

Role of Nursing Care in Providing Pain Relief for Women in Labour at Woman's Health Hospital Assuit University: A Clinical Audit

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Abstract

Background: Pain relief in the course of labor is often neglected. Providing care and comfort to parturient women all through childbirth is a necessary role. Using non pharmacologic skills to support the ordinary system of birth, nurses may also minimize the use of medical methods and their viable complications. **Aim:** Assess the role of nurses in providing pain relief for women in labour. **Research Question:** Do nurses have a role in relieving pain to women in labour at Woman's Health Hospital, Assiut University? **Design:** A clinical audit was used. Setting: It was conducted at reception and emergency unit, Woman's Health Hospital, Assiut University. **Sample:** A simple random sample of sixty two maternity nurses who deal with female in labour. **Tool:** There had been three tools concerned in this study: A structured Interviewing questionnaire, observational checklist, likert mind-set scale. **Results:** about 37.1% and 82.2% of the studied nurses had an efficient knowledge about pain-relief methods in pre and post audit respectively, 22.6% and 77.4% had pleasant practices in pre and post audit respectively. Also 54.8% and 96.8% of the studied nurses had a tremendous mind-set regarding pain-relief strategies in pre and submit audit respectively with enormously large distinction between pre and post audit p-value <0.01. **Conclusion:** There was a highly significant improvement in nurses' knowledge and practices, also attitude was improved. **Recommendations:** Implementation of labor supportive measure guidelines in different child- birth units to improve nurses' practice regarding pain relief measures.

Keywords: Nursing Care, Pain relief, Labour & Audit.

Introduction:

Alleviating labor pain and improving the childbirth experience has been ongoing goals, world- wide for the past decade. Most women experience a great deal of labor pain, while giving birth, and professional support is not always helpful. Women have reported receiving positive and negative support from birthing professionals. Women often choose different coping strategies to reduce labor pain, including both pharmacological and non-pharmacological, or more natural, strategies (Coutinho et al., 2018).

Non-pharmacological methods are noninvasive practices capable of reducing the pain, caused by uterine contractions during labor. It has been considered effective in reducing pain and, is associated with better outcomes for women in labor. These methods may be related to greater maternal autonomy, shorter labor time, and lower need for medications or medical interventions. In comparison with pharmacological methods, it is less expensive and has no/mild side effects, also recommended by the World Health Organization for a positive childbirth experience (Rodrigues et al., 2022).

The vital role performed through midwives in offering caring assist throughout the process of labour cannot be underestimated specially in instances of

tremendous interplay with female in labour, by means of displaying caring and encouraging attitudes to female experiencing labour pain. When midwives exhibit an effective mind-set and encouragement in the direction of women at some point of labour pain, parturient will have a properly manner of labour and this will have an effect on their perception of the mind-set of midwives as properly as their experiences and expectations (Konlan et al., 2021).

Significant of the study:

Inadequate pain management has been shown to affect patient outcomes, by potentially increasing hospital stay and delaying recovery; thus, the management of pain has major implications for nursing. This can affect patients' physiological and health safety. This study shortens the gap of information about knowledge and attitude of pain management among nurses in the area. Nurses are often the only ones, who may hear of pain endured by the patients, and who carry out the advice of the physicians on pain management (Liyew et al., 2020). Therefore, their knowledge and attitude are very important in pain management. The gap in knowledge about pain assessment and management, inability to assess pain, and poor communication between the

patient and the healthcare provider lead to ineffective pain management (Ohaeri et al., 2019)

Aim of the study:

Auditing the role of nurses in providing pain relief for women in labour, at Woman's Health Hospital, Assiut University.

Research Question: Do nurses have a role in relieving pain to women in labour at Woman's Health Hospital, Assiut University and, Do using non pharmacological pain relieving measures decreases pain during labour and ,Does clinical audit can be applied in this research?

Research Design:

A clinical audit was used to achieve the current study.

Subjects and Methods:

The subject and methods of the current study were discussed under four designs (technical, operational, administrative, and statistical design).

Technical Design: The technical design for the study included research design, setting of the study, study subjects, and the tools of data collection.

