

Maternity nurses' attitude regarding nursing care of first stage of normal labor: impact of instructional package

Abstract

Background: Labor influences postpartum health and mother-infant bonding greatly. Nurses play a vital role in creating a supportive labor environment, focusing on cultural competence and the attitudes of healthcare professionals. Enhancing maternal outcomes involves promoting empathy, employing evidence-based practices, supporting active labor positions, and providing comfort measures, which can increase satisfaction and minimize mistreatment during childbirth.

Aim: The current study aimed to evaluate the impact of the instructional package on maternity nurses' attitude regarding nursing care of first stage of normal labor.

Subjects and methods:

Design: A quasi-experimental design using a one group pre-posttest was employed in this study, conducted in the labor unit at Beni-Suef University Hospital and Beni-Suef Specialist Hospital, involving a convenience sample of 50 maternity nurses.

Tools: Tool I, a structured interviewing questionnaire, which includes personal characteristics; Tool II: measuring the attitudes of maternity nurses towards nursing care in the first stage of normal labor.

Results: Maternity nurses' mean age was 29.48±6.81 years old, 54% from rural areas, 66.0% had technical institutes of nursing, 54.0% were working at Beni-Suef Specialist Hospital, and the mean years of experience 5.320±3.113. Positive attitudes increasing from 42% before instruction to 86% afterward, while negative attitudes decreased from 58% to 14% at p value 0.000.

Conclusion: The total attitude level of maternity nurses towards nursing care during the first stage of normal labor improved significantly after an instructional package. There were statistically significant differences between the studied maternity nurses' total attitude and their demographic characteristics, such as years of experience ($P \leq 0.05$) post-intervention.

Recommendation: Replicate the current study on larger sample sizes and in different settings for generalization of results.

Keywords: maternity nurses' attitude, nursing care, first stage of labor, instructional package

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Introduction

Labor significantly impacts a woman's life, affecting her postpartum psychological and physical health and her initial interactions with her baby. Positive childbirth experiences enhance maternal well-being and strengthen mother-infant bonds, while negative experiences can lead to psychological distress and increase risks for postpartum depression and post-traumatic stress.¹⁻⁵ Nurses play a critical role in ensuring a safe environment, providing anticipatory guidance, and supporting mothers through physical and emotional challenges during labor.⁶⁻¹² Furthermore, understanding cultural differences is essential for delivering culturally competent care in childbirth, particularly during admission.¹³⁻¹⁸

Attitudes, beliefs, and biases of health care professionals are often embedded into labor and birth practices, leading to variations in care. These variations can affect women, families, and the overall birth experience, as well as the long-term psychological health of women.¹⁹⁻²⁰ Positive experiences during labor and birth may lead to feelings of accomplishment and increased self-worth, whereas

negative experiences may include feelings of stress, depression, pain, and post-traumatic stress disorders. The long-term impact of negative birth experiences may affect maternal physical and emotional health, leading to an increase in maternal morbidity.²¹

Nurses should have a positive and empathetic attitude to create a supportive environment, which is associated with better birth outcomes, higher maternal satisfaction, and a reduction in mistreatment during childbirth. Attitudes should align with evidence-based practices, such as encouraging the woman to remain active and mobile during early labor to promote descent and reduce labor duration.²²⁻²⁷ Also, fostering attitudes through encouraging walking, sitting, and other upright positions can help reduce labor duration and pain. Additionally, offer comfort measures, such as ice chips or a back rub, as requested by the woman.²⁸⁻³⁰

Nurses should respect the woman's autonomy and preferences. This includes informing them about procedures, ensuring informed consent is obtained, and acting as an advocate for their needs throughout the labor process. A critical attitude is to use clear,

understandable language, avoid excessive medical jargon, and ensure the woman and her family have the opportunity to ask questions and are informed about their care.³¹⁻³⁴

Significance of the study

Labor is vital for mothers and neonates, with inadequate healthcare leading to complications. In 2023, the maternal mortality rate was 346 deaths per 100,000 live births, primarily in low-income areas, while the global average reached 700 deaths per 100,000 live births.²²

According to WHO estimates, the global maternal mortality rate (MMR) decreased by 40% from 2000 to 2023, reaching 197 deaths per 100,000 live births. However, the MMR temporarily increased in 2021 due to disruptions from COVID-19, resulting in 322,000 maternal deaths. The current slow decline of approximately 1.5% annually since 2016 poses challenges in meeting the Sustainable Development Goal of reducing MMR to below 70 by 2030, necessitating a 15% annual reduction.³⁵

