



“EFFECTIVENESS OF AN INSTRUCTIONAL TEACHING PROGRAMME ON THE KNOWLEDGE OF POSTNATAL MOTHERS REGARDING ESSENTIAL NEWBORN CARE IN SELECTED HOSPITALS OF KOLLAM DISTRICT, KERALA.”

¹Sr. Mariamma K S, ²Prof. Dr. Hemant Singh Rana

¹Research Scholar, Desh Bhagat University, Mandi Gobindgarh, Punjab, India,

²Professor, Desh Bhagat University, Mandi Gobindgarh, Punjab, India.

Abstract: Background: The neonatal period is a critical period in a child's life, during which appropriate care is essential for survival, growth, and development. Postnatal mothers play a vital role in providing essential newborn care; however, inadequate knowledge regarding appropriate newborn-care practices may adversely affect neonatal health. Therefore, structured educational interventions are important in improving mothers' knowledge and preparedness to provide appropriate newborn care.

Aim: The study aimed to evaluate the effectiveness of an Instructional Teaching Programme (ITP) on the knowledge of postnatal mothers regarding essential newborn care in selected hospitals of Kollam District, Kerala.

Methods: A quantitative evaluative approach with a pre-experimental one-group pre-test–post-test design was adopted. A total of 60 postnatal mothers were selected using a non-probability purposive sampling technique. Data were collected using a sociodemographic and obstetric proforma and a self-structured knowledge questionnaire consisting of 40 multiple-choice questions. The reliability of the tool was established using the Kuder–Richardson Formula 20 (KR-20), and the reliability coefficient was found to be 0.82. Following the pre-test, the Instructional Teaching Programme regarding essential newborn care was administered individually using lecture-cum-discussion, demonstration, audiovisual aids, charts, flashcards, and a teaching booklet. The effectiveness of the intervention was evaluated using a paired t-test, while the association between pre-test knowledge scores and selected sociodemographic and obstetrical variables was determined using the Chi-square test.

Results: The pre-test findings revealed that the majority of postnatal mothers, 54 (90%), had poor knowledge, while 4 (7%) had average knowledge and only 2 (3%) had good knowledge regarding essential newborn care. None of the participants had excellent knowledge. Following the Instructional Teaching Programme, a marked improvement in knowledge was observed. In the post-test, none of the participants had poor knowledge, 2 (3%) had average knowledge, 28 (47%) had good knowledge, and 30 (50%) had excellent knowledge. The mean post-test knowledge score (30.68 ± 5.79) was significantly higher than the mean pre-test knowledge score (7.15 ± 1.40). The calculated paired t-value was 28.3, which was greater than the table value of 2.00 at $df = 59$ and the 0.05 level of significance, indicating a highly significant

improvement in knowledge following the intervention. A statistically significant association was observed between pre-test knowledge and religion ($\chi^2 = 11.17$, $p = 0.025$), occupation ($\chi^2 = 33.29$, $p < 0.001$), number of living children ($\chi^2 = 27.12$, $p < 0.001$), and mode of delivery ($\chi^2 = 10.70$, $p = 0.030$). No statistically significant association was observed with age ($\chi^2 = 7.77$), education ($\chi^2 = 3.35$), type of family ($\chi^2 = 3.72$), place of residence ($\chi^2 = 4.89$), gravida ($\chi^2 = 1.03$), or gestational age at delivery ($\chi^2 = 2.41$).

Conclusion: The study concluded that the Instructional Teaching Programme was highly effective in improving the knowledge of postnatal mothers regarding essential newborn care. The substantial increase in the mean knowledge score from 7.15 ± 1.40 during the pre-test to 30.68 ± 5.79 during the post-test, with a calculated paired t-value of 28.3 ($p < 0.05$), demonstrates the effectiveness of the educational intervention. The findings emphasize the importance of incorporating structured and systematic health education programmes into routine postnatal care services to enhance maternal knowledge and promote appropriate newborn-care practices.

Index Terms - Instructional Teaching Programme, Effectiveness, Knowledge, Postnatal Mothers, Essential Newborn Care.

I. INTRODUCTION

The birth of a baby marks an important transition in the life of a family and represents the beginning of a critical period of growth, adaptation and development. The neonatal period, comprising the first 28 days of life, is the most vulnerable period of childhood because the newborn must rapidly adapt from intrauterine to extrauterine life. During this period, appropriate newborn care is essential for maintaining body temperature, establishing effective feeding, preventing infection, recognizing complications at an early stage and promoting healthy growth and development. The quality of care provided during the first hours and days of life can have a profound influence on newborn survival and subsequent health.¹

Newborn health is an important component of maternal and child health and is closely linked with the achievement of Sustainable Development Goal 3 (SDG 3), particularly Target 3.2, which aims to end preventable deaths of newborns and children under five years of age by 2030. The target specifically calls for countries to reduce neonatal mortality to at least as low as 12 deaths per 1,000 live births and under-five mortality to at least as low as 25 deaths per 1,000 live births.^{1,2}

Despite considerable progress in child survival, neonatal mortality continues to represent a major global public-health challenge. According to the World Health Organization, an estimated 2.3 million newborns died during the first 28 days of life in 2024, accounting for approximately 47% of all deaths among children younger than five years. The global under-five mortality rate declined to 37.4 deaths per 1,000 live births in 2024; however, progress in reducing under-five mortality has slowed markedly since 2015. Sub-Saharan Africa and Southern Asia together accounted for more than 80% of under-five deaths in 2024, despite representing less than 60% of global live births, highlighting persistent geographical inequalities in newborn and child survival.¹

The concentration of deaths during the neonatal period emphasizes the importance of appropriate care immediately after birth and during the first few days of life. UNICEF reported that approximately 2.3 million newborns died in 2022, equivalent to about 6,300 newborn deaths every day. Approximately one-third of neonatal deaths occurred within the first day after birth and nearly three-quarters occurred within the first week of life. Globally, the neonatal mortality rate declined from 37 deaths per 1,000 live births in 1990 to 17 deaths per 1,000 live births in 2022, demonstrating considerable progress while also indicating that neonatal deaths continue to be an important challenge.³

The major causes of neonatal mortality include prematurity, intrapartum-related complications such as birth asphyxia and trauma, neonatal infections and congenital anomalies. Many of these conditions can be prevented, recognized early or appropriately managed through evidence-based maternal and newborn care.¹ Essential newborn care therefore includes a package of simple and effective interventions such as immediate and thorough drying, maintenance of warmth, skin-to-skin contact, early initiation of breastfeeding, appropriate cord care, prevention of infection, immunization, recognition of neonatal danger signs and timely referral when complications occur.^{1,4}

The mother is one of the most important caregivers during the neonatal period, particularly after discharge from the hospital. Although healthcare professionals provide immediate newborn care in the hospital, much of the subsequent care is undertaken by mothers and family members at home. Consequently, the mother's knowledge, confidence and ability to perform appropriate newborn-care practices are important determinants of neonatal health. A mother who understands appropriate breastfeeding techniques, cord care, thermal

protection, hygiene and neonatal danger signs is more likely to provide appropriate care and seek timely professional assistance when required.⁴

However, childbirth does not automatically ensure that a mother possesses adequate knowledge and skills regarding newborn care. Mothers, particularly first-time mothers, may experience anxiety, uncertainty and difficulty in translating information received from healthcare professionals into actual practices. Traditional beliefs, cultural practices, conflicting advice from family members and non-professional sources, inadequate counselling and limited opportunities for practical demonstrations before hospital discharge can further contribute to inappropriate newborn-care practices.

Research has demonstrated that gaps in maternal knowledge can occur even among mothers who deliver in healthcare institutions. Eluri et al. conducted a randomized controlled trial among 120 primigravidae to evaluate the effectiveness of flip-chart-assisted maternal education on essential newborn care. Only 32% of the participants reported receiving antenatal education regarding essential newborn care. Mothers who received structured flip-chart-assisted education after delivery demonstrated significantly better essential newborn-care skills and significantly higher knowledge retention at six months compared with mothers who received routine care.⁵ These findings emphasize that structured education provided during the immediate postnatal period can improve maternal knowledge and practical newborn-care skills.⁵

Similarly, evidence from India demonstrates that family-centred education can improve newborn-care practices and health outcomes. A pre-post study of the Care Companion Program implemented in district hospitals in Punjab and Karnataka included 1,474 families in the pre-intervention group and 3,510 families in the intervention group. Following implementation of the programme, skin-to-skin care increased by 78%, while dry cord-care practices increased by 4%. Newborn complications decreased by 16%, and newborn readmissions decreased by 56%.⁶ These findings support the importance of structured, skill-based newborn education for mothers and family members before hospital discharge.

Further evidence comes from a systematic review of pre-discharge postnatal interventions following institutional deliveries in India. The review included evidence involving 133,733 mothers from 28 public hospitals across four Indian states and found moderate-certainty evidence that the Care Companion Programme was associated with an 18% reduction in the risk of neonatal mortality (95% CI: 7–29%).⁷ This evidence highlights the potential contribution of structured postnatal education and skills-building to improved newborn outcomes.

Recent evidence also supports the use of innovative educational approaches. A cluster randomized trial conducted in India involving 21,937 participants evaluated a mobile messaging service that provided WHO-recommended postnatal information to families from birth through six weeks postpartum. The intervention resulted in significant improvements in 7 of 11 maternal and neonatal care practices assessed. Breastfeeding increased by 3.1 percentage points, recommended cord-care practices by 4.1 percentage points and skin-to-skin care with mothers by 9.2 percentage points.⁸ These findings demonstrate that appropriately designed educational interventions can positively influence maternal and family newborn-care practices.

