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# EFFECT OF VIDEO ASSISTED TEACHING MODULE ON KNOWLEDGE OF POSTNATAL MOTHERS REGARDING SELECTED DANGER SIGNS OF NEONATAL ILLNESS

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*Abstract:* **Background**: Mothers are the primary caregivers of the neonate. Thus the knowledge of the mothers regarding danger signs of neonatal illness has a great influence on the health of the neonate. Mothers need to know the danger signs of sick newborn. They can explain these signs to others or family member in a simple language so as to enable them to identify the danger signs of neonatal illness and to seek early and prompt medical help.

**Materials and Methods**: An evaluative study with Pre- experimental one-group pre-test post-test design was used to assess the effect of video assisted teaching module on knowledge of postnatal mothers regarding selected danger signs of neonatal illness. 100 samples were taken using Non Probability Purposive sampling from selected hospitals. The data was collected using self-structured demographic data and knowledge questionnaire. The validity of the tool was established by experts from the different departments i.e. Paediatric Medicine, Paediatric nursing, Midwifery & obstetric Nursing, Educationist and statistician. Certain items were modified as per their suggestions. After the validation of the tool, the final tool was made and its reliability was checked. Tool was administered to 10 selected samples. Reliability was assessed using test-retest method for knowledge section, Pearson's correlation coefficient was found to be 0.91.

**Results**: The analysis was done by using descriptive and inferential statistics. Researcher applied paired t-test for the effect of video assisted teaching module on knowledge of postnatal mothers regarding selected danger signs of neonatal illness. Average knowledge score in pre-test was 7.3 which increased to 15.9 in post-test. T-value for this test was 38.6 with 99 degrees of freedom. Corresponding p-value was small (less than 0.05), the null hypothesis is rejected. It is evident that the video assisted teaching module was significantly effective in improving the knowledge among postnatal mothers regarding selected danger signs of neonatal illness

**Conclusion:** Most of the neonatal deaths can be avoided by early identification of danger signs of neonatal illness. Video assisted teaching module for recognition of danger signs of neonatal illness and increased health-seeking behaviour can lead to significant reductions in neonatal mortality. In the present study sufficient improvement in knowledge regarding selected danger signs of neonatal illness is found. Video Assisted teaching module was effective in improving the knowledge among postnatal mothers.

*Index Terms* - **Video assisted teaching module, postnatal mothers, danger signs, neonatal illness**

## I. INTRODUCTION

Early detection of neonatal illness is an important step towards improving newborn survival [8, 9]. A mother is the nearest person to a neonate to identify, present, and manage the neonates' problem, which ensures that neonates can lead a healthy life [10]. If mothers know appropriate manifestations of the causes of death in newborns (neonatal danger signs), it is possible to avert related neonatal mortality [11]. Because of the health-seeking behavior of mothers highly relies on their knowledge of neonatal danger signs [12]. Hence, this study was carried out to assess mothers' knowledge about neonatal danger sign.

## II. RESEARCH METHODOLOGY

This evaluative study with Pre- experimental one-group pre-test post-test design was carried out on postnatal mothers of neonates in selected hospitals at PCMC, Pune from August 2019 to December 2020. Total 100 postnatal mothers of neonates admitted in postnatal ward were for in this study.

**2.1 Study Design:** Pre- experimental one-group pre-test post-test design

**2.3 Study Location**: Postnatal ward at Dr. D. Y. Patil Hospital and Research centre Pimpri, Pune.

**2.4 Sample size:** 100 postnatal mothers

**2.5 Subjects & selection method**: A Non Probability purposive Sampling Technique was used for this study. This sampling technique was used to select 100 postnatal mothers of neonates admitted in postnatal ward.

**2.6 Inclusion criteria:**

1. Postnatal mothers who are willing to participate in the study.
2. Postnatal mothers who are available at the time of data collection.
3. Postnatal mothers who can speak or read & write Marathi, Hindi & English

**2.7 Exclusion criteria:**

1. Postnatal mothers who are not willing to participate in the study
2. Postnatal mothers who are not available at the time of data collection

2.8 **Procedure methodology**

The investigator approached the selected samples, informed them regarding the objectives of the study and obtained their consent after assuring the confidentiality of the data. The investigator had done pre-test , then provide video assisted teaching module on knowledge of postnatal mothers regarding selected danger signs of neonatal illness and then on the 7th day post-test has been done to assess the effect of video assisted teaching module on knowledge of postnatal mothers regarding selected danger signs of neonatal illness. The duration of the data collection for each sample was 25 to 30 minutes**.**

**2.9 Statistical analysis**

The analysis was done by using descriptive and inferential statistics. Researcher applied paired t-test for the effect of video assisted teaching module on knowledge of postnatal mothers regarding selected danger signs of neonatal illness.