In 2023, nearly 225,000 women died from complications during and after pregnancy and childbirth, with 87% of these deaths occurring in low-resource environments, many of which were preventable. Sub-Saharan Africa and Southern Asia accounted for 43,000 maternal deaths, with Sub-Saharan Africa alone responsible for about 182,000, representing approximately 70% of global maternal deaths.³⁶

Improving health care quality is essential for enhancing labor outcomes and the lives of women and neonates. In Egypt, existing research has evaluated maternity nurses' attitudes towards the nursing care provided during the first stage of normal labor. This study aims to establish a scientific foundation for promoting positive attitudes in this area.

Aim of the study

The current study aimed to evaluate the impact of the instructional package on maternity nurses' attitude regarding nursing care of first stage of normal labor.

Research hypothesis

Following the implementation of the instructional package, nursing attitude of the first stage nursing care of normal labor will be improved.

Subject and method

Research design: A quasi-experimental design with a one group pre-posttest was utilized in this study.

Settings: The study involved Beni-Suef University Hospital and Beni-Suef Specialist Hospital, detailing their obstetric and gynecological facilities. The University Hospital features ten rooms, including two delivery rooms, a pre-labor room, a post-labor room, and a ten-bed high-risk postpartum room. The Specialist Hospital comprises seven rooms, with a pre-labor room (three beds), two delivery rooms, two postpartum rooms (six beds each), and one ultrasound room.

Subjects: All 50 maternity nurses surveyed in the labor unit were from Beni-Suef University Hospital (23 nurses) and Beni-Suef Specialist Hospital (27 nurses).

Tools of data collection: Two data collection tools were used to carry out the current study.

Tool I: A structured interviewing questionnaire

This tool was developed by a researcher by reviewing current and previous literature and translated into Arabic. It focuses on the general

characteristics of maternity nurses, including their age, residences, educational level, work place, and years of work experience.

Tool II: Attitude scale of maternity nurses

A Likert scale assessed maternity nurses' attitudes towards nursing care in the initial stage of normal labor. Responses were rated from 1 (disagree) to 3 (agree), aggregated, averaged, and converted into percentages. A score of 60% or higher indicated a positive attitude, while below 60% signified a negative attitude.

Tools validity: Five knowledgeable professors in obstetrics and gynecological nursing revised the assessment instruments for content validity, emphasizing clarity, relevance, comprehensiveness, understanding, and applicability.

Reliability of the tools: The study tools demonstrated strong internal consistency, with Cronbach's Alpha values of 0.853 for attitude.

Ethical considerations: Ethical approval was obtained from Benha University's Research Ethics Committee, and informed consent was secured from the nurse participants, who were informed of their right to withdraw from the study at any time.

Pilot study: A pilot study with 5 nurses assessed a structured questionnaire's clarity and feasibility. Results showed that specific knowledge-related questions needed modifications for better effectiveness regarding correction, omission, and addition.

Field work: The study, held from October 2024 to June 2025, involved bi-weekly visits to the site by the researcher. Initial interviews with maternity nurses were conducted privately to explain the study's purpose, duration, and activities, and it was structured into four phases.

Assessment and planning: The research assessed maternity nurses' attitudes regarding the first stage of normal labor using a self-administered questionnaire, resulting in the creation of an Arabic instructional package. This package included theoretical knowledge structured into sessions centered on educational activities, methodology, media design, and evaluation tools.

Implementation: The instructional package for nursing participants was conducted over four weeks, featuring five small groups of about ten nurses each. Initial sessions introduced the package, succeeding sessions were aimed at feedback and motivation techniques using various teaching methods such as lectures, discussions, and practical demonstrations. Key topics included labor onset, distinguishing true from false labor, and nursing care in early labor. The program included discussions on uterine contractions and examination methods, culminating in feedback and re-demonstrations of procedures, including a program demonstration.

Evaluation

The evaluation phase employs pretest tools to measure the effect of an instructional package on maternity nurses' attitudes regarding nursing care during the early stage of normal labor, with assessments conducted using Tool II for attitudes.

Administrative approval: Approval for the study was granted by the Dean of the Faculty of Nursing at Benha University, with formal requests made to the directors of Beni-Suef University Hospital and Beni-Suef Specialist Hospital to conduct the study and acquire informed consent before data collection.

