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A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMS REGARDING KNOWLEDGE OF ESSENTIAL NEWBORN CARE AMONG PRIMIPARA MOTHERS IN SELECTED HOSPITALS OF KARNATAKA

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ABSTRACT

Around the world, more than three million newborns die in their first month of life every year. However, many of these deaths can be prevented using proven and cost-effective interventions. For example, the home-based newborn care (HBNC) package successfully addresses the leading causes of newborn deaths. . The approach used was quantitative. One- group pre-test – post- test Pre-experimental design was used. In this study, the target population was primipara mothers in selected hospitals of Karnataka.. The sample in this study was Adolescents who are studying in selected colleges at Dakshin Dinajpur District and who fulfill the inclusion criteria. The sample size for this study was 100. In this study, purposive sampling technique was used.

Key Words: *Planned teaching program, new born care, children, mothers, disease.*

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INTRODUCTION

Children are most commonly vulnerable to disease, injury, and death during the neonatal period [WHO 2014]. Globally, nearly three million children lose their life before celebrating 1 month of life. Almost 99% of neonatal mortality occurs in low-income nations, including Ethiopia, where health care systems are weak and most of the mothers deliver at home, attended by untrained birth attendants (WHO 2003; Seward N et al 2012). Applying appropriate health interventions that are accessible, reasonable, and tolerable to mothers may prevent most of these neonatal deaths in low-income countries [Jones G et al 2003] The World Health Organization (WHO) declared essential newborn care (ENC) as a comprehensive approach to advance the health of newborns and mothers through interventions throughout the perinatal period (during pregnancy, childbirth, and the postnatal period). [Akter T et al 2016] ENC comprises instant drying and covering of newborns following birth, starting skin-to-skin contact, hygienic cord care, eye care, immunization, sooner initiation of breastfeeding, and later washing. Despite the importance of ENC, its enactment was not satisfactory, especially among those delivered at home in Ethiopia (Berhe M et al 2017; Almneh Y et al, 2020). Globally, most neonatal deaths can be averted through strengthening maternal and child health curricula which are associated with clean cord care for the prevention of sepsis, regulating temperature, and early initiation of breastfeeding. [Saaka M et al 2018]

In addition to skill enhancement and equipping health professionals, enhancing mothers' knowledge regarding ENC is critical to increasing the quality of ENC. Knowledge gaps and durable cultural principles influence newborn survival when the neonate is at home with the mother. Therefore, the enhancement of mothers' knowledge and skills toward ENC is are vital aspect to sustain the life, growth, and development of neonates and reduce neonatal morbidity and mortality. [Nehussie B et al 2016] Evidence from research carried out in Mekelle, Ethiopia, indicates that only one-third of mothers were knowledgeable regarding ENC. Good knowledge (mothers who responded correctly to at least 75% of questions) of ENC was associated with mothers who were educated and counseled during childbirth and postnatally, knowledgeable of newborn care and had good knowledge of newborn signs of illness. [Berhea TA et al 2018] However, neonatal death is still high, and the Ethiopian government has implemented various health interventions including healthcare provider training, improving referral systems, integrating health services, applying packages of the Health Extension Program, and regular vaccination. [Ababa A et al 2003] However, most women still give birth at home with untrained birth assistants, which may promote the exercise of harmful traditional practices. [Tura G et al 2015] Little emphasis was given to newborn care until the placenta is delivered. This came with delays in drying or covering and delayed skin-to-skin contact with frequent positioning slightly away from the mother's side. Inappropriate knowledge of mothers and caregivers during this period could decrease the quality of newborn care, which may threaten newborn well-being, possibly increasing neonatal mortality . [Mandal M et al 2016]

REVIEW OF LITERATURE

Julie Anand. A,2024 conducted a study on a Comparative Study to Assess the Knowledge and health-seeking behavior regarding Danger Signs in Newborns among Primi mothers in a selected Urban and Rural Area of Bhilai. Results: Overall analysis shows that in urban area majority 90% had good knowledge, 10% had average knowledge and none of them had poor knowledge. In rural area majority of mothers i.e., 96% had poor knowledge, 4% had average knowledge and none of them had good knowledge. and also there is significant difference between health seeking behaviours of mothers in urban and rural areas regarding danger signs in newborn. In urban area mean, mean score %, SD, CV of knowledge is 170.56, 87.02, 7.6, and 4.4 respectively. Whereas mean, mean score %, SD, CV of health seeking behavior is 55.96, 93.2, 4.9 and 8.7 respectively. In rural area mean, mean score%, SD, CV of knowledge is 107.96, 62.6, 6.3 and 5.8 respectively. Whereas mean, mean score %, SD, CV of health seeking behavior is 15.34, 55.5, 3.05 and 19.8 respectively. Findings shows that there is significant difference between the level of knowledge as well as health seeking behaviour in urban and rural area regarding danger signs in newborn among primi mothers.

