

# A Study to Evaluate the Effectiveness of an Instructional Module on Knowledge, Attitude, and Practice Regarding Breast Complications Among Primi Mothers

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## Abstract

**Background:** Primiparous mothers often experience heightened vulnerability to postpartum breast complications, including breast engorgement, sore or cracked nipples, plugged ducts, and mastitis. These complications stem primarily from inadequate practical experience, improper latching mechanics, and insufficient anticipatory guidance during the early postnatal period.

**Objective:** To evaluate the effectiveness of a structured instructional module on knowledge, attitude, and self-reported practice regarding breast complications among primiparous mothers.

**Methods:** A quantitative evaluative research approach with a quasi-experimental pre-test and post-test non-equivalent control group design was utilized. A total of 120 primiparous mothers (60 in the experimental group and 60 in the control group) were recruited via purposive sampling from postnatal wards of tertiary care healthcare facilities. A validated self-administered structured questionnaire and observational checklist were used to assess knowledge, attitude, and practice (KAP) before and 14 days after the administration of a standardized instructional module. Descriptive and inferential statistics (t-test, Chi-square test, and Pearson's correlation) were employed for data analysis.

**Results:** At pre-test, both groups demonstrated predominantly low-to-moderate knowledge, unfavorable-to-neutral attitudes, and inadequate self-care practices regarding early detection and management of breast complications. Following the instructional module, the experimental group exhibited a significant increase in mean knowledge scores from 11.42 to 23.85 (p < 0.001), mean attitude scores from 28.60 to 44.15 (p < 0.001), and practice performance scores from 8.25 to 18.40 (p < 0.001). In contrast, the control group showed no significant gains. A strong positive correlation was observed between post-test knowledge and post-test practice (r = 0.74, p < 0.001).

**Conclusion:** The structured instructional module served as a highly effective, non-invasive nursing intervention that significantly elevated primiparous mothers' knowledge, fostered positive self-care attitudes, and improved practical skills in preventing and managing early postpartum breast complications.

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## Introduction & Background

The immediate postpartum period presents a pivotal biological and psychological transition for primiparous women (Sharma et al., 2021). While maternal lactogenesis is a natural physiological process, the technical execution of successful breastfeeding requires acquisition of physical skills, sensory adaptations, and anatomical understanding (World Health Organization, 2023). First-time mothers (primi mothers) frequently face heightened difficulties during early lactation due to lack of

previous experience, inadequate antenatal preparation, anxiety, and unaddressed physiological challenges (Gupta et al., 2020).

Breast complications during the puerperium represent one of the leading maternal causes for premature discontinuation of exclusive breastfeeding worldwide (Amir et al., 2014; World Health Organization, 2023). Among these, **breast engorgement**—characterized by painful vascular and lymphatic congestion along with milk stasis—typically peaks between the second and fifth

postpartum days (Kvist et al., 2007). When engorgement is managed improperly, it frequently cascades into secondary conditions such as **nipple fissures**, **plugged lactiferous ducts**, infectious or non-infectious **mastitis**, and ultimately **breast abscess formation** (Crepinsek et al., 2012; Spencer, 2020).

The diagram above emphasizes the multifaceted physiological and maternal advantages of successful lactation, ranging from uterine involution to long-term reduction in oncological risks (Ip et al., 2007). However, when painful breast complications arise, mothers frequently experience severe physical distress, elevated anxiety, postpartum emotional vulnerability, and bonding interruptions with their newborns (Chaves et al., 2019).

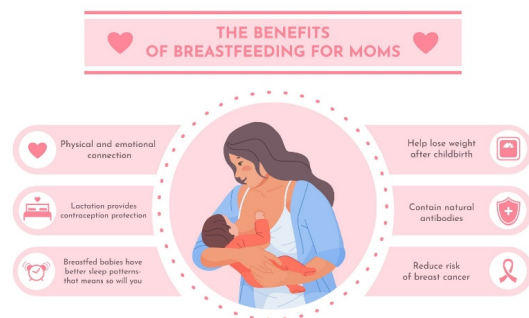


Figure 1: Systemic and maternal health benefits of optimal lactation management.