Statistical item: The study employed SPSS version 26 for data analysis, utilizing descriptive statistics such as frequencies (N), percentages (%), means and standard deviations (Mean±SD).

Statistical significance was assessed through chi-square tests (χ^2), with significance levels defined as P-value >0.05 (Not Significant), P-value ≤0.05 (Statistically Significant), and P-value ≤0.01 (Highly Statistically Significant).

Results

Table (1): Illustrates that the maternity nurses' mean age was 29.48±6.81 years old, and 54% of them were from rural areas. Also, 66.0% of them had technical institutes of nursing, while 54.0% were working at Beni-Suef Specialist Hospital; moreover, the mean years of experience for them was 5.320±3.113.

Table (2): Shows that there were highly statistically significant differences for all items of the studied maternity nurses' attitude regarding nursing care at the first stage of normal labor at (p value 0.000) between pre- and post-instructional package implementation.

Figure (1): demonstrates that the total attitude level of maternity nurses towards nursing care during the first stage of normal labor improved significantly after an instructional package, with positive attitudes increasing from 42% before instruction to 86% afterward, while negative attitudes decreased from 58% to 14%.

Table (3): Indicates that there were statistically significant differences between the studied maternity nurses' total attitude and their demographic characteristics, such as years of experience ($P \leq 0.05$) post-intervention (Tables 1-3 & Figure 1).

Table 1 Number and percentage distribution of demographic characteristics of the studied maternity nurses (n=50)

Personal characteristics	No.	%
Age in years		
20 < 30	28	56
30 < 40	14	28
40 ≤ 50	8	16
Mean ± SD	29.48 ± 6.81	
Residence		
Rural	27	54
Urban	23	46
Nursing educational level		
Secondary School	13	26
Technical Institute	33	66
Bachelor	4	8
Work place		
Beni-Suef University hospital	23	46
Beni-Suef specialist hospital	27	54
Years of work experience		
> 5 years	28	56
5- 10 years	19	38
≥ 10 years	3	6
Mean ± SD	5.320 ± 3.113	

Table 2 Distribution of the maternity nurses' attitude regarding nursing care of the first stage of normal labor at pre and post-instructional package (n=50)

Items during 1st stage of labor	Pre- instructional package						Post- instructional package						χ^2	P-value
	Agree		Uncertain		Disagree		Agree		Uncertain		Disagree			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
1. I believe that continuous monitoring of vital signs is essential	15	30	25	50	10	20	8	16	5	10	37	74	30.974	0.000**
2. Encouraging mother to move and walk helps speed up labor	19	38	28	56	3	6	12	24	16	32	22	44	19.293	0.000**
3. I believe that providing mother with all the instructions on how to cope with contractions, such as breathing exercises	12	24	30	60	8	16	10	20	13	26	27	54	17.217	0.000**
4. Feel that the reassurance provide to the mother at the beginning of labor helps reduce the level of the stress and fear	17	34	20	40	13	26	9	18	14	28	27	54	8.42	0.015*
5. Thinking normal labor helps reduce health complications for mother and child compared to births that require medical intervention	15	30	29	58	6	12	8	16	12	24	30	60	25.179	0.000**
6. My duty to provide psychological and emotional support to mother can help reduce feelings of isolation and increase ability to cope with pain	17	34	27	54	6	12	8	16	11	22	31	62	26.869	0.000**
7. My duty to massage the mother waist and back to help overcome pain of childbirth	9	18	16	32	25	50	4	8	8	16	38	76	7.272	0.026*
8. It is necessary to appreciate the mothers feeling of labor pain	15	30	29	58	6	12	10	20	12	24	28	56	22.284	0.000**
9. I think that cultural sensitivity is important when providing labor care	22	44	10	20	18	36	12	24	8	16	30	60	6.163	0.046*
10. Believes that a systematic assessment of the mother and fetus is essential to ensure that things proceed normally	9	18	17	34	24	48	4	8	10	20	36	72	6.138	0.046*
11. Support strengthening mothers' participation in making decisions related to birth	10	20	13	26	27	54	4	8	7	14	39	78	6.553	0.038*

Table 2 Continued...