## III. RESULTS AND DISCUSSION

The major findings of the study were based on the objective of the study.

**Table no 3. 1**: Demographic factors

| | | N=100 |
|---|---|---|
| Demographic variable | frequency | % |
| Age of the mother | | |
| < 20 years | 14 | 14% |
| 21-30 years | 56 | 56% |
| 31-40 years | 27 | 27% |
| 41 and above | 3 | 3% |
| Mother's Marital status | | |
| Married | 100 | 100% |
| Educational status | | |
| Primary | 10 | 10% |
| Secondary | 34 | 34% |
| Higher secondary | 43 | 43% |
| Graduate & above | 13 | 13% |
| Occupation of the mother | | |
| Homemaker | 83 | 83% |
| Professional | 2 | 2% |
| Demographic variable | frequency | % |
| Daily wages | 2 | 2% |
| Business | 7 | 7% |
| Labourer | 6 | 6% |
| Religion | | |
| Hindu | 67 | 67% |
| Christian | 9 | 9% |
| Muslim | 24 | 24% |
| Number of children | | |
| One | 46 | 46% |
| Two | 51 | 51% |
| Three | 3 | 3% |
| Monthly income of the family | | |
| 5001-10000/- | 1 | 1% |
| 10001-20000/- | 42 | 42% |
| >20000/- | 57 | 57% |
| Previous information about neonatal danger signs | | |
| Yes | 12 | 12% |
| No | 88 | 88% |
| Source of information | | |
| Health worker or nurse | 6 | 6% |
| Friends or family member | 4 | 4% |
| T.V, Internet, mass media | 2 | 2% |

Table no 3.1 show Findings related to demographic factors: 14% of the postnatal mothers had age less than 20 years, 56% of them had age 21-30 years, 27% of them had age 31-40 years and 3% of them had age above 40 years. All of them were married.10% of them had primary education, 34% of them had secondary education, 43% of them had higher secondary education and 13% of them had graduation and above.83% of them were house makers, 2% of them were professionals, 2% of them had daily wages,

7% of them had business and 6% of them were laborer.67% of them were Hindu, 9% of them were Christians and 24% of them were Muslim.46% of them had one child, 51% of them had two children and 3% of them had three children.1% of them had monthly income Rs.5001-10000, 42% of them had monthly family income Rs.10001-20000 and 57% of them had monthly family income above Rs 20000.12% of them had previous information about neonatal danger signs. 6% of them had information from health workers or nurses, 4% of them had information from friends or family members and 2% of them had information from T.V, Internet, and mass media.

**Table no 3.2**: Knowledge regarding danger signs of neonatal illness among postnatal mothers.

| | N=100 | |
|---|---|---|
| | Pretest | |
| Knowledge | Freq | % |
| Poor (Score 0-6) | 36 | 36% |
| Average (Score 7-13) | 63 | 63% |
| Good (Score 14-20) | 1 | 1% |

Table no 3.2 Shows Findings related to the knowledge regarding danger signs of neonatal illness among postnatal mothers. 36% of the postnatal mothers had poor knowledge (score 0-6), 63% of them had average knowledge (score 7-13) and 1% of them had good knowledge (Score 14-20) regarding danger signs of neonatal illness.

**Table no 3.3**: Effect of video assisted teaching module

| | N=100 | | | |
|---|---|---|---|---|
| | Pretest | | Posttest | |
| Knowledge | Freq | % | Freq | % |
| Poor (Score 0-6) | 36 | 36% | 0 | 0% |
| Average (Score 7-13) | 63 | 63% | 14 | 14% |
| Good (Score 14-20) | 1 | 1% | 86 | 86% |