In clinical practice, a significant proportion of these complications are preventable through timely educational interventions focusing on correct latching dynamics, frequent breast emptying, thermal therapy application, hygiene, and early symptom recognition (Balkam et al., 2011). Instructional modules—combining visual visual aids, practical demonstration, and clear printed guides—provide a standardized, reproducible mechanism for empowering primiparous women with actionable self-care skills (Kumar et al., 2019).

### Conceptual Framework & Study Objectives

This study was anchored in Nola Pender's Health Promotion Model (HPM), which posits that individual characteristics, prior experiences, and personal cognitive-affective factors directly drive health-promoting behaviors.

### Primary Objectives

- To assess baseline levels of knowledge, attitude, and practice regarding breast

complications among primiparous mothers in both experimental and control groups.

- To evaluate the effectiveness of an instructional module by comparing pre-test and post-test KAP scores within and between groups.
- To determine the correlation between post-test knowledge, attitude, and practice scores among primiparous mothers.
- To identify associations between baseline KAP scores and selected socio-demographic variables.

### Pathophysiology of Common Breast Complications

Understanding the pathological progression from mild physiological fullness to severe tissue infection is critical for early nursing intervention.

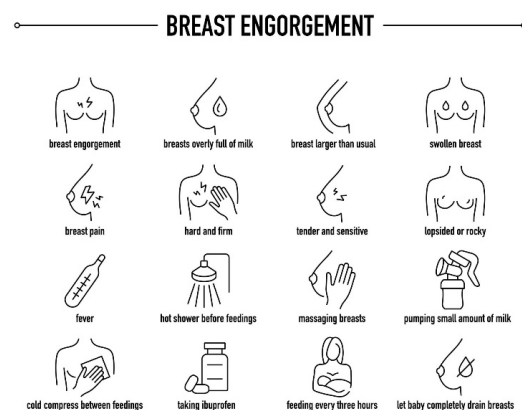


Figure 2: Symptoms and management pathways for breast engorgement

As illustrated above, **breast engorgement** develops when interstitial fluid accumulation and venous congestion impede normal glandular outflow, resulting in firm, edematous, and exquisitely tender tissue (Snowden et al., 2010). If the infant fails to remove milk efficiently, intramammary pressure escalates, compressing the lactiferous ducts and impairing local microvascular perfusion (Berens et al., 2016).

If milk stasis persists alongside epidermal trauma from improper positioning, pathogens—most commonly *Staphylococcus aureus* or *Streptococcus* species—can enter through cracked nipple surfaces (Dixon et al., 2015).

## MASTITIS

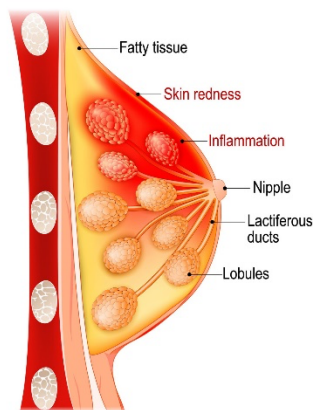


Figure 3: Anatomical cross-section of mastitis and ductal inflammation.

As shown in the anatomical model above, **mastitis** involves intense localized inflammation of the lobules and connective tissue, accompanied by systemic fever, chills, erythema, and severe localized pain (Lamont et al., 2014). Without prompt therapeutic positioning, manual expression, and targeted antimicrobial therapy when indicated, parenchymal destruction can lead to localized purulent fluid collection, culminating in a breast abscess (Boakes et al., 2018).

Preventing this cascade hinges on proper latch mechanics from the very first feed.

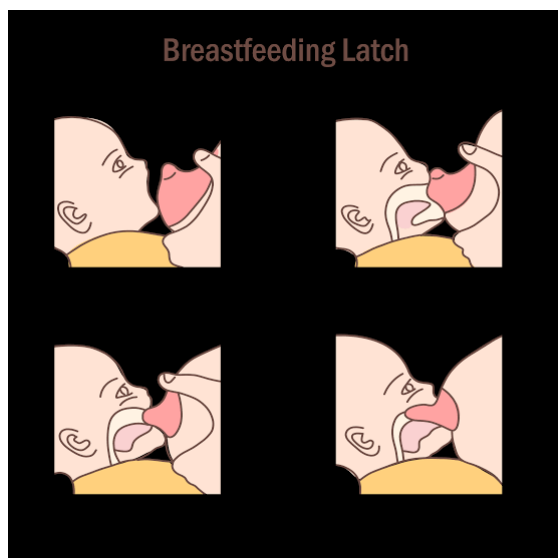


Figure4: Asymmetrical latch technique for friction reduction and complete ductal emptying.