12. It is important to give the mother the freedom to choose the positions that are most comfortable for her	16	32	32	64	2	4	11	22	14	28	25	50	27.562	0.000**
13. Providing privacy for mother enhances her psychological comfort and reduces feeling of embarrassment	16	32	16	32	18	36	7	14	13	26	30	60	6.832	0.033*
14. Prefer to focus more on the psychological and social aspects during childbirth	14	28	15	30	21	42	10	20	7	14	33	66	6.242	0.044*
15. Encouraging mother to rest and relax at the beginning of labor contributes to the process progressing naturally	15	30	23	46	12	24	7	14	19	38	24	48	7.29	0.026*
16. Feeling that reassurance provide to mother at the beginning of labor helps reduce the level of the stress and fear	21	42	12	24	17	34	11	22	8	16	31	62	8.008	0.018*

A highly statistically significant difference $P \leq 0.001$. A statistically significant difference $P < 0.05$

Table 3 Relation between the studied nurses' total attitude level and their personal characteristics at pre and post-instructional package

Personal characteristics	Total attitude level										P- value	
	Pre- instructional package					Post- instructional package						
	Positive		Negative		X ² /FET	Positive		Negative		X ² /FET		
	No.	%	No.	%		No.	%	No.	%			
Age in years	10	47.6	18	62.1	4.258	0.119	24	55.8	4	57.1	1.353	0.508
20<30	9	42.9	5	17.2			13	30.2	1	14.3		
30>40	2	9.5	6	20.7			6	14	2	28.6		
40≥50												
Residence	9	42.9	18	62.1	1.81	0.179	24	55.8	3	42.9	0.407	0.689
Rural	12	57.1	11	37.9			19	44.2	4	57.1		
Urban												
Education	5	23.8	8	27.6	0.174	0.917	10	23.3	3	42.9	1.638	0.441
Secondary School	14	66.7	19	65.5			29	67.4	4	57.1		
Technical Institute	2	9.5	2	6.9			4	9.3	0	0		
Bachelor												
Work place	7	33.3	16	55.2	2.339	0.126	19	44.2	4	57.1	0.407	0.689
University hospital	14	66.7	13	44.8			24	55.8	3	42.9		
Specialist hospital												
Experience	10	47.6	18	62.1	1.428	0.49	24	55.8	4	57.1	8.118	0.017*
1> 5 years	10	47.6	9	31			18	41.9	1	14.3		
5-10 years	1	4.8	2	6.9			1	2.3	2	28.6		
≥10years												

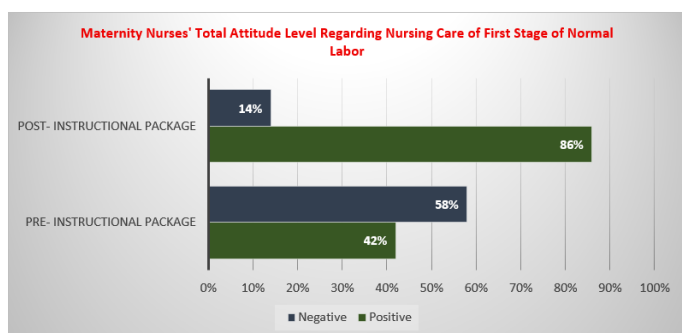


Figure 1 Percentage distribution of the studied maternity nurses' total attitude level regarding nursing care of first stage of normal labor at pre and post-instructional package

Discussion

The World Health Organization (WHO) defined normal labor in 2020 as spontaneous, low-risk, and resulting in a healthy mother and newborn, delivered in the vertex position between 37 and 42 weeks of pregnancy. The triggers of labor onset are unclear, with various unproven theories suggesting factors such as uterine stretch, hormonal changes, oxytocin sensitivity, and prostaglandin release.³⁵ The current study aimed to evaluate the impact of the instructional package on maternity nurses' attitude regarding nursing care of first stage of normal labor.