Table no 3.3: Shows Findings related to the effect of video assisted teaching module on knowledge regarding danger signs of neonatal illness among postnatal mothers: In pre-test, 36% of the postnatal mothers had poor knowledge (score 0-6), 63% of them had average knowledge (score 7-13) and 1% of them had good knowledge (Score 14-20) regarding danger signs of neonatal illness. In post-test, 14% of the postnatal mothers had average knowledge (score 7-13) and 86% of them had good knowledge (score 14-20) regarding danger signs of neonatal illness. This indicates that the knowledge among the postnatal mothers regarding danger signs of neonatal illness improved remarkably after video assisted teaching module. Researcher applied paired t-test for effect of video assisted teaching module on knowledge regarding danger signs of neonatal illness among postnatal mothers. Average knowledge score in pretest was 7.3 which increased to 15.9 in post test. T-value for this test was 38.6 with 99 degrees of freedom. Corresponding p-value was small (less than 0.05), the null hypothesis is rejected. It is evident that the video assisted teaching module was significantly effective in improving the knowledge among postnatal mothers regarding danger signs of neonatal illness.

**Table no 3.4**: Fisher's exact test for the association of knowledge regarding danger signs of neonatal illness with selected demographic variable

| Demographic variable | | Knowledge | | | p-value |
|---|---|---|---|---|---|
| | | Average | Good | Poor | |
| Age of the mother | < 20 years | 11 | 0 | 3 | 0.523 |
| | 21-30 years | 32 | 1 | 23 | |
| | 31-40 years | 17 | 0 | 10 | |
| | 41 and above | 3 | 0 | 0 | |
| Educational status | Primary | 10 | 0 | 0 | 0.011 |
| | Secondary | 17 | 0 | 17 | |
| | Higher secondary | 25 | 1 | 17 | |
| | Graduate & above | 11 | 0 | 2 | |
| Occupation of the mother | Homemaker | 49 | 1 | 33 | 0.642 |
| | Professional | 2 | 0 | 0 | |
| | Daily wages | 2 | 0 | 0 | |
| | Business | 5 | 0 | 2 | |
| | Labourer | 5 | 0 | 1 | |
| Religion | Hindu | 43 | 0 | 24 | 0.510 |
| | Christian | 5 | 0 | 4 | |
| | Muslim | 15 | 1 | 8 | |
| Number of children | One | 30 | 0 | 16 | 0.962 |
| | Two | 31 | 1 | 19 | |
| | Three | 2 | 0 | 1 | |
| Monthly income of the family | Rs.5001-10000/- | 1 | 0 | 0 | 0.782 |
| | Rs.10001-20000/- | 26 | 1 | 15 | |
| | >Rs. 20000/- | 36 | 0 | 21 | |
| Previous information about neonatal danger signs | Yes | 9 | 0 | 3 | 0.584 |
| | No | 54 | 1 | 33 | |

Table no 3.4: Show Findings related to the association of knowledge regarding danger signs of neonatal illness with selected demographic variable: Association of knowledge regarding danger signs of neonatal illness with selected demographic variable shows p-value corresponding to educational status was small (less than 0.05), the demographic variable educational status was found to have significant association with the knowledge among postnatal mothers regarding danger signs of neonatal illness with selected demographic variable.

**DISCUSSION**

This study involved one group pre-test and post-test design, non-probability purposive sampling technique used to draw samples. The size of the sample was 100 postnatal mothers of neonates admitted in postnatal ward were done according to inclusion and exclusion criteria. Existing knowledge among the regarding danger signs of neonatal illness were assessed with Self-structured questionnaire. Pretest was conducted and video assisted teaching module was given on the same day and post-test was taken on 7$^{th}$ day to assess the effectiveness of educational intervention on knowledge.

A similar study was conducted by Lavanya Subhashini, Jyoti Sarin, Ravi Shanka on Effectiveness Of Video Assisted Teaching On Danger signs in New born Of Mothers Of Preterm Baby In A Selected Hospital Of Kolar Quasi experimental research design with two group pretest posttest design was used for the study. The study was conducted in Neonatal Intensive Care Unit (NICU) of RL Jallapa Hospital and Research centre at Kolar. Total of 150 mothers, 75 each in experimental and control group were selected by purposive sampling technique. The overall mean pre test knowledge score (5.62±2.8) in experimental group was significantly higher (t=2.53; p<.01) than that of pretest score (4.69±2.01) in control group. The overall mean post test knowledge score (15.7±1.26) in experimental group was significantly higher (t=0.14; p<.0001) than that of post test knowledge score (5.04±1.96) in control group.[39]

