

## " Nurse Mentoring: A Key To Quality Of Nursing Care In Labour Rooms "

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### KEYWORDS

Nurse Mentorship Program, Quality of Nursing Care, Intrapartum Care, Postpartum Care, Tertiary Care Centre.

### ABSTRACT

**Background:** India has made significant progress in maternal health; however, challenges persist, including a high maternal mortality rate and neonatal deaths. The intrapartum and immediate postpartum periods are critical, and the quality of nursing care during these times plays a vital role in maternal and neonatal outcomes. Despite efforts to improve care in tertiary centers, limited resources and varying skills among healthcare providers hinder consistent quality. Nurse mentorship programs have been shown to bridge these gaps by improving adherence to clinical guidelines and enhancing overall care.

**Aims:** This study aimed to evaluate the impact of a nurse mentorship program on the quality of nursing care provided during the intrapartum and immediate postpartum periods among mentored and non-mentored nurses.

**Methodology:** A quasi-experimental study was conducted at a selected public health facility, Northern India from November 2022 to January 2023. The study involved 33 nurses working in labor rooms, with 22 in the study group (mentored setting) and 11 in the control group (Non-mentored setting). The study assessed the quality of nursing care using a practice checklist that covered initial assessments, infection control, and care during labor and delivery. Statistical analysis, including an unpaired t-test, was used to compare practice scores between the groups.

**Results:** The results revealed that nurses in the study group (Main Labour Room) exhibited significantly higher practice scores ( $16.53 \pm 1.60$ ) compared to the control group (Maternity 4 Labour Room) ( $12.83 \pm 2.15$ ), with a statistically significant difference ( $t = 11.30, p < 0.05$ ). The mentorship program led to improved compliance with key practices, such as initial assessments, documentation, and infection control measures.

**Conclusion:** The nurse mentorship program significantly improved the quality of nursing care during labour and delivery. The findings suggest that mentorship programs are an effective strategy to enhance nursing practices, especially in resource-constrained settings, thereby improving maternal and neonatal outcomes. Further studies with larger sample sizes are needed to validate these results.

### Introduction:

Almost all maternal deaths in low- and middle-income countries are regarded as preventable (Campbell et al., 2006). Increasing the number of births in healthcare facilities with the help of a skilled birth attendant is an important strategy to reduce maternal deaths (Das, Holla, Mohpal, & Muralidharan, 2016). The reason for this approach is that while many maternal complications can be prevented, they cannot always be predicted. (Gabrysch & Campbell, 2009). A significant number of maternal deaths occur during labor and the immediate postpartum period. It is anticipated that facility-based deliveries attended by a skilled birth attendant would provide prompt access to emergency obstetric care or facilitate swift referrals if complications arise. The proportion of women receiving care from an SBA at birth, a crucial indicator for tracking progress towards the third Sustainable Development Goal (SDG 3.1.2) aimed at reducing global maternal mortality, has risen from 61% in 2000 to 78% in 2016. However, disparities persist across different regions and countries. Most recent NFHS-5 survey in India conducted in 2019-21 shows, 88.6% births were attended by skilled health personnel, up from 81.4% in the previous survey, NFHS-4. Despite this progress, the maternal mortality ratio in developing countries remains higher than what was

observed in developed nations in the 1930s (Loudon, 2000). Furthermore, nearly half of the 2.6 million stillbirths worldwide occur during labor and delivery, despite widespread coverage of skilled birth attendants and deliveries in healthcare facilities (Blencowe et al., 2016). The high rates of maternal and perinatal deaths at healthcare facilities are linked to poor intrapartum care and insufficient services. There is widespread agreement that the quality of care must be monitored and enhanced (Spector et al., 2013) (Koblinsky et al., 2016). A recent study indicates that improving the quality of the healthcare delivery system could prevent half of all maternal deaths and 1 million neonatal deaths (Kruk et al., 2018).

India has made significant progress in maternal health, with more women receiving care from skilled birth attendants between 2006 and 2016. However, the country still faces major challenges, recording the second-highest maternal mortality rate and the highest number of neonatal deaths worldwide (Campbell et al., 2006). Globally, maternal mortality has dropped substantially from 441 to 223 deaths per 100,000 live births between 1985 and 2020, yet these improvements have not been fully realized in India (“World health statistics 2024: monitoring health for the SDGs, sustainable development goals,” 2024).