The illustration above demonstrates the **asymmetrical latch technique**, where the infant takes a wide mouthful of the lower areola, ensuring the nipple rests deep against the soft palate (Cadwell et al., 2017). This alignment prevents mechanical friction against the nipple shaft, drastically reducing sore/cracked nipples while promoting effective gland evacuation (Ahn et al., 2011).

## Methodology

### Study Design and Setting

A quantitative, quasi-experimental non-equivalent pre-test/post-test control group design was conducted across two tertiary teaching hospitals over a six-month period from September 2025 to February 2026. Hospital A served as the experimental setting, while Hospital B served as the control setting to prevent contamination of information among participants.

### Sample and Sampling Technique

A total sample of 120 primiparous mothers (60 per group) was determined using G\*Power software version 3.1.9, assuming an effect size of  $d = 0.55$ ,  $\alpha = 0.05$ , and a statistical power of 0.85. Participants were selected through purposive sampling based on the following criteria:

- **Inclusion Criteria:** Primiparous mothers within 24 to 72 hours post-delivery, admitted to the postnatal ward, planning to breastfeed, and able to read/understand the local language or English.
- **Exclusion Criteria:** Mothers with congenital breast malformations, active psychiatric illness, severe medical/surgical complications, or infants admitted to the Neonatal Intensive Care Unit (NICU) with major congenital anomalies preventing direct breastfeeding.

### Description of the Intervention (Instructional Module)

The **Instructional Module on Postpartum Breast Self-Care** was developed by the research team following an extensive review of evidence-based lactation guidelines (World Health Organization, 2023; Academy of Breastfeeding Medicine, 2022). It was validated by a panel of seven experts comprising obstetricians, pediatricians, lactational consultants, and senior nurse educators (Content Validity Index = 0.92).

The module comprised:

1. **Interactive Teaching Session (35 minutes):** Audio-visual presentation covering breast anatomy, recognition of early complication warning signs (engorgement, nipple trauma, plug ducts, mastitis), correct positioning/latch techniques, hygiene, and home remedies (reverse pressure softening, warm/cold compresses, expressed breast milk application).
2. **Demonstration & Redemonstration (20 minutes):** Hands-on coaching using breast anatomical models and infant simulators to demonstrate latch alignment, manual expression, and gentle lymph drainage massage.
3. **Illustrated Reference Booklet:** A pocket guide written at an 8th-grade reading level containing high-resolution visual diagrams and step-by-step self-care instructions provided for home reference.

The control group received routine institutional discharge counseling provided by the ward nursing staff.

#### Data Collection Instruments

Data were collected using three validated tools:

- **Tool I: Socio-Demographic and Clinical Proforma:** Evaluated age, education, occupation, residence, mode of delivery, antenatal attendance, and prior exposure to breastfeeding counseling.
- **Tool II: Structured Knowledge Questionnaire:** Included 30 multiple-choice items covering causes, clinical features, prevention, and management of breast complications (Score range: 0–30).
- **Tool III: Likert-Type Attitude Scale:** Consisted of 10 items scored on a 5-point Likert scale (Strongly Agree to Strongly Disagree) measuring maternal confidence, perceptions, and willingness to perform self-care (Score range: 10–50).
- **Tool IV: Observational Practice Checklist:** Evaluated 20 specific self-care and breastfeeding technique behaviors (Score range: 0–20).

#### Results & Statistical Analysis

Data were coded, entered into MS Excel, and analyzed using IBM SPSS Statistics Version 28.0. Descriptive statistics (frequencies, percentages, mean, standard deviation) and inferential statistics (paired t-test, independent t-test, Chi-square test) were applied.

#### Baseline Socio-Demographic Characteristics

Table 1 outlines the demographic distribution of participants across both groups. Statistical analysis confirmed that both groups were homogenous with no significant baseline demographic differences ( $p > 0.05$ ).