Indian research has repeatedly identified deficiencies in maternal knowledge regarding newborn care. Studies among postnatal mothers have identified gaps in areas such as hand hygiene, thermal protection, cord care and recognition of neonatal danger signs. Research has also demonstrated that structured teaching programmes can improve maternal knowledge regarding essential newborn care.⁹

A study conducted among 200 postnatal mothers in Bheemunipatnam, Visakhapatnam, using a one-group pre-test and post-test design, found that 176 (88%) mothers had inadequate knowledge regarding essential newborn care before the intervention, while only 4 (2%) had adequate knowledge. Following the structured teaching programme, the proportion of mothers with inadequate knowledge decreased to 16 (8%), while those with adequate knowledge increased to 80 (40%). The study concluded that the structured teaching programme was effective in improving knowledge regarding essential newborn care.⁹

India has made substantial progress in reducing neonatal mortality, although considerable inter-state variation persists. Kerala is among the states with the lowest neonatal mortality rates in the country. According to Kerala's health statistics based on the Sample Registration System, Kerala's neonatal mortality rate has remained considerably lower than the national level. The favourable neonatal health indicators in Kerala reflect the state's relatively strong maternal and child health infrastructure, high institutional delivery coverage, high female literacy and extensive utilization of health services.¹⁰

According to the Annual Vital Statistics Report 2023 of Kerala, 96.16% of rural deliveries and 99.88% of urban deliveries were institutional births. The report documented an overall infant mortality rate of 5.26 per 1,000 live births and a neonatal mortality rate of 3.69 per 1,000 live births in Kerala in 2023. The early neonatal mortality rate was 2.64 per 1,000 live births and the late neonatal mortality rate was 1.06 per 1,000 live births.¹¹

At the district level, Kollam has also demonstrated favourable infant survival indicators. The Kerala Annual Vital Statistics Report 2023 reported an infant mortality rate of 1.53 per 1,000 live births in Kollam district, with rates of 1.69 among males and 1.37 among females.¹¹ Although these statistics indicate favourable overall infant-survival outcomes, they should not be interpreted as evidence that all mothers possess adequate knowledge regarding essential newborn care.

The importance of maternal education is particularly relevant in Kerala because newborn-care practices may continue to be influenced by family traditions and culturally transmitted beliefs. A study conducted among 100 mothers in the Pallithottam area of Kollam explored myths related to neonatal care. The study found that 48.31% of mothers had a positive attitude towards harmful practices, while 70% had a positive attitude towards useful practices and 70.75% had beliefs regarding practices of doubtful utility. The researchers concluded that myths related to neonatal care continued to exist among mothers in the Pallithottam area of Kollam.¹²

This local evidence is particularly relevant to the present study because it indicates the continued presence of misconceptions regarding neonatal care within the study setting. Such misconceptions may influence maternal practices and reinforce the need for scientifically accurate, culturally appropriate and structured newborn-care education.¹²

Research from other parts of Kerala also illustrates the importance of targeted maternal education. A study conducted among 201 mothers of low-birth-weight and preterm babies in a tertiary-care centre in North Kerala found that 95.4% of mothers did not know about Kangaroo Mother Care at recruitment. Following orientation, 80% of mothers were able to follow verbal instructions during the first session, and at discharge 99% were willing to continue Kangaroo Mother Care at home.¹³ This demonstrates that mothers may initially have substantial knowledge gaps but can acquire appropriate newborn-care skills when education is provided systematically.

Similarly, a study conducted among mothers in Trivandrum assessing knowledge of neonatal danger signs reported a mean knowledge score of 57.1 ± 8.0 . Although the overall level of knowledge was considered good, specific gaps were identified regarding convulsions and hypothermia, for which knowledge scores were below 50%. The study recommended that educational interventions be provided to postnatal mothers before discharge, with particular emphasis on recognition of neonatal danger signs.¹⁴

Thus, evidence from global, national and Kerala-based research demonstrates that maternal knowledge is an important component of essential newborn care and that structured educational interventions can improve knowledge, skills and newborn-care practices. The persistence of knowledge gaps and culturally influenced practices further indicates the need for focused educational interventions among postnatal mothers.

Background of the Problem

Newborn survival is an important indicator of the health status and development of a country. Although substantial progress has been made in reducing child mortality worldwide, neonatal mortality has declined more slowly than mortality among older children. The first 28 days of life remain a period of particularly high vulnerability, with the first week representing a critical period for survival.^{1,3}

The global burden of neonatal mortality demonstrates the continuing need for effective newborn-care interventions. In 2024, approximately 2.3 million newborns died globally, and neonatal deaths accounted for 47% of all deaths among children younger than five years.¹ This high proportion emphasizes the importance of interventions that begin immediately after birth and continue throughout the early postnatal period.

Essential newborn care is a package of evidence-based practices designed to support the newborn's transition to extrauterine life and prevent avoidable illness and death. These practices include thermal protection, immediate drying, skin-to-skin contact, early initiation of breastfeeding, exclusive breastfeeding, appropriate cord care, hand hygiene, infection prevention, immunization, safe bathing practices, recognition of neonatal danger signs and appropriate care-seeking.^{1,4}

The effectiveness of maternal education in improving essential newborn care has been demonstrated by several studies. Eluri et al. reported that flip-chart-assisted postpartum maternal education significantly improved essential newborn-care skills and resulted in higher knowledge retention six months after delivery among primigravidae.⁵

Similarly, family-centred postnatal education has demonstrated positive effects on newborn-care practices and outcomes in India. The Care Companion Programme study conducted in district hospitals in Punjab and Karnataka demonstrated improvements in skin-to-skin care and dry cord care, together with reductions in newborn complications and readmissions.⁶

The importance of predischARGE education is further supported by a recent systematic review. Evidence involving 133,733 mothers from 28 public hospitals in four Indian states showed that the Care Companion

Programme was associated with an 18% reduction in neonatal mortality.⁷ These findings provide important evidence that structured education and skills-building before discharge may contribute to improved newborn survival and health outcomes.

Recent advances in technology have also created new opportunities for maternal and family education. A large cluster randomized trial involving 21,937 participants in India demonstrated that a mobile messaging intervention providing postnatal health information significantly improved several recommended maternal and neonatal practices, including breastfeeding, cord care and skin-to-skin contact.⁸

Indian studies have also demonstrated that inadequate knowledge regarding newborn care is common among some groups of mothers. A study of 200 postnatal mothers found that 88% had inadequate knowledge regarding essential newborn care before a structured teaching programme. Following the intervention, the proportion with adequate knowledge increased from 2% to 40%.⁹ Such findings provide direct support for evaluating structured teaching programmes among postnatal mothers.

Kerala has achieved considerable success in maternal and child health. The state's high institutional delivery coverage and low neonatal and infant mortality rates reflect its relatively strong healthcare system. According to the Annual Vital Statistics Report 2023, Kerala recorded a neonatal mortality rate of 3.69 per 1,000 live births and an infant mortality rate of 5.26 per 1,000 live births.¹¹

However, favourable population-level health indicators do not necessarily indicate adequate knowledge among individual mothers. Local research from Kollam identified the continued presence of myths and potentially harmful practices related to neonatal care among mothers in Pallithottam.¹² This suggests that even in a state with advanced maternal and child health indicators, targeted health education remains necessary.

The findings from North Kerala regarding Kangaroo Mother Care further illustrate this issue. Among 201 mothers of low-birth-weight and preterm babies, 95.4% initially lacked knowledge regarding Kangaroo Mother Care, but following orientation, almost all mothers were willing to continue the practice at home.¹³ This demonstrates the potential of structured education to transform knowledge gaps into appropriate maternal practices.

Likewise, research from Trivandrum demonstrated specific gaps in mothers' knowledge regarding neonatal danger signs, particularly convulsions and hypothermia, despite an overall satisfactory knowledge level.¹⁴

Taken together, these findings demonstrate that institutional delivery and availability of healthcare services alone are not sufficient to ensure optimal newborn care. Mothers also require adequate knowledge and practical skills to continue appropriate care after returning home. Structured postnatal education therefore represents an important component of comprehensive newborn-care services.

Need and Significance of the Study

The neonatal period represents a critical window during which appropriate care can substantially influence newborn survival and health. Despite advances in maternal and neonatal healthcare, newborns remain vulnerable to preventable complications such as hypothermia, infection, feeding difficulties and complications associated with prematurity and birth asphyxia. Early recognition and appropriate management of these conditions depend not only on the availability of healthcare services but also on the knowledge and practices of mothers and families.^{1,4}

The mother is generally the primary caregiver after the newborn returns home. Therefore, adequate maternal knowledge regarding breastfeeding, maintenance of warmth, cord care, hand hygiene, immunization, safe bathing, prevention of infection and recognition of neonatal danger signs is essential. Appropriate knowledge enables mothers to provide safe care and seek professional assistance promptly when abnormal signs occur.^{1,4} However, being discharged from a health facility does not necessarily mean that mothers are adequately prepared to care for their newborns. First-time mothers may have limited previous experience and may experience anxiety and uncertainty regarding newborn-care practices. Traditional beliefs, family customs and misconceptions may also influence the care provided to newborns. The persistence of such practices has been demonstrated by the study conducted among mothers in Pallithottam, Kollam.¹²

The effectiveness of structured educational interventions has been demonstrated in different settings. Flip-chart-assisted education has been shown to improve maternal essential newborn-care skills and knowledge retention,⁵ while family-centred postnatal training has been associated with improvements in newborn-care practices and reductions in newborn complications and readmissions.⁶ Furthermore, evidence from a large systematic review indicates that structured predischarge postnatal education and skills-building may be associated with an 18% reduction in neonatal mortality.⁷

Nurses play a vital role in this process. They are among the healthcare professionals who have frequent and direct contact with mothers during the postnatal period. Nurses can assess existing maternal knowledge,

identify misconceptions, provide demonstrations, reinforce appropriate practices and clarify doubts before discharge. Therefore, an instructional teaching programme can serve as a systematic nurse-led intervention to improve maternal preparedness for newborn care.

The need for the present study is further supported by the difference between population-level health indicators and individual-level knowledge. Kerala has one of the lowest neonatal mortality rates in India, and Kollam has favourable infant mortality indicators.¹¹ Nevertheless, favourable mortality statistics do not guarantee that every mother possesses adequate knowledge regarding essential newborn care. The persistence of neonatal-care myths documented in Kollam further demonstrates the need for continuing and context-specific maternal education.¹²

The present study is significant for newborn health because improved maternal knowledge may promote appropriate breastfeeding, thermal protection, cord care, infection prevention and early recognition of danger signs. It is significant for mothers because structured education can increase their understanding, confidence and preparedness to care for their newborns after discharge. It is significant for nursing practice because the findings may provide evidence for strengthening systematic health education and discharge teaching in postnatal units.

The study may also be significant for hospitals and healthcare administrators by providing evidence regarding the usefulness of incorporating standardized newborn-care education into routine postnatal services. At the family level, improved maternal knowledge may help reduce harmful traditional practices, promote appropriate newborn-care behaviours and encourage timely healthcare-seeking. At the public-health level, strengthening home-based newborn care complements institutional maternal and neonatal services and may contribute to the prevention of avoidable neonatal morbidity and mortality.