The intrapartum and immediate postpartum periods are critical for maternal and newborn survival. The quality of nursing care during these times significantly influences outcomes, yet providing consistent, high-quality care in tertiary care centers across North India remains difficult. Challenges such as limited resources, high patient volumes, and varying skill levels among healthcare providers often hinder care delivery. Nurses play a key role in labor, delivery, and postpartum care, but differences in training and professional development can lead to inconsistencies in care (Sharma, Powell-Jackson, Haldar, Bradley, & Filippi, 2017).

Nurse mentorship programs, where experienced professionals guide and support less experienced staff, have shown promise in bridging these gaps. These programs promote continuous learning, improve adherence to clinical guidelines, and enhance the overall quality of care. This study evaluates the impact of a structured nurse mentorship program on Quality of Nursing Care in the labour rooms of a tertiary care center in North India (Ahmed et al., 2019).

### **Aim:**

This study aimed to evaluate the impact of a nurse mentorship program on the quality of nursing care provided during the intrapartum and immediate postpartum periods among mentored and non-mentored nurses.

### **Methods:**

#### **Research Approach**

The quantitative research approach was selected for the study.

#### **Study Design**

A quasi-experimental, non-equivalent post-test only design was deemed appropriate.

#### **Population**

The study focused on 33 nurses working in Labour rooms.

#### **Sampling method**

Non-probability total enumerative sampling technique was opted to recruit the participants in the study based on eligibility criteria.

#### **Sample size**

A sample size of 33 nurses was selected for the study. Experimental group - 22 nurses & Control group - 11 nurses.

### **Study setting**

At the selected labour rooms of a selected high case load public health facility, New Delhi; A quasi experimental study was conducted among nurses working in Main Labour Room as study group and Maternity 4 Labour Room as a control group to assess quality of nursing care provided to mothers during intrapartum and immediate postpartum periods.

### **Ethical Considerations**

Ethical approval obtained from the Institutional Ethics Committee of the institution vide letter No. LHMC/IEC/2022/03/72, dated 13<sup>th</sup> August 2022. Participation in the study was voluntary. Formal informed consent was received from the participants assuring anonymity and confidentiality of their observations. Data was collected during November 2022 to January 2023.

### **Measurements**

The data collection tool comprised a two-section practice checklist designed to assess the quality of nursing care provided in the labor room. Section 1 captured demographic details of the labor room at the time of data collection, including the number of mothers admitted, doctors available, nurses available, and support staff present. Section 2 consisted of 20 checkpoints evaluating key nursing practices such as rapid initial assessments, recording of vitals, nursing care provided, prevention of verbal and physical abuse, presence of a birth companion, and feedback mechanisms. A binary Yes/No format was used, where "Yes" indicated the task was performed (scored as 1) and "No" indicated the task was not performed (scored as 0). The total checklist score was 20, with scores above 16 reflecting quality nursing care. This tool enabled objective assessment of adherence to care standards and protocols.

### **Data Collection**

The intervention was conducted between November 2022 to January 2023. Data for this study were collected after ethical approval and informed consent by mentee nurses. The demographic details of the labour room nurses who participated in the study as mentees are presented in Table 1. Additionally, the characteristics of mentored and non-mentored study settings are provided in Table 2. The demographic details of the mentee nurses were collected as a onetime activity using a data collection form completed by the mentees.

### **Nurse Mentorship Program:**

The nurse mentorship program based on the LaQshya guidelines, issued by the Government of India, aims to enhance the quality of maternal and newborn care. It encompasses modules on essential nursing procedures, infection prevention, care during normal labor and the immediate postpartum period, and management of complications such as hemorrhage and birth asphyxia. The program also emphasizes critical aspects like documentation, reporting, team building, and effective communication. Training is delivered through a comprehensive methodology that includes interactive lectures, bedside mentoring, live debrief sessions, demonstrations, and hands-on clinical practice to ensure skill retention and quality improvement in care delivery.