**Table 1: Socio-Demographic Profile of Participants (N = 120)**

| Variable             | Categories | Experimental Group<br>(n=60) | Control Group<br>(n=60) | Chi-Square / p-value |      |
|----------------------|------------|------------------------------|-------------------------|----------------------|------|
|                      |            |                              |                         | χ <sup>2</sup>       | p    |
| Maternal Age (Years) | 18 - 24    | 28 (46.7%)                   | 30 (50.0%)              | 0.02                 | 0.89 |
|                      | 25 - 30    | 26 (43.3%)                   | 22 (36.7%)              | 2.4                  | (NS) |
|                      | > 30       |                              | 1                       | 1.4                  |      |

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| Va<br>ria<br>ble                               | Cat<br>ego<br>ries              | Exp<br>erim<br>enta<br>l<br>Gro<br>up<br>(n=6<br>0) | C<br>on<br>tr<br>ol<br>G<br>ro<br>up<br>(n<br>=6<br>0) | $\chi^2$<br>/<br>t-<br>v<br>al<br>u<br>e | p<br>-<br>v<br>al<br>u<br>e |
|------------------------------------------------|---------------------------------|-----------------------------------------------------|--------------------------------------------------------|------------------------------------------|-----------------------------|
|                                                |                                 | 6<br>(10.0<br>%)                                    | 7<br>(%)<br><br>5<br>(8.<br>3<br>%)                    |                                          |                             |
| <b>Ed<br/>uca<br/>tio<br/>n<br/>Le<br/>vel</b> | Pri<br>mar<br>y /<br>Mid<br>dle | 12<br>(20.0<br>%)                                   | 14<br>(2<br>3.<br>3<br>%)                              | 0.<br>2<br>0<br>1                        | 0.<br>9<br>0<br>4<br>(<br>N |

| Va<br>ria<br>ble | Cat<br>ego<br>ries                                  | Exp<br>erim<br>enta<br>l<br>Gro<br>up<br>(n=6<br>0) | C<br>on<br>tr<br>ol<br>G<br>ro<br>up<br>(n<br>=6<br>0)     | $\chi^2$<br>/<br>t-<br>v<br>al<br>u<br>e | p<br>-<br>v<br>al<br>u<br>e |
|------------------|-----------------------------------------------------|-----------------------------------------------------|------------------------------------------------------------|------------------------------------------|-----------------------------|
|                  | Hig<br>h<br>Sch<br>ool /<br>Dipl<br>oma             | 28<br>(46.7<br>%)<br><br>20<br>(33.3<br>%)          | 27<br>(4<br>5.<br>0<br>%)<br><br>19<br>(3<br>1.<br>7<br>%) |                                          | S<br>)                      |
|                  | Gra<br>duat<br>e /<br>Post<br>-<br>Gra<br>duat<br>e |                                                     |                                                            |                                          |                             |

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| Va<br>ria<br>ble                    | Cat<br>ego<br>ries      | Exp<br>erim<br>enta<br>l<br>Gro<br>up<br>(n=6<br>0) | C<br>on<br>tr<br>ol<br>G<br>ro<br>up<br>(n<br>=6<br>0) | $\chi^2$<br>/<br>t-<br>v<br>al<br>u<br>e | p<br>-<br>v<br>al<br>u<br>e |
|-------------------------------------|-------------------------|-----------------------------------------------------|--------------------------------------------------------|------------------------------------------|-----------------------------|
| Ar<br>ea<br>of<br>Res<br>ide<br>nce | Urb<br>an               | 34<br>(56.7<br>%)                                   | 32<br>(53.3<br>%)                                      | 0.13                                     | 0.71                        |
|                                     | Rur<br>al               | 26<br>(43.3<br>%)                                   | 28<br>(46.7<br>%)                                      |                                          | (NS)                        |
| Mo<br>de<br>of<br>Del               | Spo<br>ntan<br>eou<br>s | 38<br>(63.3<br>%)                                   | 36<br>(60.0<br>%)                                      | 0.11                                     | 0.710                       |

| Va<br>ria<br>ble | Cat<br>ego<br>ries                                             | Exp<br>erim<br>enta<br>l<br>Gro<br>up<br>(n=6<br>0) | C<br>on<br>tr<br>ol<br>G<br>ro<br>up<br>(n<br>=6<br>0) | $\chi^2$<br>/<br>t-<br>v<br>al<br>u<br>e | p<br>-<br>v<br>al<br>u<br>e |
|------------------|----------------------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------|------------------------------------------|-----------------------------|
| ive<br>ry        | Vag<br>inal                                                    | 22<br>(36.7<br>%)                                   | 0<br>(0%)                                              | 3.8                                      | (NS)                        |
|                  | Lo<br>wer<br>Seg<br>men<br>t<br>Ces<br>area<br>n<br>(LS<br>CS) |                                                     | 24<br>(40.0<br>%)                                      |                                          |                             |