Therefore, despite Kerala's favourable maternal and child health indicators, there remains a need to strengthen the knowledge and preparedness of individual mothers regarding essential newborn care. An instructional teaching programme provides a relatively simple, structured and potentially reproducible intervention that can be implemented during the postnatal period before mothers return home.

Hence, the present study entitled “A Pre-Experimental Study to Evaluate the Effectiveness of an Instructional Teaching Programme on the Knowledge of Postnatal Mothers Regarding Essential Newborn Care in Selected Hospitals of Kollam District, Kerala” is relevant and justified. The study seeks to assess the existing knowledge of postnatal mothers, provide a structured instructional teaching programme and determine its effectiveness in improving knowledge regarding essential newborn care.

Research Gap and Problem Formulation: Although essential newborn care is a recognized strategy for reducing preventable neonatal morbidity and mortality, studies have reported gaps in mothers' knowledge regarding breastfeeding, thermal protection, cord care, hygiene and recognition of neonatal danger signs.¹ Evidence from India has demonstrated that structured maternal education and family-centred postnatal interventions can significantly improve maternal knowledge and newborn-care practices.³⁻⁴ However, limited recent evidence is available regarding the effectiveness of a comprehensive, structured and nurse-led instructional teaching programme specifically among postnatal mothers in selected hospitals of Kollam District. Kerala has achieved a low neonatal mortality rate of 3.69 per 1,000 live births, yet local research has identified the persistence of myths and misconceptions related to neonatal care among mothers in Kollam.¹⁵ Furthermore, favourable population-level neonatal health indicators do not necessarily indicate adequate knowledge among individual mothers. Therefore, there is a need for a systematic educational intervention to strengthen mothers' knowledge regarding essential newborn care. Hence, the present study is undertaken to evaluate the effectiveness of an instructional teaching programme on the knowledge of postnatal mothers regarding essential newborn care in selected hospitals of Kollam District, Kerala.

Purpose of the Study

The purpose of the study is to evaluate the effectiveness of an instructional teaching programme in improving the knowledge of postnatal mothers regarding essential newborn care in selected hospitals of Kollam District, Kerala.

Statement of the Problem

“A pre-experimental study to evaluate the effectiveness of an instructional teaching programme on the knowledge of postnatal mothers regarding essential newborn care in selected hospitals of Kollam District, Kerala.”

Objectives

1. To assess the pre-test knowledge of postnatal mothers regarding essential newborn care.
2. To administer an instructional teaching programme regarding essential newborn care to postnatal mothers.
3. To assess the post-test knowledge of postnatal mothers regarding essential newborn care after the instructional teaching programme.
4. To evaluate the effectiveness of the instructional teaching programme by comparing pre-test and post-test knowledge scores.
5. To determine the association between pre-test knowledge scores and selected demographic and obstetric variables.

Hypotheses

At 0.05 level of significance:

H₁: There will be a significant difference in the mean pretest and post-test knowledge score of postnatal mothers regarding essential newborn care.

H₂: There will be a significant association between the pre-test knowledge score of postnatal mothers and selected demographic and obstetric variables.

Operational Definitions

Pre-experimental study: A study conducted using one group of participants, where knowledge is assessed before and after an intervention without a control group.

In the present study, pre-experimental study refers to a one-group pre-test and post-test research design in which a single group of selected postnatal mothers is assessed for their knowledge regarding essential newborn care before the intervention, receives the instructional teaching programme, and is reassessed after the intervention, without the use of a control group.

Effectiveness: The significant improvement in post-test knowledge scores compared with pre-test knowledge scores after administration of the instructional teaching programme.

In the present study, effectiveness refers to the improvement in the knowledge scores of postnatal mothers regarding essential newborn care, as determined by comparing their mean pre-test and post-test knowledge scores following the administration of the instructional teaching programme.

Instructional Teaching Programme: A structured teaching session on essential newborn care, given by the investigator through lecture-cum-discussion, demonstration, charts, flashcards, and a booklet.

In the present study, instructional teaching programme refers to a structured and systematically organized educational intervention developed and administered by the investigator to improve the knowledge of postnatal mothers regarding essential newborn care. The programme consists of information and guidance regarding thermal protection, breastfeeding, hygiene and infection prevention, umbilical-cord care, immunization, safe sleep practices and recognition of neonatal danger signs. The content is delivered through lecture-cum-discussion, demonstration, charts, flashcards and a booklet.

Knowledge: The correct responses obtained by postnatal mothers on a structured questionnaire regarding essential newborn care.

In the present study, knowledge refers to the level of understanding possessed by postnatal mothers regarding essential newborn care, as measured by their correct responses to the items in the structured knowledge questionnaire administered during the pre-test and post-test. The total score obtained represents the mother's level of knowledge, with a higher score indicating a higher level of knowledge.

Postnatal Mothers: Mothers who have delivered a live newborn and are admitted in the postnatal wards of selected hospitals.

In the present study, postnatal mothers refer to women who have delivered a live newborn and are admitted to the postnatal wards of the selected hospitals in Kollam District, Kerala, and who fulfil the predetermined inclusion criteria of the study.

Essential Newborn Care: Newborn care practices that include thermal protection, breastfeeding, hygiene, umbilical-cord care, immunization, safe sleep, and recognition of danger signs.

In the present study, essential newborn care refers to the recommended care practices required to maintain the health, safety and well-being of a newborn during the neonatal period, including thermal protection, breastfeeding and appropriate feeding practices, hand hygiene and infection prevention, umbilical-cord care, immunization, safe sleep practices, recognition of neonatal danger signs and appropriate care-seeking.

Conceptual Framework

Based on General Systems Theory – Ludwig von Bertalanffy

The conceptual framework for the present study is based on General Systems Theory, proposed by Ludwig von Bertalanffy. The theory views an individual or group as an organized system that interacts with its environment. A system consists of input, throughput (process), output and feedback. In the present study, postnatal mothers are considered as the system, their existing characteristics and knowledge constitute the input, the instructional teaching programme represents the process, and the change in knowledge represents the output.

The conceptual framework assumes that when postnatal mothers with varying levels of baseline knowledge are exposed to a systematically planned instructional teaching programme, their knowledge regarding essential newborn care will improve. The difference between pre-test and post-test knowledge scores is used to determine the effectiveness of the intervention.

II. MATERIAL AND METHODS

Research approach:

A research approach is the plan to investigate phenomenon under study in a structured or unstructured or a combination or two methods.¹⁵

In view of nature of the problem selected and objectives to be accomplished, a Quantitative evaluative approach. was adopted in this study to assess the effectiveness of nursing interventions on selected neonatal outcome parameters among mothers with breast complications.

Quantitative research is the formal, objective, systematic process used to describe variables, test relationship between them and examine cause-and-effect interactions among variables.

Research design: Research design is the researcher's overall plan for answering the research questions or testing the research hypothesis.

The research design selected for the study was pre-experimental one-group pre-test-post-test design. Through the research design, the researcher was able to evaluate the effectiveness of an Instructional Teaching Programme on the knowledge of postnatal mothers regarding essential newborn care.

Group	Pre-test	Intervention	Post-test
One group	Knowledge assessment	Instructional Teaching Programme	Knowledge reassessment

Variables: Variables are the qualities, properties, or characteristics of the persons, things or situations that change or vary and are manipulated or measured in the research.¹⁶ Dependent variables, independent variable and demographic variables were the variables considered in this study.

Independent Variable

Independent variable is the stimulus or activity that is manipulated or varied by the researcher to create an effect on the dependent variable.

The independent variable chosen for this study was Instructional Teaching Programme

Dependent Variable

Dependent variable is the outcome or response due to the effect of the independent variable, which researcher wants to predict or explain.

The dependent variable for this study was knowledge of postnatal mothers regarding essential newborn care.

Socio Demographic and obstetric variables

The characteristics and attributes of the study subjects are considered as demographic variables.¹⁵

In this study the socio demographic and obstetric variables were age, religion, educational status, occupation, type of family, place of living, gravida, number of living children, Gestational age at delivery, and mode of delivery.

Research setting

Setting is the location in which the research is conducted.

The setting of the study was postnatal wards at Bishop Benziger Hospital, Kollam.

Population

Population is the entire set of individuals or objects having some common characteristics selected for a research study.

In this study, the population comprised of Postnatal mothers admitted to selected hospitals in Kollam District.

Sample and Sampling technique

Sample is the part or subset of population selected to participate in research study.¹⁵

In this study, the sample consisted of 60 postnatal mothers who met sampling and inclusion criteria.

Sampling is the process of selecting the sample from the target population to represent the entire population.¹⁵

Sampling technique: Non-probability purposive sampling technique was used in this study.

Purposive sampling is a sampling technique in which subjects are chosen to be part of the sample with a specific purpose in mind.¹⁶

Inclusion Criteria

1. Postnatal mothers who have delivered a live newborn.
2. Mothers admitted in the postnatal ward during the study period.
3. Mothers willing to participate and provide informed consent.
4. Mothers able to understand Malayalam or English.

Exclusion Criteria

1. Mothers with severe physical or psychological illness.
2. Mothers whose newborns are critically ill or admitted to the neonatal intensive care unit.
3. Mothers who have attended a similar structured newborn-care programme during the present admission.

Tools for Data Collection

1. **Section A:** Socio Demographic and obstetric proforma.
2. **Section B:** Self Structured knowledge questionnaire.

DESCRIPTION OF THE TOOL

Section A: Socio Demographic and Obstetric Proforma

This section was designed to obtain baseline sociodemographic and obstetric information from the participants. The sociodemographic variables included age, religion, educational status, occupation, type of family, and place of residence. The obstetric variables included gravida, number of living children, gestational age at delivery, and mode of delivery.

Section B: Self Structured knowledge questionnaire.

A self-structured knowledge questionnaire was developed by the researcher to assess the knowledge of postnatal mothers regarding essential newborn care. The questionnaire consisted of 40 multiple-choice questions covering eight aspects of essential newborn care. These included - importance of essential newborn care; maintenance of newborn body temperature; early initiation and exclusive breastfeeding; hand hygiene, bathing and skin care; umbilical cord care; prevention of infection and safe sleep; immunization and follow-up visits; and identification of neonatal danger signs and seeking immediate care. Each question consisted of four response options, of which one was the correct answer. A score of 'one' was awarded for each correct response and 'zero' for each incorrect response. There was no negative marking for incorrect responses. Thus, the 'maximum possible score was 40 and the minimum possible score was 0'. The total knowledge scores were categorized into four levels: 'poor knowledge, average knowledge, good knowledge, and excellent knowledge'. The level of knowledge was determined based on the total score obtained by each participant. The scoring criteria were as follows:

Table 1: Classification of Knowledge Scores

Category	Score
Poor knowledge	0 – 10
Average knowledge	11 – 20
Good knowledge	21 – 30
Excellent knowledge	31 – 40

Content Validity

Validity refers to the extent to which an instrument measures the concept it is intended to measure (Polit & Beck, 2021). The content validity of the research tool was established through expert evaluation. The research tool, along with the statement of the problem, objectives, hypotheses, operational definitions, and content validation checklist, was submitted to a panel of nine experts for validation.

The expert panel comprised five nursing experts, one gynaecologist, one paediatrician, one Malayalam language expert, and one English language expert. The experts evaluated the tool for its relevance, clarity, appropriateness, and comprehensiveness of the content. Based on their valuable suggestions and recommendations, necessary modifications were made to the items, language, and content of the tool. The revised tool was finalized after incorporating all relevant suggestions provided by the experts.

Reliability of the Tool

Reliability refers to the consistency and dependability with which an instrument measures a variable (Polit & Beck, 2021). The reliability of the structured knowledge questionnaire on essential newborn care was established by using the Kuder–Richardson Formula 20 (KR-20), as the questionnaire consisted of dichotomously scored items. The tool was administered to 6 postnatal mothers who fulfilled the inclusion criteria and were not included in the final study sample. The reliability coefficient obtained was 0.82, indicating that the tool had good internal consistency and was reliable for assessing the knowledge of postnatal mothers regarding essential newborn care.

Data collection process

Data collection refers to the identification of subjects and the precise and systematic gathering of information relevant to the research purpose, objectives, research questions, or hypotheses of the study.

The data collection for the present study was carried out from '15 December 2025 to 31 January 2026' at "Bishop Benziger Hospital, Kollam". Prior to the commencement of data collection, formal written permission was obtained from the concerned hospital authority. Ethical principles were strictly adhered to throughout the study. The investigator explained the purpose and procedure of the study to the participants, and 'written informed consent' was obtained from each participant before data collection. The participants were informed that their participation was voluntary and that they had the right to withdraw from the study at any time without any consequences. Confidentiality and anonymity of the information provided by the participants were assured.

The participants who fulfilled the inclusion criteria were selected using a 'non-probability purposive sampling technique'. A total of '60 postnatal mothers' admitted to Bishop Benziger Hospital, Kollam, were selected for the study.

On the 'first day of data collection', baseline sociodemographic and obstetric information was collected using the 'sociodemographic and obstetric proforma'. Subsequently, the participants' pre-test level of knowledge regarding essential newborn care was assessed using the 'self-structured knowledge questionnaire'.

Following the pre-test assessment, the 'Instructional Teaching Programme (ITP)' on essential newborn care was administered by the researcher on the same day. The programme was conducted individually for approximately '30–45 minutes'. The content of the instructional teaching programme included the importance of essential newborn care; maintenance of newborn body temperature; early initiation and exclusive breastfeeding; hand hygiene, bathing and skin care; umbilical cord care; prevention of infection and safe sleep; immunization and follow-up visits; and identification of neonatal danger signs and the need for seeking immediate care.

The teaching methods used during the instructional teaching programme included 'lecture-cum-discussion and demonstration', supported by 'audiovisual aids, charts, flashcards, and a teaching booklet in Malayalam'. The teaching was delivered in a manner appropriate to the participants' level of understanding, and opportunities were provided for clarification and discussion.

The 'post-test assessment' of knowledge regarding essential newborn care was conducted using the 'same structured knowledge questionnaire', during the follow-up visit at the hospital. The post-test scores were compared with the pre-test scores to assess the effectiveness of the Instructional Teaching Programme on the knowledge of postnatal mothers regarding essential newborn care.

Data analysis Process

Data analysis refers to the systematic process of organizing, summarizing, and interpreting collected data to answer the research questions and test the hypotheses of the study.

The collected data were systematically coded, entered into a master data sheet, and analyzed using 'descriptive and inferential statistical methods'. The statistical techniques used for analysis were selected based on the objectives and nature of the variables.

The following statistical methods were used for data analysis:

Frequency and percentage: Frequency and percentage distributions were used to describe the sociodemographic and obstetric characteristics of the postnatal mothers.

Paired 't'-test: A paired 't'-test was used to determine the effectiveness of the 'Instructional Teaching Programme (ITP)' by comparing the pre-test and post-test knowledge scores of postnatal mothers regarding essential newborn care.

Chi-square test: The chi-square test was used to determine the association between the pre-test level of knowledge and selected sociodemographic and obstetric variables.

Ethical Considerations

Prior to the commencement of the study, ethical clearance was obtained from the Institutional Ethics Committee, and formal permission was obtained from the concerned hospital authorities. The study was conducted in accordance with the ethical principles and guidelines for research involving human participants. The purpose, objectives, and procedures of the study were explained clearly to each participant. Written informed consent was obtained from all participants before their inclusion in the study. The participants were informed that their participation was entirely voluntary and that they had the right to withdraw from the study at any time without providing any reason and without any effect on the care or services received by them. The confidentiality and anonymity of the participants were maintained throughout the study. The information collected from the participants was used solely for research purposes and was handled with due care to protect the privacy and dignity of all participants.

III. RESULT

Section A: Description of sample characteristics

This section deals with the percentage distribution of sample characteristics such as age, religion, educational status, occupation, type of family, place of residence, gravida, number of living children, gestational age at delivery, and mode of delivery.

Graphical representation of Socio demographic and obstetric variables

N = 60

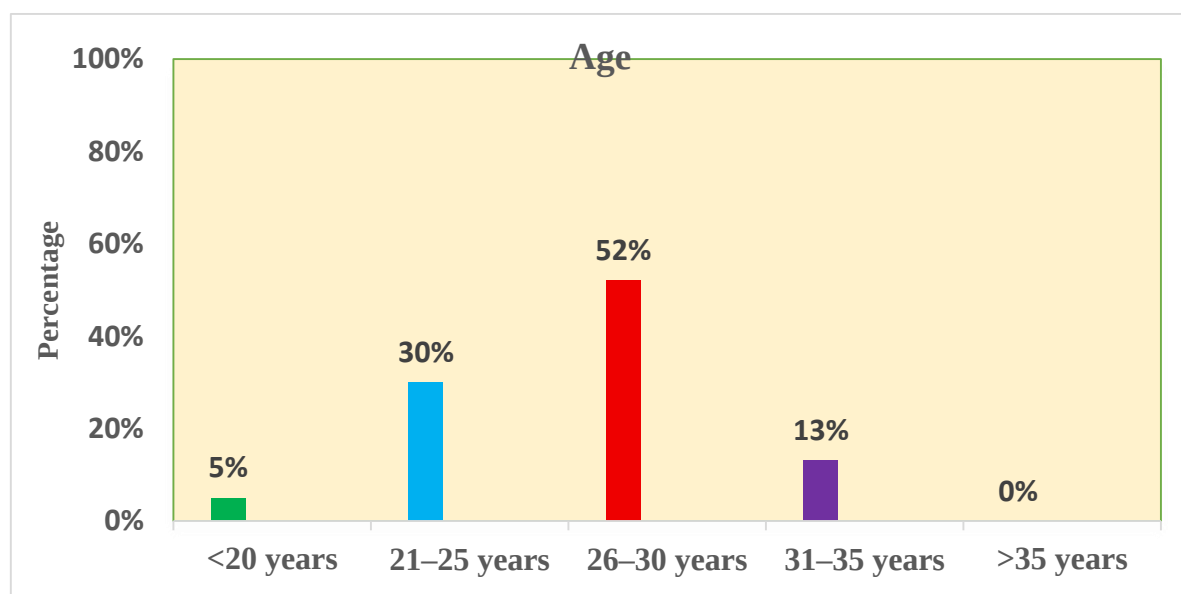


Figure 1: Percentage wise distribution of the sample according to age.

The data in the figure illustrates the distribution of postnatal mothers according to their age. Among the 60 postnatal mothers, the majority (52%) belonged to the age group of 26–30 years. This was followed by 30% of mothers who were in the age group of 21–25 years. About 13% of the mothers belonged to the 31–35 years age group, while 5% were below 20 years of age. None of the participants (0%) belonged to the age group of more than 35 years.

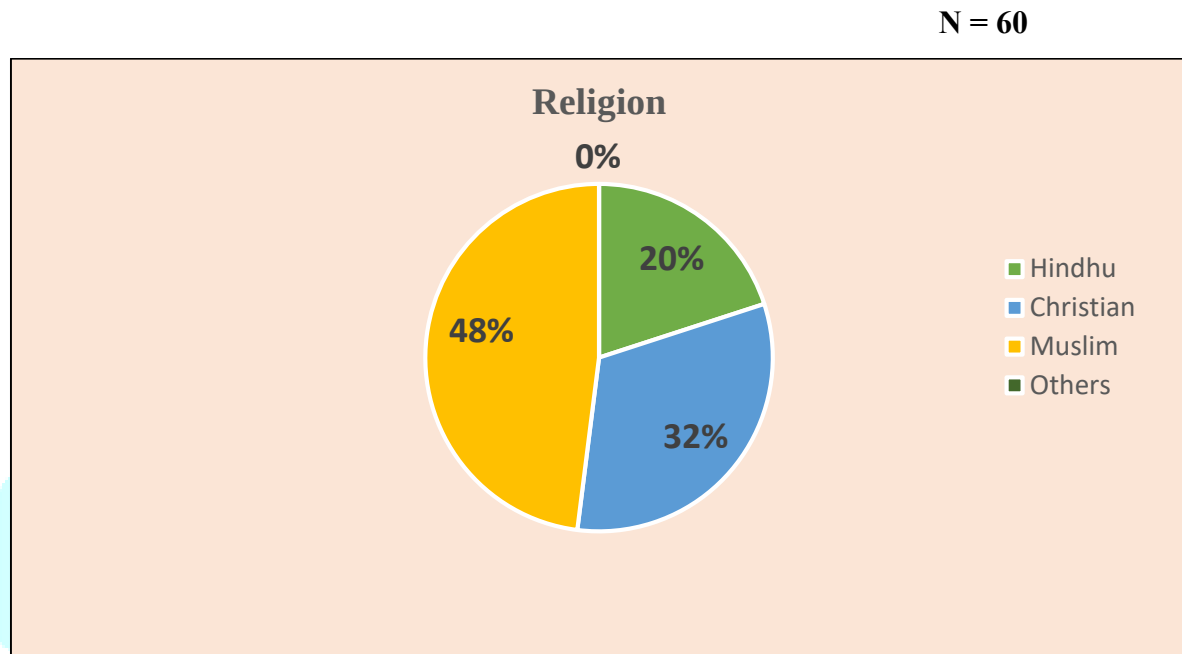


Figure 2: Percentage wise distribution of the sample according to Religion.

The data in the figure depicts the distribution of postnatal mothers according to their religion. Among the 60 postnatal mothers, the majority (48%) were Muslims, followed by 32% Christians and 20% Hindus. None of the participants (0%) belonged to the Other religion category.

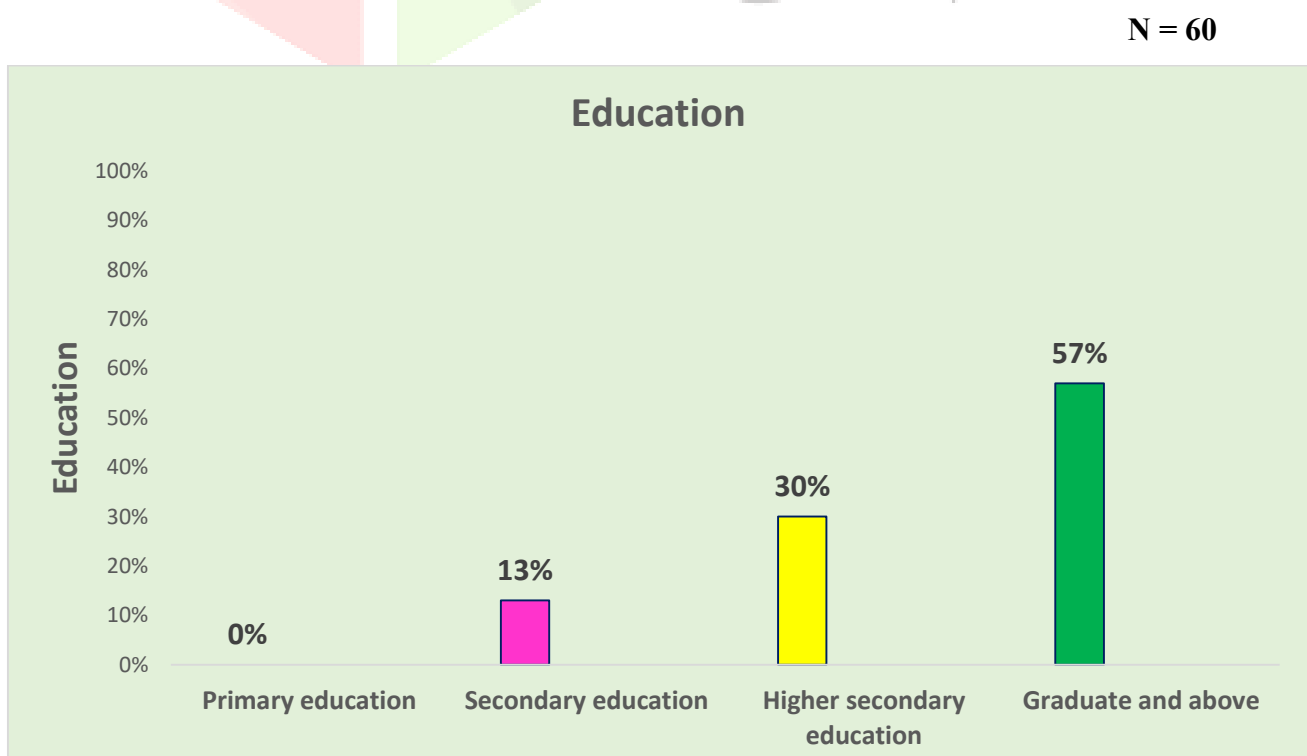


Figure 3: Percentage wise distribution of the sample according to Education.

The data in the figure illustrates the educational status of the participants. It shows that 57% of the participants were graduates or had education above graduation, making this the largest group. 30% had completed higher secondary education, while 13% had secondary education. None of the participants had only primary education (0%).

N = 60

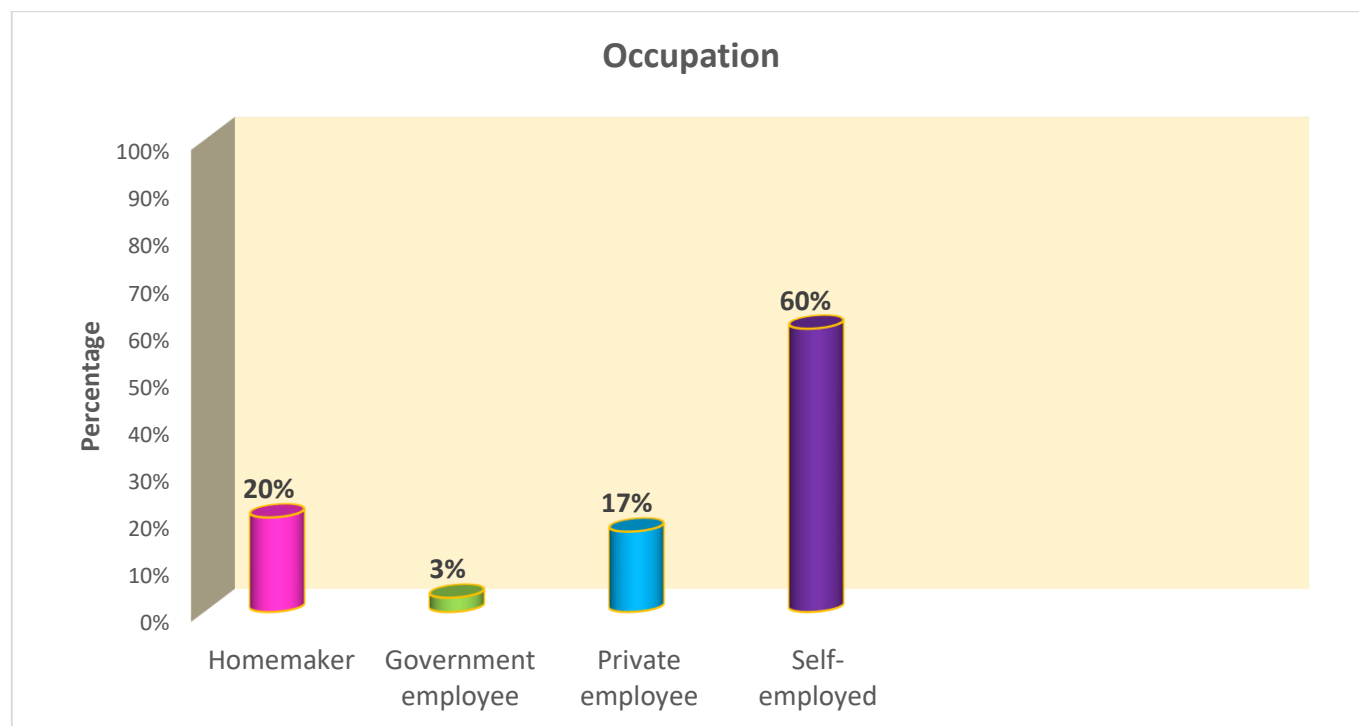


Figure 4: Percentage wise distribution of the sample according to Occupation.

The data in the figure depicts the occupational status of the participants. The majority of the participants (60%) were self-employed, representing the largest occupational group. 20% of the participants were homemakers, while 17% were private employees. Only 3% of the participants were government employees.

N = 60

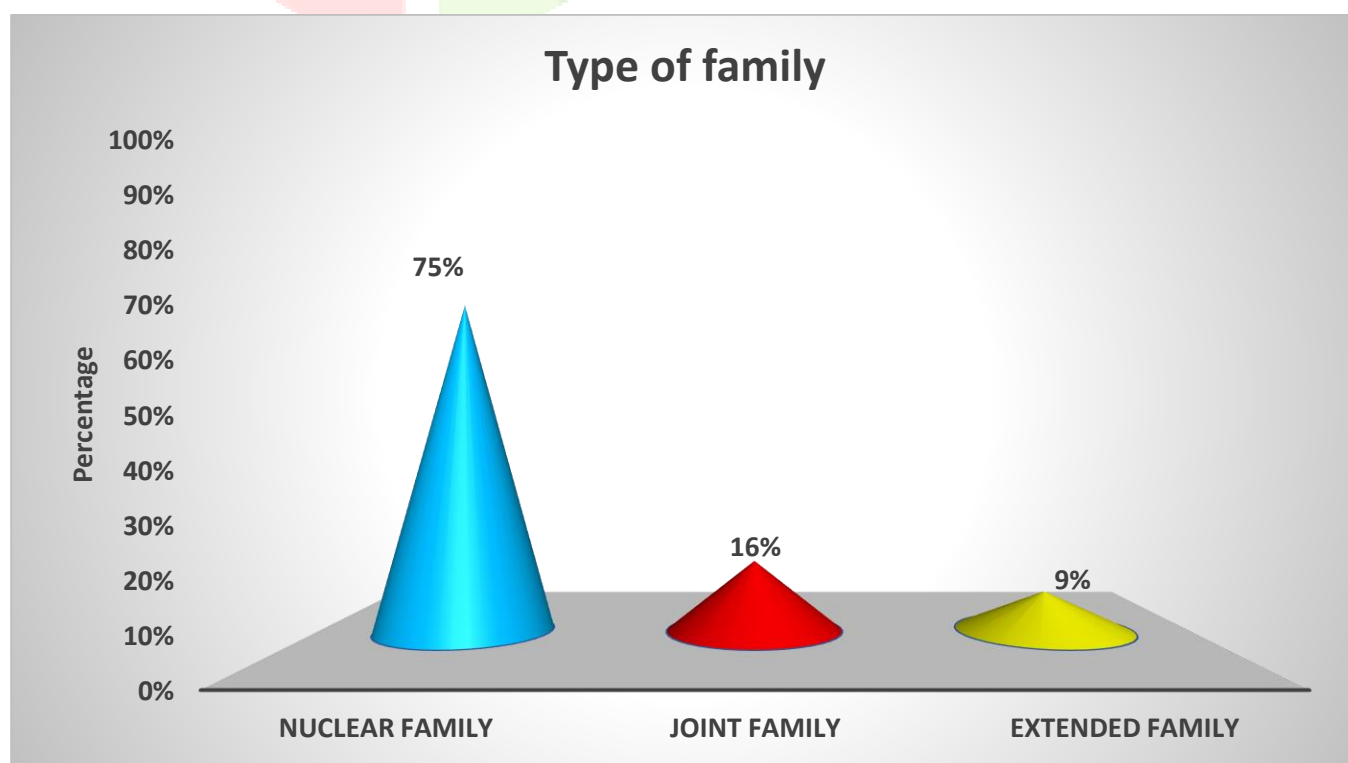


Figure 5: Percentage wise distribution of the sample according to Type of family.

The data in the figure illustrates the distribution of participants according to their type of family. The majority of the participants, 75%, belonged to a nuclear family. This was followed by 16% of participants who belonged to a joint family. Only 9% of the participants belonged to an extended family.

N = 60

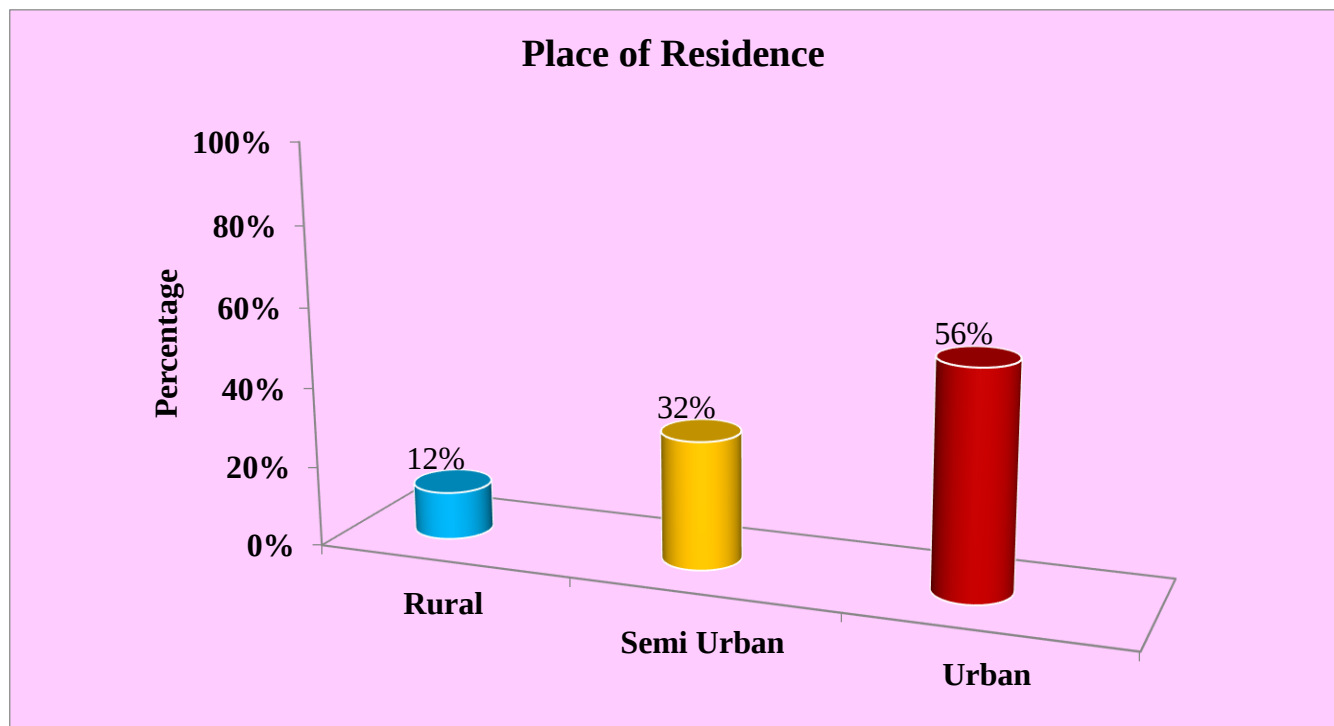


Figure 6: Percentage wise distribution of the sample according to Place of Residence.

Description:

The data in the figure depicts the percentage-wise distribution of the sample according to their place of residence. The findings reveal that the majority of the samples, 56%, were residing in urban areas, whereas 32% were from semi-urban areas. Only 12% of the samples were residing in rural areas.

N = 60

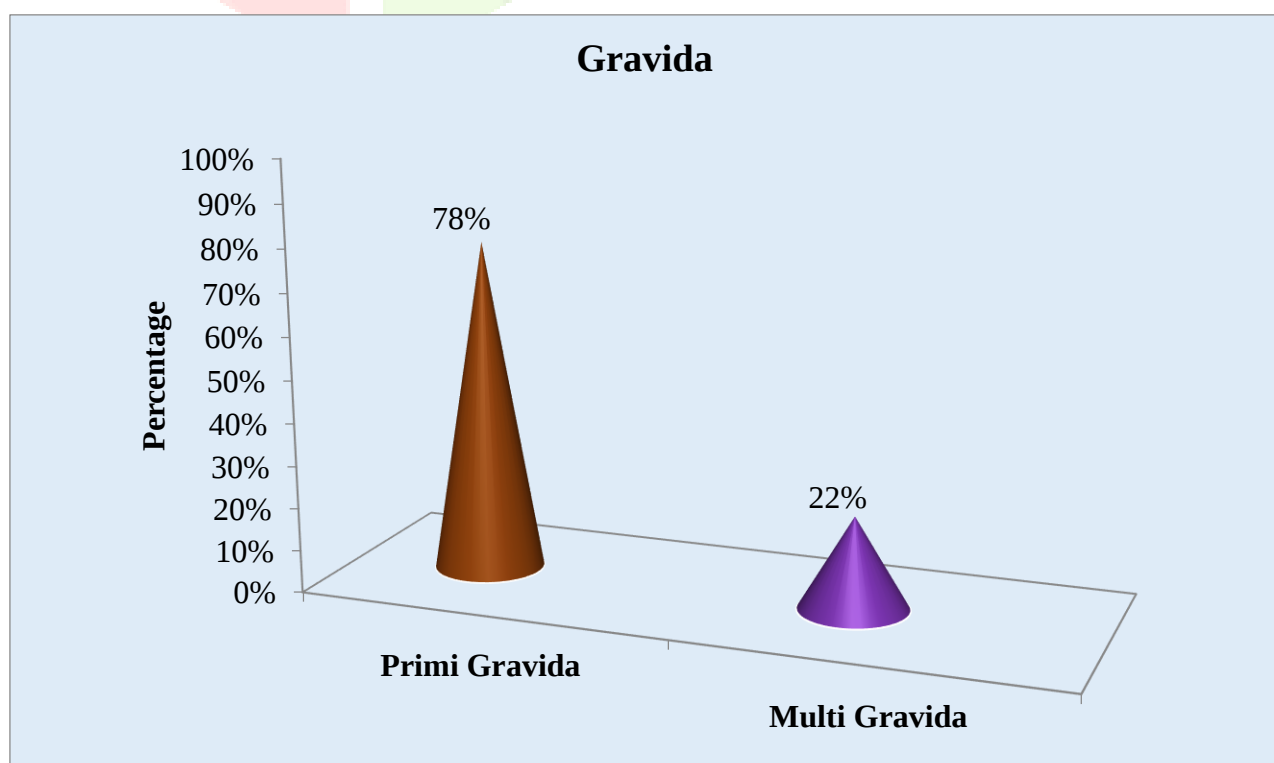


Figure 7: Percentage wise distribution of the sample according to Gravidity.

The data in the figure depicts the percentage-wise distribution of the samples according to their gravidity. The findings reveal that the majority of the samples, 78%, were primigravida, whereas 22% were multigravida. Thus, the majority of the study participants were primigravida mothers.

N = 60

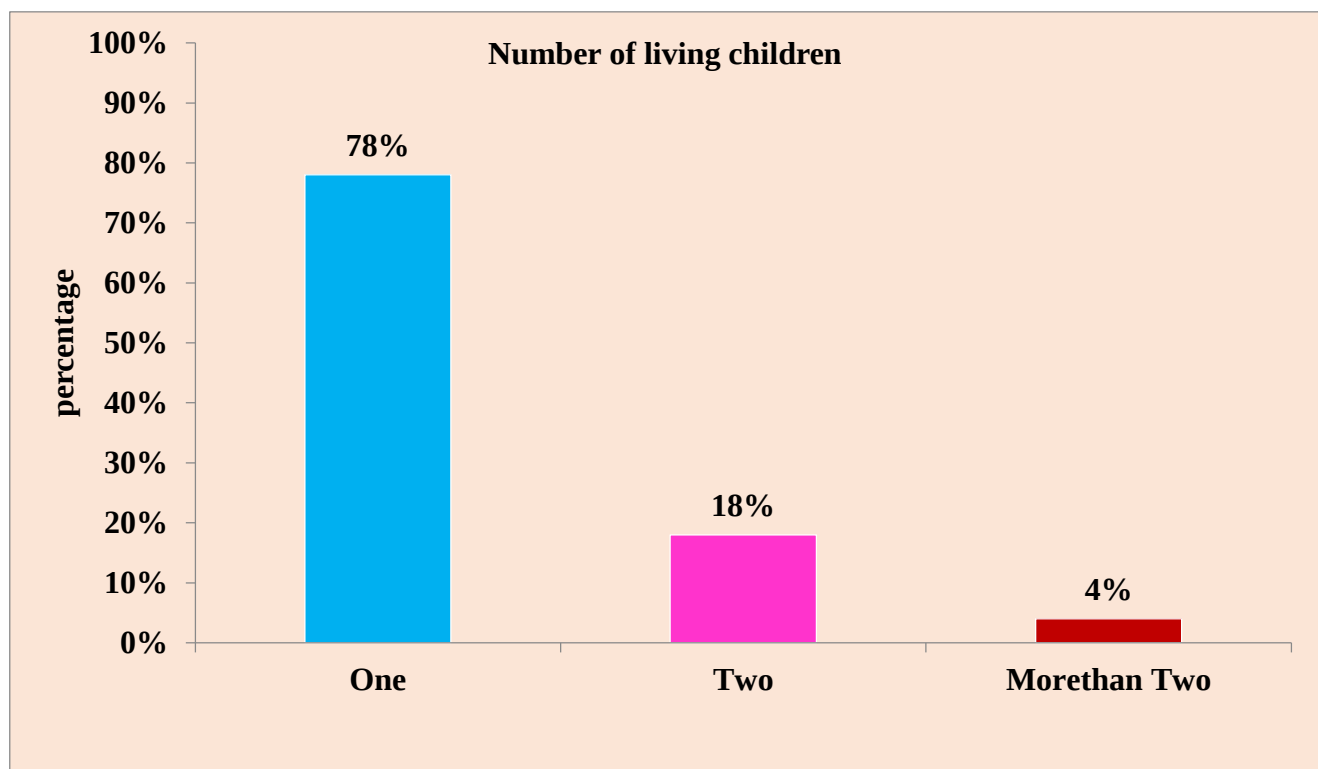


Figure 8: Percentage wise distribution of the sample according to Number of living children.

The data in the figure depicts the percentage-wise distribution of the samples according to the number of living children. The findings reveal that the majority of the samples, 78%, had one living child, whereas 18% had two living children. Only 4% of the samples had more than two living children.

N = 60

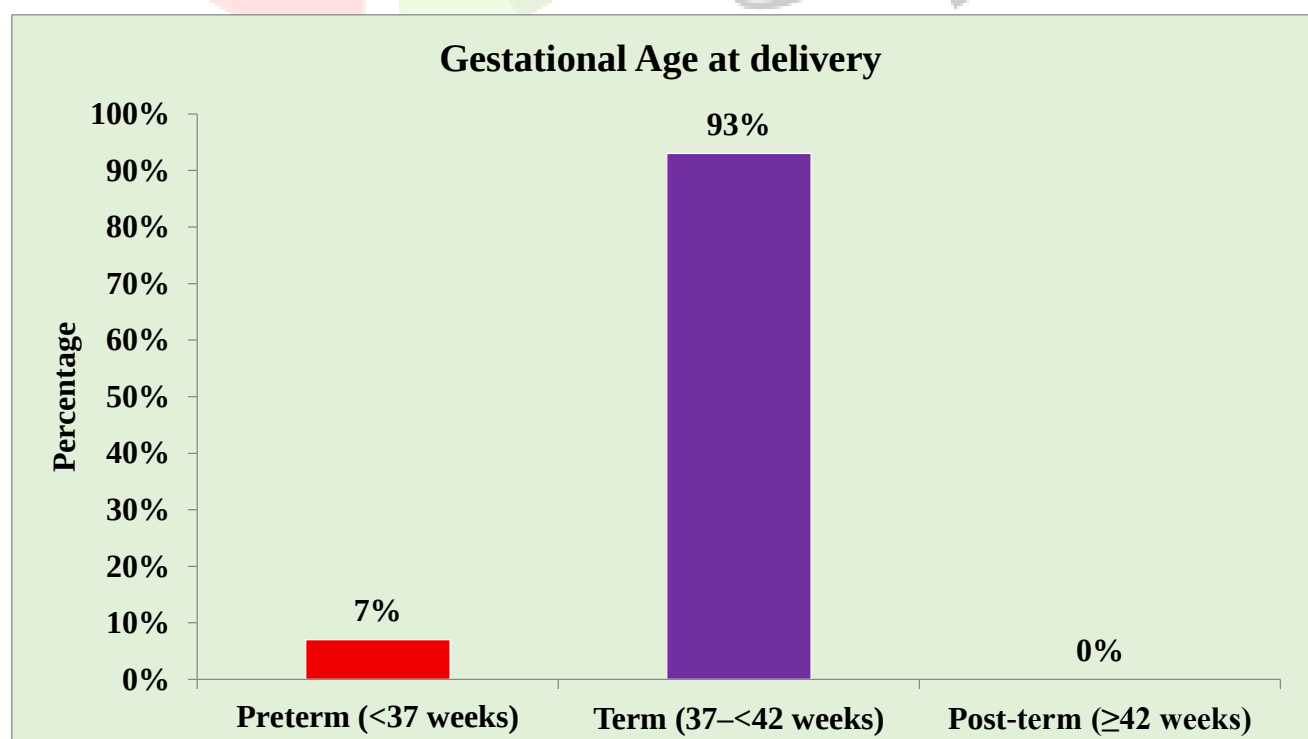


Figure 9: Percentage wise distribution of the sample according to Gestational age at delivery.

The data in the figure depicts the percentage-wise distribution of the samples according to gestational age at delivery. The findings reveal that the vast majority of the samples, 93%, had term deliveries (37–<42 weeks). Only 7% had preterm deliveries (<37 weeks), and none of the samples (0%) had post-term deliveries (≥ 42 weeks).

N = 60

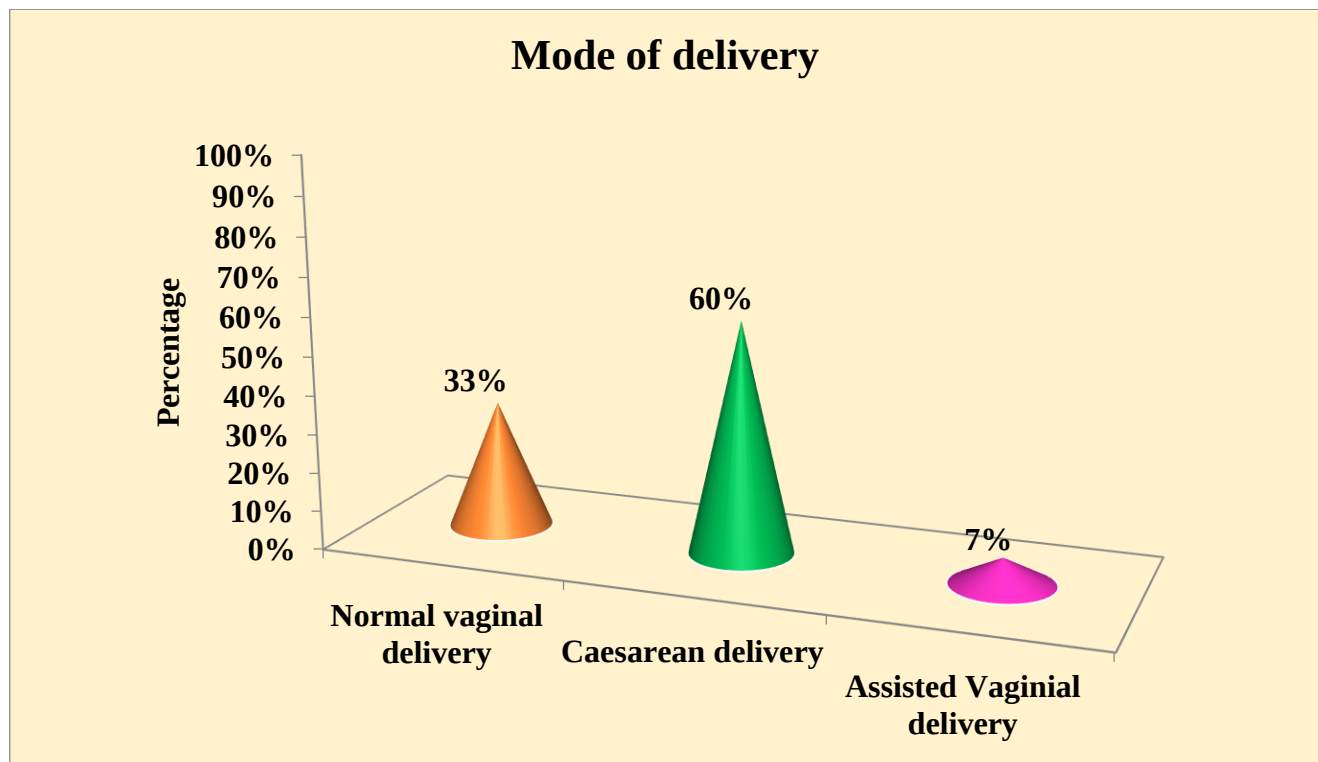


Figure 10: Percentage wise distribution of the sample according to Mode of delivery.

The data in the figure depicts the percentage-wise distribution of the samples according to the mode of delivery. The findings reveal that the majority of the samples, 60%, underwent caesarean delivery, whereas 33% had a normal vaginal delivery. Only 7% of the samples had an assisted vaginal delivery.

Section B: Description of knowledge scores of postnatal mothers regarding essential newborn care.

Table 2: Frequency and percentage distribution of pretest knowledge scores of postnatal mothers regarding essential newborn care.

N=60

Score	Range	Frequency	Percentage
0 - 10	Poor Knowledge	54	90 %
11 – 20	Average Knowledge	4	7 %
21 - 30	Good Knowledge	2	3 %
0 - 10	Excellent Knowledge	0	0 %

The data presented in Table 2 reveal that the majority of the participants (90%) had poor knowledge regarding essential newborn care during the pretest. Only 7% of the participants had average knowledge, while 3% had good knowledge. None of the participants had excellent knowledge regarding essential newborn care in the pretest.

Table 3: Frequency and percentage distribution of post-test knowledge scores of postnatal mothers regarding essential newborn care.

N=60

Score	Range	Frequency	Percentage
0 - 10	Poor Knowledge	0	0 %
11 – 20	Average Knowledge	2	3 %
21 - 30	Good Knowledge	28	47 %
0 - 10	Excellent Knowledge	30	50 %

The data presented in **Table 3** reveal that, in the post-test, none of the participants (0%) had poor knowledge, while only 3% had average knowledge. The majority of the participants demonstrated a higher level of knowledge, with 47% having good knowledge and 50% having excellent knowledge.

Section C: Effectiveness of the Instructional Teaching Programme on Knowledge of Postnatal Mothers Regarding Essential Newborn Care

This section describes the effectiveness of the Instructional Teaching Programme (ITP) in improving the knowledge of postnatal mothers regarding essential newborn care. The effectiveness of the Instructional Teaching Programme was assessed by comparing the mean pre-test and post-test knowledge scores. A paired 't'-test was used to determine the statistical significance of the difference between the pre-test and post-test knowledge scores of postnatal mothers.

Table 4: mean, standard deviation, 't' value of pretest and post-test knowledge scores of postnatal mothers regarding essential newborn care.