### **Results**

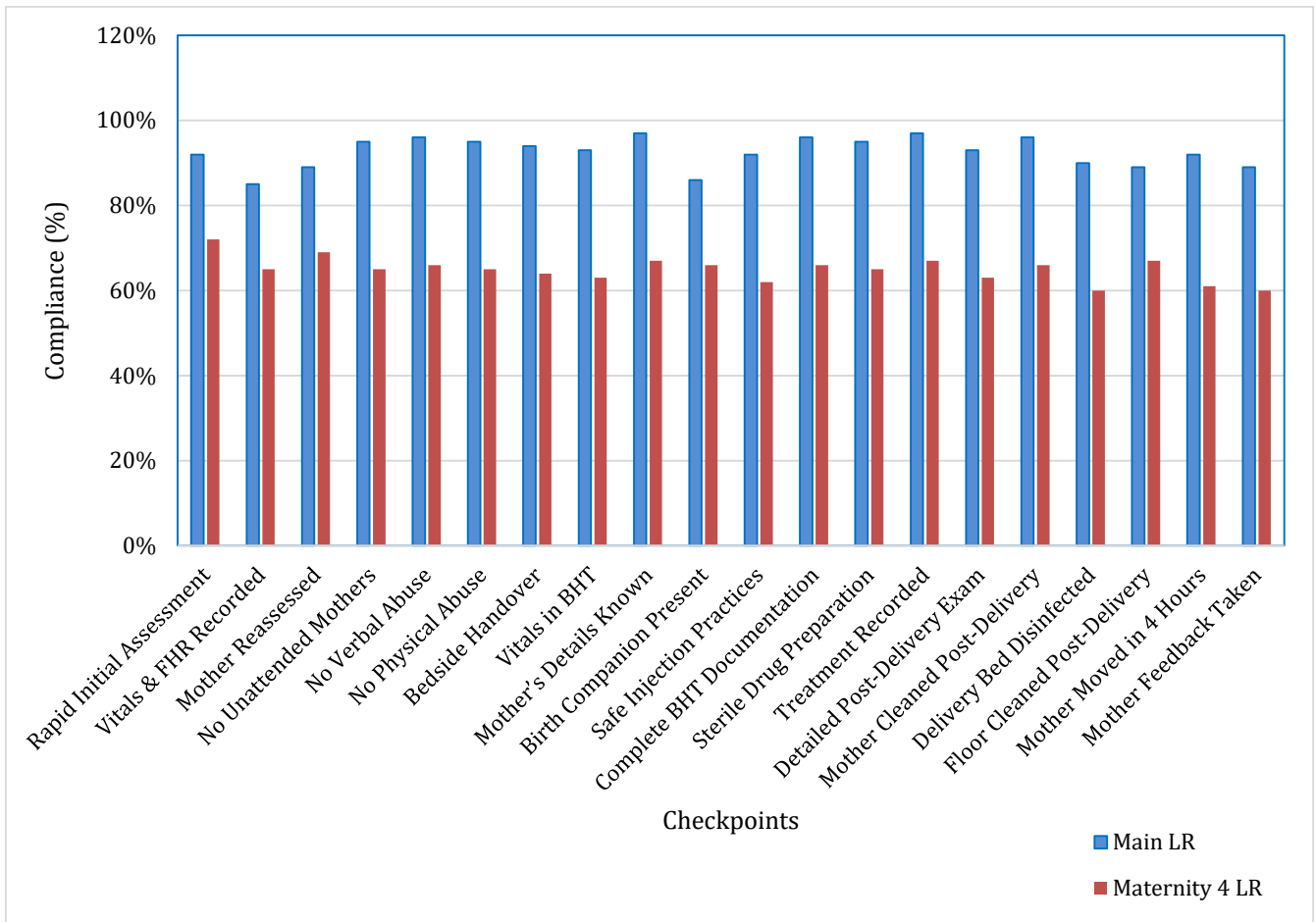
The demographic profile of the Main Labour Room and Maternity Ward 4 Labour Room reflects their operational capacities and staffing. The Main Labour Room manages an average of  $27 \pm 3.29$  deliveries daily, supported by 9 doctors, 13 nurses, and 13 support staff available 24 hours. Of the 22 nurses rostered for Main Labour Room (MLR), 9 nurses are on leave or day off at any given time. In contrast, the Maternity Ward 4 Labour Room (Mty 4, LR) handles  $9 \pm 3.29$  deliveries daily, with 8 doctors, 7 nurses, and 8 support staff available round the clock.