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| Variable                           | Categories | Experimental Group<br>(n=60) | Control Group<br>(n=60) | $\chi^2$ / t-value | p-value |
|------------------------------------|------------|------------------------------|-------------------------|--------------------|---------|
| Antenatal Education on Breast Care | Yes        | 14<br>(23.3%)                | 16<br>(26.7%)           | 0.1180             | 0.671   |
|                                    | No         | 46<br>(76.7%)                | 44<br>(73.3%)           |                    |         |

NS = Not Significant ( $p > 0.05$ )

**Comparison of Knowledge, Attitude, and Practice Scores**

At pre-test baseline, both groups exhibited low mean knowledge, neutral-to-unfavorable attitudes, and

poor practice scores. Following the administration of the instructional module, the experimental group demonstrated a statistically significant increase across all three domains on day 14 ( $p < 0.001$ ).

**Table 2: Intra-Group and Inter-Group Comparison of Pre-test and Post-test KAP Scores (N = 120)**

| Domain    | Group        | Pre-test Mean $\pm$ SD | Post-test Mean $\pm$ SD | Mean Difference | p-value |
|-----------|--------------|------------------------|-------------------------|-----------------|---------|
| Knowledge | Experimental | 11.43                  | 23.5                    | 12.07           | < 0.001 |

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| D<br>o<br>m<br>a<br>i<br>n            | Gr<br>ou<br>p   | P<br>r<br>e<br>-<br>t<br>e<br>s<br>t<br>M<br>e<br>a<br>n<br>±<br>S<br>D | P<br>o<br>s<br>t<br>-<br>t<br>e<br>s<br>t<br>M<br>e<br>a<br>n<br>±<br>S<br>D | M<br>e<br>a<br>n<br>D<br>i<br>f<br>f<br>e<br>r<br>e<br>n<br>c<br>e | P<br>a<br>i<br>r<br>e<br>d<br>-<br>t<br>e<br>s<br>t | p<br>-<br>v<br>a<br>l<br>u<br>e           |
|---------------------------------------|-----------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------|
| (M<br>ax<br>Sc<br>or<br>e:<br>30<br>) | Co<br>ntr<br>ol | 3<br>.<br>1<br>8                                                        | 2<br>.<br>4<br>2                                                             | 0.<br>75                                                           | 1<br>.<br>4<br>2                                    | 0<br>.<br>1<br>6<br>1<br>(<br>N<br>S<br>) |
|                                       |                 | 1<br>.<br>1<br>8                                                        | 1<br>.<br>2<br>6                                                             |                                                                    |                                                     |                                           |

| D<br>o<br>m<br>a<br>i<br>n | Gr<br>ou<br>p   | P<br>r<br>e<br>-<br>t<br>e<br>s<br>t<br>M<br>e<br>a<br>n<br>±<br>S<br>D | P<br>o<br>s<br>t<br>-<br>t<br>e<br>s<br>t<br>M<br>e<br>a<br>n<br>±<br>S<br>D | M<br>e<br>a<br>n<br>D<br>i<br>f<br>f<br>e<br>r<br>e<br>n<br>c<br>e | P<br>a<br>i<br>r<br>e<br>d<br>-<br>t<br>e<br>s<br>t | p<br>-<br>v<br>a<br>l<br>u<br>e |
|----------------------------|-----------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------|---------------------------------|
|                            |                 | 5<br>p<br>m<br>3<br>.<br>0<br>2                                         | 0<br>p<br>m<br>2<br>.<br>8<br>8                                              |                                                                    |                                                     |                                 |
| At<br>tit                  | Ex<br>per<br>im | 2<br>8<br>.<br>6                                                        | 4<br>4<br>.<br>1                                                             | 15<br>.5<br>5                                                      | 2<br>2<br>.<br>.                                    | <<br>0<br>.<br>0                |