In this study 14% of the postnatal mothers had age less than 20 years, 56% of them had age 21-30 years, 27% of them had age 31-40 years and 3% of them had age above 40 years. All of them were married.10% of them had primary education, 34% of them had secondary education, 43% of them had higher secondary education and 13% of them had graduation and above.83% of them were house makers, 2% of them were professionals, 2% of them had daily wages, 7% of them had business and 6% of them were laborer.67% of them were Hindu, 9% of them were Christians and 24% of them were Muslim.46% of them had one child, 51% of them had two children and 3% of them had three children.1% of them had monthly income Rs.5001-10000, 42% of them had monthly family income Rs.10001-20000 and 57% of them had monthly family income above Rs 20000.12% of them had previous information about neonatal danger signs. 6% of them had information from health workers or nurses, 4% of them had information from friends or family members and 2% of them had information from T.V, Internet, and mass media.

Another study shows that 40.9% of the women have a good knowledge regarding neonatal danger signs which is slightly lower than the finding of a study done in Chencha, Ethiopia which was 50.3%.[40] The difference may be attributed to the role of health extension worker in the dissemination of health information including newborn danger sign in the community and the difference in sample size.

In this study pretest shows, 36% of the postnatal mothers had poor knowledge (score 0-6), 63% of them had average knowledge (score 7-13) and 1% of them had good knowledge (Score 14-20) regarding danger signs of neonatal illness. In post-test, 14% of the postnatal mothers had average knowledge (score 7-13) and 86% of them had good knowledge (score 14-20) regarding danger signs of neonatal illness. This indicates that the knowledge among the postnatal mothers regarding danger signs of neonatal illness improved remarkably after video assisted teaching module.

The above findings is supported by B.Sudhaand Selvanayaki study to assess the effectiveness of video assisted teaching module (vatm) on knowledge and practice among mothers regarding identification and management of danger signs (IMNCI)in young infant a pilot study. The post-test mean knowledge score (31.80) was higher than the pretest mean score (18.30). The post-test mean practice score (12.20) was higher than the pre test mean score (6.75). Association was found with age of the mother, educational status and order of the child.[41]

In present study average knowledge score in pretest was 7.3 which increased to 15.9 in post test. T-value for this test was 38.6 with 99 degrees of freedom. Corresponding p-value was small (less than 0.05), the null hypothesis is rejected. It is evident that the video assisted teaching module was significantly effective in improving the knowledge among postnatal mothers regarding danger signs of neonatal illness.

The above finding is supported by a study the mean pre-test knowledge score was 19.42±7.08 and the mean post-test knowledge score was 34.75±4.67. The calculated paired‘t’ value (t= - 29.64) was found to be statistically significant at p<0.001 levels. The mean pre-test level of attitude was 73.09±9.25 and the mean post-test level of attitude was 92.24±6.32. The calculated paired‘t’ value (t= - 21.76) was found to be statistically significant at p<0.001 level. The mean pre-test knowledge on practice score was 11.83±3.95 and the mean post-test knowledge on practice score was 18.0±2.25. The calculated paired ‘t’ value (t= - 13.87) was found to be not significant at p<0.05 level This clearly states that Prenatal Education Programme (PEP) on Knowledge, Attitude and Knowledge on Practice regarding Postnatal and Newborn Care to the mothers had significant improvement in their post-test level

The association of knowledge with selected socio-demographic variables was assessed by using Fisher’s exact test. Since p-value corresponding to educational status was small (less than 0.05), the demographic variable educational status was found to have significant association with the knowledge among postnatal mothers regarding danger signs of neonatal illness with selected demographic variable.

The above finding is supported by a study conducted to assess the knowledge of neonatal danger signs and associated factors among mothers of <6 months old child in dire Dawa, Ethiopia: a community based cross-sectional study. Government employee mothers were 2 times more likely to have good knowledge of NDSs than those who were housewives (AOR = 2.14, 95% CI: 1.17, 3.9). the possible reason might be those governmental employed mothers are well-educated and more seeking healthcare and, they might be using a different source of health-related information. the father’s educational level is also associated with mothers’ knowledge; those whose spouse education level was secondary and above were two times knowledgeable compared to whose did not attend formal education (AOR = 2.3, 95% CI:1.18, 4.49). [43]

In the present study observed that the Video assisted teaching module is effective in improvement of knowledge of postnatal mothers regarding selected danger signs of neonatal illness. The nursing profession could pay an important role in encouraging wider teaching programme on danger signs of neonatal illness.

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