Maternity nurses' attitudes during the first stage of labor should prioritize providing supportive and evidence-based care, which includes promoting comfort, monitoring progress, offering pain management options, and ensuring patient advocacy. Key attitudes involve being attentive to the woman's psychosocial needs, advocating for her preferences, using clear communication, and incorporating

practices like encouraging mobility, which has been linked to shorter labor and improved outcomes.³⁶⁻³⁸

Nurses should have a positive attitude towards offering and explaining pain relief options, both pharmacologic and non-pharmacologic, and helping the woman manage her pain effectively, and monitoring both the mother and fetus is essential for timely detection of any potential complications. Also, nurses should address the psychosocial needs of the woman, providing reassurance and comfort, and ensuring their emotional needs are met.³⁹

Regarding items of attitudes, this result reported that there were the studied nurses' attitudes that became more positive after the instructional package as my duty was to massage the mother's waist and back to help overcome the pain of childbirth, and it is necessary to appreciate the mother's feeling of labor pain, and all items about attitudes were statistically significant. These findings are supported by Hashem et al.,⁴⁰ in their titled "Effect of in-service training program on obstetric nurses' knowledge, attitude, and practices regarding painless labor" in Tanta, Egypt, and showed that the studied nurses had a positive attitude toward using some methods during labor to reduce the intensity of pain, and painless labor methods can affect the progress of labor immediately after the implementation of the educational program.⁴¹

Contrariwise, the current study was dissimilar to Odebode et al.,⁴² whose "Assessing the perceived attitude of nurses towards childbirth: experiences of rural child bearing women in Kwara State, Nigeria" reported that nurses did not provide vital information, failed to give full attention to women in labor, and demonstrated a lack of competence during delivery. Also reported that there was no significant difference in the perceived attitude of nurses towards childbirth: experiences of rural child bearing women in Kwara State. From the researcher's point of view, this is due to the place of study being in a rural area and the decrease in experience and knowledge of nurses.⁴³

Regarding the total attitude of nursing care of the first stage of labor (pre/post), in a study on nursing care during the first stage of labor, it was found that over three-quarters of nurses exhibited a positive attitude following an instructional package. This aligns with findings from Hashem et al.,⁴⁰ regarding the impact of an in-service training program on obstetric nurses in Tanta, Egypt. Similarly, Ibrahim et al.,⁴⁴ noted that a majority of participants had a positive attitude toward nonpharmacological pain relief for labor pain management.^{43,45} Furthermore, Melesse et al.,⁴⁶ reported comparable positive attitudes among health care providers in a study conducted in Ethiopia.⁴²

The study found that nurses' attitudes improved following the implementation of an instructional package, with an increase in positive attitudes and a decrease in negative ones. This improvement was linked to increased knowledge and competent practices, as well as the use of various educational methods and positive reinforcement.⁴⁰⁻⁵⁶ Arabic booklets, when concise and visually appealing, were instrumental in knowledge retention. This aligns with Edgar Dale's Pyramid of Learning, which states that individuals retain only 10% of what they read, 20% of what they see and hear, and 50% through discussion.⁵⁷⁻⁷⁰

Concerning the relation between their total attitudes (pre/post) and general characteristics of the studied nurses, the present study showed that there were statistically significant differences between the studied maternity nurses' total score of attitudes and their demographic characteristics, such as years of experience ($P \leq 0.05$), post-instructional package implementation. This result agreed with Ibrahim et al.,⁴⁴ in their study titled "Non-pharmacological pain relief

for labor pain: Knowledge, attitude, and barriers among obstetric care providers," which illustrated that there was a statistically significant difference between demographic characteristics, such as years of experience, and attitudes ($p=0.00$) post educational program.⁷¹

Also, this result was similar to Eyeberu et al.,⁴⁵ who studied "Obstetrics care providers' attitude and utilization of non-pharmacological labor pain management in Harari regional state health facilities, Ethiopia," and revealed that there was a significant association with the utilization of non-pharmacological labor pain management (p -value <0.05) between clinical experience and attitude.⁴¹ Correct knowledge and satisfied practices lead to maternity nurses' positive attitude regarding nursing care of the first stage of normal labor.

Contrariwise, the current study disagreed with Elfeshawy et al., in their entitled "Assessment of evidence-based practices knowledge and attitude from maternity nurses' point of view" and showed that there was a significant difference between nurses' education and level of attitude ($P < 0.05$).⁷¹

Conclusion

Based on the findings of the present study, it can be concluded that the total attitude level of maternity nurses towards nursing care during the first stage of normal labor improved significantly after an instructional package. There were statistically significant differences between the studied maternity nurses' total attitude and their demographic characteristics, such as years of experience ($P \leq 0.05$) post-intervention.

Recommendations

- I. Implementing a periodic in-service training program aims to improve maternity nurses' attitudes towards nursing care during the initial stage of normal labor.
- II. Replicate the current study on larger sample sizes and in different settings for generalization of results.

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Conflicts of interest

The authors declare that there are no conflicts of interest.

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