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[illegible]

| D<br>o<br>m<br>a<br>i<br>n | Gr<br>o<br>u<br>p | P<br>r<br>e<br>-<br>t<br>e<br>s<br>t<br>M<br>e<br>a<br>n<br>±<br>S<br>D | P<br>o<br>s<br>t<br>-<br>t<br>e<br>s<br>t<br>M<br>e<br>a<br>n<br>±<br>S<br>D | M<br>e<br>a<br>n<br>D<br>i<br>f<br>f<br>e<br>r<br>e<br>n<br>c<br>e | P<br>a<br>i<br>r<br>e<br>d<br>-<br>t<br>e<br>s<br>t | p<br>-<br>v<br>a<br>l<br>u<br>e |
|----------------------------|-------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------|---------------------------------|
| 50<br>)                    |                   | 2<br>9<br>.<br>1<br>0<br>p<br>m<br>3<br>.<br>8<br>5                     | 3<br>0<br>.<br>2<br>5<br>p<br>m<br>3<br>.<br>6<br>2                          |                                                                    |                                                     | N<br>S<br>)                     |

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|                      |                              | P<br>r<br>e<br>-<br>t<br>e<br>s<br>t<br>M<br>e<br>a<br>n<br>±<br>S<br>D | P<br>o<br>s<br>t<br>-<br>t<br>e<br>s<br>t<br>M<br>e<br>a<br>n<br>±<br>S<br>D | M<br>e<br>a<br>n<br>D<br>i<br>f<br>f<br>e<br>r<br>e<br>n<br>c<br>e | P<br>a<br>i<br>r<br>e<br>d<br>-<br>t<br>e<br>s<br>t | p<br>-<br>v<br>a<br>l<br>u<br>e               |
|----------------------|------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------|
| Pr<br>ac<br>tic<br>e | Ex<br>per<br>im<br>ent<br>al | 8<br>.<br>2<br>5<br>p<br>m<br>2<br>.<br>1<br>0                          | 1<br>8<br>.<br>4<br>0<br>p<br>m<br>1<br>.<br>8<br>5                          | 10<br>.1<br>5<br><br>0.<br>65                                      | 2<br>8<br>.<br>3<br>2<br><br>1<br>.                 | <<br>0<br>.<br>0<br>0<br>0<br>1<br><br>0<br>. |

| D<br>o<br>m<br>a<br>i<br>n | Gr<br>o<br>u<br>p | P<br>r<br>e<br>-<br>t<br>e<br>s<br>t<br>M<br>e<br>a<br>n<br>±<br>S<br>D | P<br>o<br>s<br>t<br>-<br>t<br>e<br>s<br>t<br>M<br>e<br>a<br>n<br>±<br>S<br>D | M<br>e<br>a<br>n<br>D<br>i<br>f<br>f<br>e<br>r<br>e<br>n<br>c<br>e | P<br>a<br>i<br>r<br>e<br>d<br>-<br>t<br>e<br>s<br>t | p<br>-<br>v<br>a<br>l<br>u<br>e |
|----------------------------|-------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------|---------------------------------|
| <i>e</i> :<br>20<br>)      |                   | 8<br>.<br>5<br>0<br>p<br>m<br>1<br>.                                    | 9<br>.<br>1<br>5<br>p<br>m<br>2<br>.                                         |                                                                    | 8<br>1                                              | 0<br>7<br>4<br>(<br>N<br>S<br>) |

| D<br>o<br>m<br>a<br>i<br>n | Gr<br>o<br>u<br>p | P<br>r<br>e<br>-<br>t<br>e<br>s<br>t<br>M<br>e<br>a<br>n<br>±<br>S<br>D | P<br>o<br>s<br>t<br>-<br>t<br>e<br>s<br>t<br>M<br>e<br>a<br>n<br>±<br>S<br>D | M<br>e<br>a<br>n<br>D<br>i<br>f<br>f<br>e<br>r<br>e<br>n<br>c<br>e | P<br>a<br>r<br>t<br>i<br>c<br>i<br>p<br>a<br>n<br>t<br>s | p<br>-<br>v<br>a<br>l<br>u<br>e |
|----------------------------|-------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------|---------------------------------|
|                            |                   | 9<br>5                                                                  | 0<br>5                                                                       |                                                                    |                                                          |                                 |

Independent t-test post-test comparison between groups: Knowledge ( $t = 23.18, p < 0.001$ ), Attitude ( $t = 22.28, p < 0.001$ ), Practice ( $t = 25.96, p < 0.001$ ).

