which helps to identify these risk factors early on and improves the newborn's weight. Increased birth weight would be the outcome of good nutrition throughout pregnancy. Pregnant women were considered to have received adequate antenatal care unless they were recorded at any time, had at least three antenatal checkups, were appropriately vaccinated against tetanus, had ingested at least 100 iron and folic acid tablets, were not working hard, and had sufficient sleep during pregnancy [minimum 2 hours of sleep during the day and 8 hours of sleep at night]. Because low birth weight is a precursor to nutritional deficiencies and is often accompanied by child morbidity and mortality, the issue of low birth weight must be addressed through adequate primary health care and the strengthening of national programmes such as RCH-II to improve maternal health and nutritional status. This results in healthier babies with a higher chance of living and becoming tomorrow's riches. Overall, the proportion of post-test scores was greater than the percentage of pre-test knowledge scores. As a result, the SIM was shown to be successful in every region.

Conflict of Interest: The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

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BIBLIOGRAPHY:


