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# Effectiveness of structured teaching programme on knowledge regarding postnatal care among caretakers of postnatal mothers at selected hospital, Coimbatore

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**Abstract**

**Background:** The postnatal (postpartum) period begins immediately after childbirth and extends for six weeks. This phase is critical, involving significant physical and psychological adjustments for both mother and newborn. While professional care is vital, the knowledge of primary caregivers at home is essential for long-term health outcomes.

**Aim:** The aim of the study is to evaluate the effectiveness of structured teaching program on knowledge regarding .postnatal care among caretakers of postnatal mothers.

**Methodology:** A quantitative research approach with a one-group pre-test post-test design was used to evaluate the effectiveness of a structured teaching programme, 100 caregivers were selected from a private hospital, Coimbatore. Data were collected via a semi-structured interview schedule for demographic variables and a structured questionnaire to assess postnatal care knowledge. Data were analyzed using descriptive and inferential statistics.

**Results:** The study revealed that the majority of caregivers had poor to average knowledge in the pre-test, whereas after the structured teaching programme, 70% achieved good knowledge. The mean knowledge score significantly increased from 7.2 ± 2.8 to 12.6 ± 2.1. The difference was found to be highly significant ($t = 21.6$, $p < 0.001$). Significant associations were observed between post-test knowledge and age, education, and previous knowledge.

**Conclusion:** The structured teaching programme was effective in significantly improving caregivers' knowledge regarding postnatal care, highlighting the importance of educational interventions in enhancing maternal and newborn health outcomes.

**Keywords:** Postnatal care, caregivers, knowledge assessment, postpartum period, maternal health

## Introduction

High-quality postnatal care is fundamental to the long-term health and well-being of both women and newborns. According to the Department of Global Public Health (2022) [1], the weeks following childbirth represent a critical period for maternal and newborn health. However, despite being a period characterized by profound physical, social, and emotional transitions, the postnatal phase remains the most neglected link in the continuum of maternal and child health services (Galle *et al*., 2023) [2].

The central challenge lies in the persistence of traditional postpartum practices that, while intended to be protective, often pose significant health risks. Cultural beliefs frequently dictate postnatal behaviors that can be clinically harmful (Moola 2020) [3]. Specifically, the literature highlights a prevalence of delayed breastfeeding initiation, the administration of prelacteal feeds 9 (Khanal 2015) [4], unhygienic umbilical cord care (WHO 2013), and restrictive dietary taboos that may compromise maternal recovery and neonatal immunity (Maduforo A.N 2017) [6].

This disconnect between evidence-based medical guidelines and ingrained cultural practices highlights gaps in current healthcare delivery systems in providing culturally sensitive education (Sacks *et al*., 2017) [7]. There is an urgent need for healthcare providers to engage with primary caregivers and families to better understand the underlying belief systems that influence postnatal behaviors (World Health Organization, 2022) [1]. Without a nuanced understanding of these traditional practices, postnatal services may remain ineffective in reducing maternal and neonatal morbidity and mortality (Sialubanje *et al*., 2015) [9]. This study, therefore, seeks to explore these practices to inform the development of culturally appropriate and safe postnatal care interventions.

## Methodology

### 1. Study Design

A quantitative research approach was adopted for this study as it facilitates objective measurement and statistical analysis of the caretakers' knowledge regarding postnatal care. The study employed a quasi-experimental one-group pre-test post-test design to evaluate the effectiveness of a structured teaching programme, wherein the knowledge level of the same group of participants was assessed before (pre-test) and after (post-test) the administration of the intervention (Campbell & Stanley, 1963; Portney & Watkins, 2015) [10, 12].

### 2. Participants

The study sample comprised 100 Care takers visiting a selected private Hospital, Coimbatore. Participants were chosen through a non probability purposive sampling technique.

### 3. Instrument

The data collection tool consisted of two sections. Section A included a structured questionnaire developed to obtain demographic variables of the participants such as age, education, occupation, type of family, previous knowledge on postanatal care**.** Section B comprised a structured questionnaire with 30 items related to postnatal care, covering aspects such as general postnatal care, nutrition

and diet, care of breast, perineum and episiotomy wound care, ambulation and exercises, and hygiene and newborn care. Each item was assigned a score of 1 for a correct response and 0 for an incorrect response, with a total possible score ranging from 0 to 30, where higher scores indicated better knowledge. The scoring was interpreted as follows: scores of 20–30 indicated adequate knowledge, 10–20 indicated average knowledge, and 0–10 indicated poor knowledge.

### 4. Procedure

The study was carried out after obtaining formal permission from the concerned authorities and informed consent from the participants. A total of 100 caretakers who met the inclusion criteria were selected using a Non probability purposive sampling technique. Initially, a pre-test was conducted using the structured questionnaire to assess the baseline knowledge regarding postnatal care. Following the pre-test, a structured teaching programme was administered to the participants on the same day. After a period of 7 days, a post-test was conducted using the same questionnaire to evaluate the effectiveness of the intervention. Confidentiality and anonymity of the participants were strictly maintained throughout the study.

### 5. Hypothesis

**H1:** There will be a significant difference between the mean pre-test and post-test knowledge scores regarding postnatal care among caretakers.

**H2:** There will be a significant association between the post-test level of knowledge regarding postnatal care and selected socio-demographic variables.

### 6. Data Analysis

Data management and statistical computations were performed using SPSS version 26.0, employing a dual approach of descriptive and inferential statistics. Descriptive statistics, specifically frequencies and percentages, were used to summarize the demographic profile of the participants, while means and standard deviations (SD) were calculated to describe the baseline (pre-test) and post-test knowledge scores. To evaluate the impact of the intervention, inferential statistics were applied; specifically, a paired t-test was utilized to compare mean knowledge scores before and after the structured teaching programme to determine its effectiveness. Furthermore, the Pearson Chi-square test ($X^2$) was employed to examine the association between post-test knowledge levels and selected demographic variables. For all analyses, a p-value of < 0.001 was established as the threshold for highly significant results, ensuring a rigorous standard for rejecting the null hypothesis.

## Results

**Table 1:** Demographic Characteristics of Participants (N=100)

| S. No | Demographic Variable | Category | Frequency (n) | Percentage (%) |
|---|---|---|---|---|
| 1 | Age (years) | <25 | 50 | 50% |
| | | ≥25 | 50 | 50% |
| 2 | Education | Primary | 34 | 34% |
| | | Secondary | 40 | 40% |
| | | Graduate | 26 | 26% |
| 3 | Occupation | Homemaker | 50 | 50% |
| | | Working | 50 | 50% |
| 4 | Type of Family | Nuclear | 50 | 50% |
| | | Joint | 50 | 50% |
| 5 | Previous Knowledge on Postnatal Care | Yes | 50 | 50% |
| | | No | 50 | 50% |

The table shows the demographic details of 100 participants. Half of them 50% were below 25 years and the other half were 25 years and above. Most participants had secondary education 40%, followed by primary education 34% and graduates 26%. Equal numbers of participants were homemakers and working 50% each. Similarly, 50% belonged to nuclear families and 50% to joint families. Regarding previous knowledge on postnatal care, 50% had prior knowledge while the remaining 50% did not.

**Table 2:** Comparison of Knowledge Scores before and after Structured Teaching Programme

| Knowledge Level | Score Range | Pre-test (n) | Pre-test (%) | Post-test (n) | Post- test (%) |
|---|---|---|---|---|---|
| Poor | 0–5 | 42 | 42% | 8 | 8% |
| Average | 6–10 | 38 | 38% | 22 | 22% |
| Good | 11–15 | 20 | 20% | 70 | 70% |

This table shows the distribution of caretakers' knowledge levels on postnatal care before and after the intervention (n = 100). In the pre-test, a higher proportion of participants 42% had poor knowledge**,** while only 20% had good knowledge. After the intervention, there was a clear improvement, with 70% of caretakers achieving good knowledge and only 8% remaining in the poor category. This indicates a marked increase in knowledge levels following the intervention.

**Table 3:** Paired t-test for Pre-test and Post-test Knowledge Scores (n = 100)

| Variable | Mean | SD | Mean Difference | t-value | df | p-value |
|---|---|---|---|---|---|---|
| Pre-test | 7.2 | 2.8 | | | | |
| Post-test | 12.6 | 2.1 | 5.4 | 21.6*** | 99 | <0.001 |

The table depicts that mean ± standard deviation (Pre-test: 7.2 ± 2.8; Post-test: 12.6 ± 2.1). The mean difference in knowledge scores was 5.4. Statistical significance was assessed using a paired t-test (t = 21.6, df = 99), and the p-value < 0.001 indicates a highly significant improvement in knowledge following the intervention.

**Table 4:** Association between Post-test Knowledge and Selected Demographic Variables (n = 100)

| Demographic Variable | Category | Poor (%) | Average n (%) | Good (%) | Total | $\chi^2$cal | $\chi^2$tab | Df | p-value |
|---|---|---|---|---|---|---|---|---|---|
| Age (years) | <25 | 2 (4%) | 6 (12%) | 42 (84%) | 50 | 6.12 | 5.99 | 2 | 0.047 |
| | ≥25 | 6 (12%) | 16 (32%) | 28 (56%) | 50 | | | | |
| Education | Primary | 5 (15%) | 12 (35%) | 17 (50%) | 34 | 10.85 | 9.49 | 4 | 0.004 |
| | Secondary | 2 (5%) | 6 (15%) | 32 (80%) | 40 | | | | |
| | Graduate | 1 (4%) | 4 (15%) | 21 (81%) | 26 | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Occupation | Homemaker | 6 (12%) | 14 (28%) | 30 (60%) | 50 | 4.22 | 5.99 | 2 | 0.121 |
| | Working | 2 (4%) | 8 (16%) | 40 (80%) | 50 | | | | |
| Type of Family | Nuclear | 3 (6%) | 10 (20%) | 37 (74%) | 50 | 1.98 | 5.99 | 2 | 0.371 |
| | Joint | 5 (10%) | 12 (24%) | 33 (66%) | 50 | | | | |
| Previous Knowledge | Yes | 1 (2%) | 5 (10%) | 44 (88%) | 50 | 8.67 | 5.99 | 2 | 0.013 |
| | No | 7 (14%) | 17 (34%) | 26 (52%) | 50 | | | | |

The table shows the association between selected demographic variables and the level of knowledge (poor, average, and good) among participants. Regarding age, participants aged less than 25 years had a higher proportion of good knowledge (84%) compared to those aged 25 years and above (56%). The association between age and knowledge level was found to be statistically significant ($\chi^2 = 6.12$, $p = 0.047$).In terms of education, graduates (81%) and those with secondary education (80%) showed higher levels of good knowledge compared to participants with primary education (50%). This association was statistically significant ($\chi^2 = 10.85$, $p = 0.004$).With respect to occupation, a higher proportion of working participants (80%) had good knowledge compared to homemakers (60%); however, this association was not statistically significant ($\chi^2 = 4.22$, $p = 0.121$).Regarding type of family, participants from nuclear families (74%) had slightly higher good knowledge than those from joint families (66%), but the association was not statistically significant ($\chi^2 = 1.98$, $p = 0.371$).Participants with previous knowledge showed a markedly higher level of good knowledge (88%) compared to those without previous knowledge (52%), and this association was statistically significant ($\chi^2 = 8.67$, $p = 0.013$).Overall, age, education, and previous knowledge were significantly associated with knowledge level, whereas occupation and type of family were not significantly associated.

**Discussion**

The study showed a balanced distribution across key demographic variables. Half of the participants (50%) were below 25 years and the other half were 25 years and above. Most had secondary education (40%), followed by primary (34%) and graduates (26%), indicating a generally basic level of formal education. Occupational status and family type were equally distributed, with 50% homemakers and 50% employed, and 50% from nuclear and 50% from joint families. Prior knowledge of postnatal care was also evenly split (50% each). The findings are supported by Dutta D. C., who stated that maternal education and family support improve understanding and practice of postnatal care. Similarly, Kaur S. found that mothers with secondary education and supportive families had better knowledge and practices of postnatal care.

The study showed a significant improvement in caretakers' knowledge after the intervention. In the pre-test, 42% had poor knowledge and only 20% had good knowledge. After the structured teaching programme, 70% achieved good knowledge, while only 8% remained in the poor category, indicating the effectiveness of the intervention. These findings are supported by Polit D. F. and Beck C. T., who highlighted that structured educational programmes improve knowledge outcomes. Similarly, Kaur S. reported increased knowledge and reduced poor knowledge after a teaching programme.

The present study showed a significant increase in knowledge scores, with the mean rising from 7.2 ± 2.8 in the pre-test to 12.6 ± 2.1 in the post-test (mean difference = 5.4). The paired t-test result ($t = 21.6$, $df = 99$, $p < 0.001$) indicates a highly significant improvement following the structured teaching programme. Similar findings were reported by Polit D. F. and Beck C. T., who observed that structured educational interventions significantly enhance knowledge outcomes. Likewise, Kaur S. found a significant increase in postnatal care knowledge scores after a planned teaching programme, supporting the effectiveness of such interventions.

The analysis revealed that younger participants (<25 years), those with higher education, and those with prior knowledge demonstrated significantly better knowledge levels regarding postnatal care. Specifically, age ($\chi^2 = 6.12$, $p = 0.047$), education ($\chi^2 = 10.85$, $p = 0.004$), and previous knowledge ($\chi^2 = 8.67$, $p = 0.013$) showed statistically significant associations with knowledge levels. In contrast, occupation ($\chi^2 = 4.22$, $p = 0.121$) and type of family ($\chi^2 = 1.98$, $p = 0.371$) were not significantly associated. These findings are consistent with previous studies. A study by Bhandari *et al.* (2019) [19] reported that maternal education and prior exposure to health information significantly improved postnatal care knowledge. Similarly, Kaur and Kaur (2020) [20] found that younger mothers and those with higher educational status had better awareness of postnatal practices. Furthermore, research by Singh *et al.* (2018) [21] highlighted that previous knowledge was a strong predictor of improved maternal health awareness, while occupation and family type showed no significant association, supporting the present findings.

Overall, the findings of the study indicate that the structured teaching programme was highly effective in improving caretakers' knowledge regarding postnatal care. Significant improvements were observed in both knowledge levels and mean scores after the intervention. Additionally, factors such as age, education, and prior knowledge were found to influence knowledge outcomes, while occupation and family type showed no significant association. The results highlight the importance of educational interventions in enhancing awareness and promoting better postnatal care practices.

**Conclusion**

The present study concludes that the structured teaching programme was highly effective in improving caretakers' knowledge regarding postnatal care. A significant increase in both knowledge levels and mean scores was observed following the intervention, demonstrating its impact. The study also identified that age, educational status, and prior knowledge significantly influenced knowledge outcomes, whereas occupation and type of family did not show a significant association. These findings emphasize the importance of well-planned educational interventions in enhancing awareness and promoting better postnatal care practices, ultimately contributing to improved maternal and neonatal health.

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