#### Correlation Between Knowledge, Attitude, and Practice

Pearson's correlation coefficient ( $r$ ) was calculated to examine the inter-relationships among post-intervention scores in the experimental group.

**Table 3: Correlation Matrix between Post-Test Knowledge, Attitude, and Practice Scores in the Experimental Group ( $n = 60$ )**

| Vari<br>ables     | Kno<br>wled<br>ge<br>( $r$ ) | Att<br>itu<br>de<br>( $r$ ) | Pra<br>ctic<br>e<br>( $r$ ) | Statis<br>tical<br>Signi<br>fican<br>ce |
|-------------------|------------------------------|-----------------------------|-----------------------------|-----------------------------------------|
| Kno<br>wled<br>ge | 1.00<br>0                    | 0.6<br>8                    | 0.7<br>4                    | $p < 0.001$                             |
| Attit<br>ude      | 0.68                         | 1.0<br>00                   | 0.6<br>5                    | $p < 0.001$                             |
| Prac<br>tice      | 0.74                         | 0.6<br>5                    | 1.0<br>00                   | $p < 0.001$                             |

The data revealed a strong positive correlation between post-test knowledge and practice ( $r = 0.74, p < 0.001$ ), indicating that as maternal understanding of latch techniques and symptom recognition improved, their execution of effective self-care practices rose proportionally.

#### Discussion

The findings of this study demonstrate that a structured instructional module significantly enhances knowledge, fosters positive self-care attitudes, and improves actual practice regarding breast complication prevention among primiparous mothers.

At pre-test, over 70% of participants in both groups demonstrated inadequate knowledge regarding early

signs of breast complications, frequently confusing pathological engorgement with normal physiological fullness (Mangesi et al., 2016). This aligns with observations by *Abdallah et al. (2018)*, who reported that over 80% of puerperal primiparous mothers suffered from avoidable nipple soreness and engorgement due to lack of practical education. Similarly, *Upadhye et al. (2025)* emphasized that improper latching mechanics and lack of antenatal counseling are primary drivers of early postpartum lactational morbidity in tertiary healthcare centers.

Following the intervention, the experimental group achieved significant gains across knowledge (23.85 pm 2.42), attitude (44.15 pm 3.20), and practice (18.40 pm 1.85). These results mirror findings by *Mohammed et al. (2022)*, who observed a marked reduction in nipple trauma and pain scores among post-caesarean primiparous women following an instructional self-care intervention. Structured teaching modules bridge the critical gap between theoretical advice given during rapid discharge counseling and real-world execution at home (Johnson et al., 2020).

The strong positive correlation between knowledge and practice ( $r = 0.74$ ) reinforces Nola Pender's model, demonstrating that cognitive clarity directly drives behavioral adoption (Pender et al., 2015). When mothers comprehend *why* proper latching prevents ductal blockage, they actively engage in manual expression, reverse pressure softening, and correct infant positioning (Cadwell et al., 2017).

#### Implications for Nursing Practice & Public Health

- **Clinical Nursing:** Postpartum ward nurses must transition from sporadic verbal instructions to standardized, visual-demonstrative modules. Routine evaluation of latching mechanics using validated metrics (such as the LATCH score) should be integrated into standard post-delivery care.
- **Nursing Education:** Nursing curricula should place greater emphasis on practical lactation management, empowering nurses to serve as certified lactation counselors.
- **Community Health & Policy:** Health centers and antenatal clinics should mandate structured lactational preparation modules during the third trimester, mitigating complications before delivery occurs.

#### Limitations

- **Geographic Scope:** Conducted within two urban hospital settings, which may limit generalizability to rural or under-resourced home-birth populations.
- **Follow-up Duration:** Outcome measures were evaluated at 14 days postpartum; longer-term follow-up (e.g., 3 to 6 months) would provide deeper insights into exclusive breastfeeding continuation rates.

#### Conclusion

The structured instructional module proved highly effective in improving knowledge, instilling favorable self-care attitudes, and establishing correct preventive practices regarding breast complications among primiparous mothers. Implementing structured, visual, and demonstrative educational tools during early puerperium represents a cost-effective, scalable, and powerful nursing strategy to prevent lactational morbidity and safeguard maternal-child health.

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