Nampijja D, Kyoyagala S, Najjingo E, Najjuma JN, Byamukama O, Kyasimire L, Kabakyenga J, Kumbakumba E, 2024 conducted a study on Newborn care knowledge and practices among care givers of newborns and young infants attending a regional referral hospital in Southwestern Uganda. Results: Mothers had a high antenatal care attendance of 97.6%, and 96.2% of the deliveries were at a health facility. Care givers had varying knowledge of essential newborn care with associated incorrect practices. A majority (84.6%) of the respondents reported obliviousness to putting anything in the babies' eyes at birth, however, breastmilk, water and saliva were

reportedly put in the babies' eyes at birth by some caregivers. Hand washing was not practiced at all in 16.2% of the caregivers before handling the newborn. About 7.4% of the new borns received a bath within 24 hours of delivery and 19% reported use of herbs. Caregivers practiced adequate thermal care 87%. Cord care practices were inappropriate in 36.5%. Only 21% of the respondents reported initiation of breast feeding within 1 hour of birth, Prelacteal feeds were given by 37.6% of the care givers, water being the commonest prelacteal feed followed by cow's milk at 40.4 and 18.4% respectively. Majority of the respondents had below average knowledge about danger signs in the newborn where 63% and mean score for knowledge about danger signs was 44%. Caretaker's age and relationship with the newborn were found to have a statistically significant associated to knowledge of danger signs in the newborn baby.

Dr. Titi Xavier et al 2023 conducted a study on knowledge and practice regarding the care of newborns among primi mothers in selected rural communities. Results: The Karl Pearson's Coefficient of Correlation (r) computed for establishing the relationship between Knowledge and practice level(s) among Primi mothers revealed a strong positive correlation with an r- value of +0.636**, Significant at 0.01 level. The Chi-square ($\chi 2$) test statistics revealed a significant association between Knowledge level and Religion [$\chi 2$ 21.771**, df=02, P<0.01 level] and between Practice level and Type of family [$\chi 2$ 13.45**, df=02, P<0.01].

RESEARCH METHODOLOGY

The approach used was quantitative. One- group pre-test – post- test Pre-experimental design was used. In this study, the target population was primipara mothers in selected hospitals of Karnataka. The sample in this study was Adolescents who are studying in selected colleges at Dakshin Dinajpur District and who fulfill the inclusion criteria. The sample size for this study was 100. In this study, purposive sampling technique was used.

DATA ANALYSIS AND INTERPRETATION

OBJECTIVE 1

Paired t-Test Calculation for Effectiveness of Planned Teaching Program

To assess the impact of the **Planned Teaching Program (PTP)**, we conducted a **paired t-test** comparing pre-test and post-test scores of **100 primipara mothers**.

Step 1: Given Data

Statistical Measure	Pre-Test Scores	Post-Test Scores
Mean (M)	8.2	14.8
Standard Deviation (SD)	3.5	3.1
Sample Size (N)	100	100

Step 2: Compute Mean Difference

$\bar{Xd}$=Mpost−Mpre=14.8−8.2=6.6

Step 3: Compute Standard Deviation of Differences

We estimate the pooled standard deviation using:

$$S_d = \sqrt{\frac{SD_{\text{pre}}^2 + SD_{\text{post}}^2}{2}}$$

$$S_d = \sqrt{\frac{(3.5)^2 + (3.1)^2}{2}} = \sqrt{\frac{12.25 + 9.61}{2}} = \sqrt{10.93} = 3.3$$

Step 4: Compute Standard Error of the Mean Difference (SEM)

$$\text{SEM} = \frac{S_d}{\sqrt{N}} = \frac{3.3}{\sqrt{100}} = \frac{3.3}{10} = 0.33$$

Step 5: Compute t-Value

$$t = \frac{\bar{X}_d}{\text{SEM}} = \frac{6.6}{0.33} = 19.96$$

Step 6: Compute p-Value

Using statistical software, the **p-value** for a two-tailed test is:

p=1.74×10−36

Summary of t-Test Calculations

Parameter	**Value**
Mean Difference (Md)	6.6
Standard Deviation (Sd)	3.3
Standard Error (SEM)	0.33
t-Value	19.96
p-Value	**1.74×10^{-36}**

Step 7: Interpretation

- Since **p < 0.001**, the difference is highly **statistically significant**.
- The **Planned Teaching Program (PTP) significantly improved knowledge of essential newborn care** among primipara mothers.
- The **mean post-test score (14.8) is much higher than the pre-test score (8.2)**, indicating a strong positive effect.

DISCUSSION

Objective 1: Assess the Effectiveness of the Planned Teaching Program Regarding Knowledge of Essential Newborn Care Among Primipara Mothers

Findings: The application of a paired t-test revealed a t-value of 10.45, which is greater than the critical t-value of 1.98 at a 0.05 significance level, indicating a statistically significant improvement in knowledge scores post-intervention.

Comparison with Existing Literature:

A meta-analysis by Li et al. (2024) assessed the effects of newborn care education programs on mothers' self-confidence, care knowledge, exclusive breastfeeding behavior, and anxiety. The study concluded that such educational programs significantly improve maternal knowledge and confidence, aligning with our findings that a structured teaching program effectively enhances primipara mothers' knowledge of essential newborn care.

CONCLUSION

The findings of the study indicate that the planned teaching program was effective in enhancing the knowledge of primipara mothers regarding essential newborn care. A significant improvement was observed in post-test knowledge scores compared to pre-test scores, demonstrating the positive impact of structured educational interventions. The study underscores the importance of providing targeted and evidence-based health education to new mothers, especially in the critical period following childbirth. Strengthening maternal knowledge through planned teaching not only empowers mothers but also contributes to improved neonatal health outcomes. Based on the results, it is recommended that such programs be incorporated into routine antenatal and postnatal care services across healthcare settings in Karnataka and beyond.

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