**Table 1: Demographic details of nurses working in mentored and non mentored labour rooms. (n=33)**

	Main Labour Room f (%)	Maternity Ward 4 Labour Room f (%)
<b>Total number of nurses</b>	22 (66.7%)	11 (33.3%)
<b>Gender:</b>		
Male	0	3 (27.3%)
Female	22 (100%)	8 (72.7%)
<b>Marital status:</b>		
Married	15 (68.2%)	8 (72.7%)
Unmarried	7 (31.8%)	3 (27.3%)
<b>Education status:</b>		
Master's degree	4 (18.2%)	3 (27.3%)
B Sc Nursing degree	14 (63.6%)	6 (54.5%)
GNM	4 (18.2%)	4 (36.4%)
<b>Years of experience:</b>		
0-5 years	6 (27.3%)	6 (54.5%)
6-10 years	9 (40.9%)	3 (27.3%)
11-20 years	6 (27.3%)	1 (9.1%)
More than 20 years	1 (4.5%)	1 (9.1%)
<b>Specific labour room training attended:</b>		
Trained	3 (13.6%)	1 (9.1%)
Not trained	19 (86.3%)	10 (90.9%)

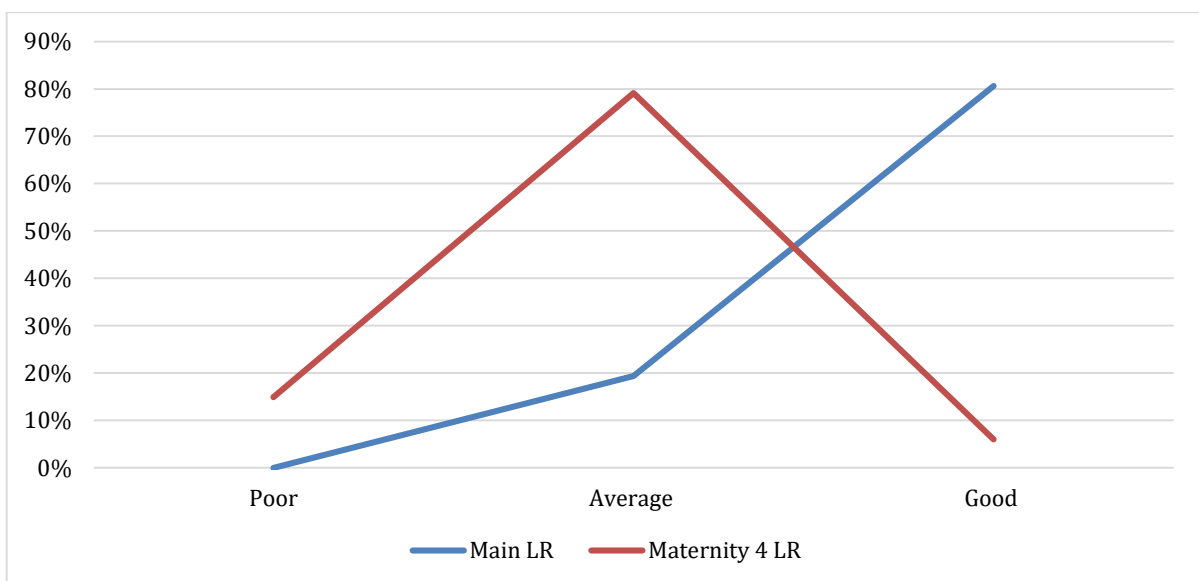
**Table 2: Demographic data of mothers (n=67)**

Demographic variables	Frequency (f)	Percentage (%)
<b>Age in years</b>		
21-30	41	61.2%
31-40	23	34.3%
41-50	03	4.5%
<b>Education level</b>		
Illiterate	03	4.5%
Primary education	24	35.8%
Secondary education	23	34.3%
Graduate and above	17	25.4%
<b>Gravida</b>		
Primigravida	29	43.3%
Multigravida	38	56.7%
<b>Antenatal care visits</b>		
Regular	33	49.3%
Irregular	34	50.7%
<b>Complications pregnancy in Current Pregnancy like gestational diabetes, hypertension, pre-eclampsia</b>		
Yes	0	0
No	67	100%



**Figure 1: Comparison of Labour room compliance: Main LR vs Maternity 4 LR**

In Figure 1 a significant gap is depicted in compliance levels of labor room practices in Main LR versus Maternity 4 LR. Across various parameters such as initial assessments, documentation, and infection control measures, Main LR showed consistently higher compliance compared to Maternity 4 LR.