N = 60

	Mean	SD	't' value	Significance
Pretest	7.15	1.40	28.3	S
Post test	30.68	5.79		

t (59) = 2.001, Highly significant at 0.05 level of significance

The data presented in Table 4 reveal that the mean post-test knowledge score (30.68) was significantly higher than the mean pre-test knowledge score (7.15) regarding essential newborn care among postnatal mothers. The calculated paired 't'-value (28.3) was greater than the table value (2.00) at the 0.05 level of significance. Hence, the research hypothesis H_1 , stating that there will be a significant difference between the mean pre-test and post-test knowledge scores of postnatal mothers regarding essential newborn care, was accepted.

Section D: Association between the pre-test knowledge score of postnatal mothers and selected demographic and obstetric variables.

To assess the association between the pre-test knowledge score of postnatal mothers and selected demographic and obstetric variables, a Chi-square test was performed. The demographic variables considered for analysis included: age, religion, educational status, occupation, type of family, place of living, gravida, number of living children, Gestational age at delivery, and mode of delivery.

The following research hypothesis was formulated:

H₂: There will be a significant association between the pre-test knowledge score of postnatal mothers and selected demographic and obstetric variables.

Table 5: Association between pretest knowledge score of postnatal mothers and selected demographic and obstetric variables such as age, religion, educational status, occupation, type of family, place of living, gravida, number of living children, Gestational age at delivery, and mode of delivery.

N = 60

Sociodemographic and obstetric variables	Poor	Average	Good	Excellent	Chi square	df	Table value	Significance
Age								
<20 years	2	1	0	0	7.77	6	1259	NS
21–25 years	16	2	0	0				
26–30 years	29	1	1	0				
31–35 years	7	0	1	0				
>35 years	0	0	0	0				
Religion								
Hindu	8	3	1	0	11,17	4	9.49	S
Christian	17	1	1	0				
Muslim	29	0	0	0				
Others	0	0	0	0				
Educational status								
Primary education	0	0	0	0	3.35	4	9.49	NS
Secondary education	6	1	1	0				
Higher secondary education	17	1	0	0				
Graduate and above	31	2	1	0				
Occupation								
Homemaker	8	3	1	0	33.29	6	12.59	S
Government employee	0	1	1	0				
Private employee	10	0	0	0				
Self-employed	36	0	0	0				

Sociodemographic and obstetric variables	Poor	Average	Good	Excellent	Chi square	df	Table value	Significance
Type of Family								
Nuclear	42	2	1	0	3.72	4	9.49	NS
Joint	8	1	1	0				
Extended	4	1	0	0				
Place of residence								
Rural	5	1	1	0	4.89	4	9.49	NS
Semi Urban	17	1	1	0				
Urban	32	2	0	0				
Gravida								
Primigravida	43	3	1	0	1.03	2	5.99	NS
Multigravida	11	1	1	0				
Number of living children								
One	46	1		0	27.12	4	9.49	S
Two	9	1	1	0				
More than two	0	1	1	0				
Gestational age at delivery								
Preterm (<37 weeks)	3	1	0	0				
Term ($37\text{--} <42$ weeks)	51	3	2	0	2.41	2	5.99	NS
Post-term (≥ 42 weeks)	0	0	0	0				
Mode of delivery								
Normal vaginal delivery	16	3	1	0	10.70	4	9.49	S
Caesarean delivery	35	1		0				
Assisted vaginal delivery	3	0	1	0				

S = Significant at $p < 0.05$, NS = Not Significant at $p > 0.05$

The data presented in the table 5 reveal that there was a statistically significant association between the pre-test level of knowledge of postnatal mothers and selected sociodemographic and obstetrical variables, namely religion ($\chi^2 = 11.17$, $p = 0.025$), occupation ($\chi^2 = 33.29$, $p < 0.001$), number of living children ($\chi^2 = 27.12$, $p < 0.001$), and mode of delivery ($\chi^2 = 10.70$, $p = 0.030$), at the 0.05 level of significance. However, no statistically significant association was found between the pre-test level of knowledge and age, education, type of family, place of residence, gravida, and gestational age at delivery.

Therefore, the research hypothesis (H_2), which stated that there would be a significant association between the pre-test knowledge scores of postnatal mothers and selected sociodemographic and obstetrical variables, was partially accepted, as a statistically significant association was observed only with selected variables.

IV. DISCUSSION

This section describes the effectiveness of the Instructional Teaching Programme (ITP) in improving the knowledge of postnatal mothers regarding essential newborn care. To achieve the objectives of the study, a pre-experimental one-group pre-test–post-test design was adopted. A total of 60 postnatal mothers were selected using a non-probability purposive sampling technique. The effectiveness of the Instructional Teaching Programme was assessed by comparing the mean pre-test and post-test knowledge scores. A paired t-test was used to determine the statistical significance of the difference between the pre-test and post-test knowledge scores of postnatal mothers.

The findings revealed that the mean post-test knowledge score (30.68 ± 5.79) was significantly higher than the mean pre-test knowledge score (7.15 ± 1.40) regarding essential newborn care among postnatal mothers. The calculated paired t-value (28.3) was greater than the table value (2.00) at the 0.05 level of significance. This finding indicates that the Instructional Teaching Programme was effective in significantly improving the knowledge of postnatal mothers regarding essential newborn care.

Further, the study findings revealed a statistically significant association between the pre-test level of knowledge of postnatal mothers and selected sociodemographic and obstetrical variables, namely religion ($\chi^2 = 11.17$), occupation ($\chi^2 = 33.29$), number of living children ($\chi^2 = 27.12$), and mode of delivery ($\chi^2 = 10.70$), at the 0.05 level of significance. In contrast, no statistically significant association was observed between the pre-test level of knowledge and age ($\chi^2 = 7.77$), education ($\chi^2 = 3.35$), type of family ($\chi^2 = 3.72$), place of residence ($\chi^2 = 4.89$), gravida ($\chi^2 = 1.03$), and gestational age at delivery ($\chi^2 = 2.41$).

The findings of the present study are supported by a recent study conducted by Srileekha and Jyothi (2026) among 50 postnatal mothers at Cheluvamba Hospital, Mysuru, Karnataka. The study adopted a pre-experimental one-group pre-test–post-test design and evaluated the effectiveness of a Structured Teaching Programme regarding essential newborn care. The findings revealed that the mean post-test knowledge score (30.02 ± 2.44), representing 81.1%, was significantly higher than the mean pre-test knowledge score (18.30 ± 3.54), representing 49.5%. The calculated t-test showed a statistically significant improvement in the knowledge of postnatal mothers at the 0.05 level of significance.

The supportive study also reported a statistically significant association between the pre-test knowledge scores of postnatal mothers and selected demographic variables, including age, religion, area of residence,

parity, age at marriage, and previous exposure to health information. Thus, the findings of the supportive study are consistent with the present study, as both studies demonstrated a significant improvement in the knowledge of postnatal mothers following the implementation of a structured educational intervention. The findings further emphasize the importance and effectiveness of planned teaching programmes in enhancing the knowledge of postnatal mothers regarding essential newborn care.

V. CONCLUSION

The present study was conducted to evaluate the effectiveness of an Instructional Teaching Programme (ITP) on the knowledge of postnatal mothers regarding essential newborn care and to determine the association between the pre-test level of knowledge and selected sociodemographic and obstetrical variables. A pre-experimental one-group pre-test–post-test research design was adopted for the study. A total of 60 postnatal mothers were selected using a non-probability purposive sampling technique.

The findings of the study demonstrated a substantial improvement in the knowledge of postnatal mothers regarding essential newborn care following the implementation of the Instructional Teaching Programme. The mean post-test knowledge score (30.68 ± 5.79) was considerably higher than the mean pre-test knowledge score (7.15 ± 1.40). The calculated paired t-value of 28.3 was greater than the table value of 2.00 at the 0.05 level of significance, indicating a statistically significant difference between the pre-test and post-test knowledge scores. Therefore, the findings clearly demonstrate that the Instructional Teaching Programme was effective in improving the knowledge of postnatal mothers regarding essential newborn care. The findings further revealed that the level of knowledge of postnatal mothers was significantly associated with selected sociodemographic and obstetrical variables. A statistically significant association was observed between the pre-test level of knowledge and religion ($\chi^2 = 11.17$), occupation ($\chi^2 = 33.29$), number of living children ($\chi^2 = 27.12$), and mode of delivery ($\chi^2 = 10.70$) at the 0.05 level of significance. These findings suggest that certain sociodemographic and obstetrical characteristics may influence the baseline knowledge of postnatal mothers regarding essential newborn care.

However, no statistically significant association was observed between the pre-test level of knowledge and age ($\chi^2 = 7.77$), education ($\chi^2 = 3.35$), type of family ($\chi^2 = 3.72$), place of residence ($\chi^2 = 4.89$), gravida ($\chi^2 = 1.03$), and gestational age at delivery ($\chi^2 = 2.41$). This indicates that the baseline knowledge regarding essential newborn care was not significantly influenced by these variables in the present study.

Overall, the findings of the study emphasize the importance of providing systematic and structured health education to postnatal mothers during the postnatal period. The significant increase in the mean knowledge score from 7.15 ± 1.40 in the pre-test to 30.68 ± 5.79 in the post-test, along with the highly significant paired t-value of 28.3, provides strong evidence regarding the effectiveness of the Instructional Teaching Programme. The programme was found to be useful in enhancing the knowledge of postnatal mothers regarding essential newborn care and may therefore be incorporated as an important component of routine postnatal education services.

Based on the findings, the research hypothesis (H_1), stating that there would be a significant difference between the pre-test and post-test knowledge scores of postnatal mothers regarding essential newborn care

after the administration of the Instructional Teaching Programme, was accepted. The research hypothesis (H_2), stating that there would be a significant association between the pre-test level of knowledge of postnatal mothers and selected sociodemographic and obstetrical variables, was partially accepted, as significant associations were observed only with religion, occupation, number of living children, and mode of delivery. In conclusion, the Instructional Teaching Programme was found to be an effective educational intervention for improving the knowledge of postnatal mothers regarding essential newborn care. The findings highlight the need for planned, structured, and comprehensive educational programmes for postnatal mothers to enhance their knowledge and enable them to provide appropriate and effective care to their newborns. Thus, the study supports the integration of structured educational interventions into routine postnatal care services to promote maternal knowledge and contribute to improved newborn care practices and health outcomes.

VI. Limitations and Recommendations

The study is limited to small sample size and confined to single setting. The study can be carried out on large samples and at different settings.

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Conflict of interest: There is no conflicts of interest

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