**Figure 2: Comparison of Mean Practice Scores Between Study (Main LR) and Control (Maternity 4 LR) Groups**

In figure 2 a significant gap is demonstrated regarding quality of nursing care provided by nurses in labour room. In maternity 4 LR (control group), majority of them, 79.10% had average practice

level, 14.93% had poor practice level and only 5.97% had good practice level in the provision of quality of nursing care during labour and delivery. Where as in Main LR (study group) majority of then 80.60% had good practice level and 19.40% had average practice level and none of them had poor performance.

**Table 3: Comparison of experimental and control group practice scores regarding intrapartum and immediate postpartum quality of care** (n=33)

Sr. No.	Observations	Max score	Mean	SD	Mean Difference	Unpaired 't' value
1	Main LR (Experimental Group)	20	16.53	1.60	3.70	11.30
2	Maternity LR (Control Group)	20	12.83	2.15		

Table 3 indicated that the mean practice score of the Main LR experimental group (16.53±1.60) was noticeably higher than that of the Maternity 4 LR control group (12.83±2.15). The unpaired t-test yielded a t-value of 11.30, which considerably exceeds the critical value of 1.97 at 32 degrees of freedom. This result indicated that the difference in practice scores between the experimental and control groups was statistically significant (p<0.05). Therefore, it can be concluded that the nurse mentorship program had a significant positive impact on the quality of care provided by nurses in the labour room.

### Discussion

The introduction of the nurse mentorship program proved to be highly effective in improving nursing practices in the labour room, as evidenced by the findings of this study. The results highlight a significant gap in the quality of nursing care provided by nurses in the labor room between the control and study groups. In the control group, the majority of nurses (79.10%) exhibited an average practice level, 14.93% had a poor practice level, and only 5.97% demonstrated a good practice level regarding the quality of nursing care during labor. In contrast, the study group, where the mentorship program was implemented, showed a notable improvement, with 80.60% of nurses achieving a good practice level, and 19.40% maintaining an average practice level, and none of them had poorly performed. The findings of study at par with a study conducted in Delhi showed that there was a significant improvement in skin-to-skin contact of newborn babies immediately after birth nil to 68% and EIBF from a baseline of 38% to 82% over a 6-month period after implementation of Nurse Led Mentoring using Quality improvement methodology (Kumari, John, & Arora, 2023)

This disparity underscores the positive impact of the nurse mentorship program in enhancing the quality of nursing practices in the labor room, highlighting its potential as an effective strategy for improving patient care outcomes.

The present study found that the nurse mentorship program significantly improved practice scores in the labor room, with a notable difference (t = 11.30, p < 0.05) between the Main LR study group and the Maternity 4 LR control group, highlighting its positive impact on nursing care quality. Supporting this, a study conducted at Karnataka in the year 2012-13 showed that facilities in the intervention arm were better equipped to manage complications like gestational hypertension, postpartum hemorrhage, and obstructed labor, with significantly higher knowledge among providers on key practices, including active management of the third stage of labor, maternal sepsis management, neonatal resuscitation, and low birth weight care. Furthermore, case audits revealed higher compliance with labor monitoring, delivery, and postpartum care for mothers and newborns in the intervention arm. These findings emphasize the effectiveness of nurse mentorship programs in enhancing care quality and adherence to clinical protocols.

### **Limitations**

The limitations of the study include the small sample size and the fact that the selected sample did not represent labor rooms of high-case load public health facilities in India. Additionally, the study did not include other labor rooms within the same facility.

### **Conclusion:**

The nurse mentorship program implemented in this study significantly improved the quality of nursing care in the labor room during the intrapartum and immediate postpartum periods. The findings demonstrate that the mentorship program positively impacted key aspects of nursing practice, including initial assessments, documentation, infection control, and overall care delivery, as reflected in higher practice scores in the experimental group compared to the control group. The results align with similar studies, highlighting the effectiveness of nurse mentorship in enhancing nursing care quality and adherence to clinical protocols, particularly in resource-constrained settings. This intervention can be a valuable strategy to improve maternal and neonatal outcomes, making it a promising approach for addressing challenges in nursing care in tertiary care centers in North India. Further studies with larger sample sizes and a broader representation of labor rooms in high-case load public health facilities are recommended to validate and expand on these findings.

### **Conflict of Interest**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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