Setting: This study was conducted at Woman's Health Hospital, Assiut University as the following:

Reception unit: it contains one examination room, one preoperative room contain three beds, one postoperative room contains six beds, two normal delivery rooms each contains one bed.

Emergency unit: It contains monitoring sector and operating sector.

Monitoring sector: Contains one sonar room, one bed. Four monitoring rooms each contains four beds, one postoperative room contains eight bed.

Operating sector: Contains three normal delivery rooms each contains one bed , two caesarean section rooms ,one room for newborn and one nursing room.

Subjects:

Sample Type: A simple random sample was used.

Sample Size:

This study was carried out on a convenience sample of 62 maternity nurses (50 nurses and 12 head nurses) who deal with women in labour.

Reception Unit: involves 8 diploma nurses.

Emergency Unit: includes 15 diploma nurses' and 5 head nurses in monitoring sector

Operating sector: includes 25 diploma nurse and 7 head nurses in.

Tools of data collection:

There were three tools involved in the study:

Tool (1): Structured Interviewing questionnaire that was designed and developed by the researcher and included the following parts:

Part one: Nurses' personal characteristics as age, level of education, duration of her service, attendance training or educational programs, department she works in.

Part two: Nurses' knowledge about the non-pharmacological measures to relief pain as definition of pain, physiology of pain, and non-pharmacological measures to provide pain relief during labor

Knowledge scoring:

It included 10 items to identify nurses' knowledge about pain-relief methods, each correct answer took 2 and 1 for incorrect answer, the total score was 20, the knowledge considered efficient if more $\geq 75\%$ (15) and inefficient if $< 75\%$.

Tool (3): Observational check list (standardized guideline):

Used to assess practices regarding the non-pharmacological measures to relief pain, it contained items to identify nurses' practices about pain-relief methods as using suitable communication technique with the pregnant woman, providing emotional support and encourage verbalization of feelings, applying the comparative pain scale, allow family member visit, deep breathing exercise, providing hot and cold compresses on lower back and symphysis pubis, and mobilization and position changing.

Practices scoring:

It included 9 items to identify nurses' practices about pain-relief methods, each done action was given 2 and 1 for not done, the total score was 18 the knowledge considered satisfactory if more $\geq 75\%$ (14) and unsatisfactory if $< 75\%$.

Tool (4): Likert attitude scale: it was adapted to assess attitude of the studied nurses regarding pain-relief methods as women should expect pain during labor, belief that pain relief in labor is necessary, use of non-pharmacological methods for pain relief during labor is safer, opinion regarding the effect of methods on the ability of women to cope with pain, and agreement to give pain relief when asked and resources are available.

Attitude scoring:

It included 5 items to identify nurses' attitude about pain-relief methods, each agree item was given 2 and 1 for not agree, the total score was 10 the attitude considered positive if more $\geq 70\%$ (7) and negative if $< 70\%$.

Supportive materials:

It was designed by the researcher based on literature review. It was designed in the form of handout (educational booklet) using simple Arabic language and different illustrative pictures to facilitate understanding its content. The handout contained two parts, non-pharmacological measures to relief pain, that was explained in a simple way as (definition of pain, physiology of pain, and non-pharmacological measures to provide pain relief during labor -----etc). And part two practices regarding non-pharmacological measures to relief pain).

Tools Validity:

The key element of scientific audit was once overall performance that was reviewed (or audited) to make certain that what you ought to be doing was being done, and if no longer it furnished a framework to allow upgrades to be made.

Tools have been reviewed by using a panel of 5 experts in obstetric and gynecological nursing at faculty of nursing, Assiut University to test the comprehensiveness, accuracy and clarity in language.

Tools Reliability:

Table (1): Reliability coefficient of the study tools:

Questionnaire Dimensions	Cronbach Alpha
Structured interview questionnaire.	0.821
Observational check list	0.786
Likert attitude scale	0.753

Operational Design:

The operational design for this study was included two phases namely; pilot study and field work.

Pilot study:

Pilot study was included (10%) of the study sample (6 nurses) to evaluate the efficiency; clarity of tools that was used in the study. The necessary modifications were made according to the results of the pilot study. The sample included in the pilot study was involved in the study sample.

Administrative Design:

An official approval from the Faculty of Nursing, Assiut University was approved about the protocol. Then ethical committee approved on protocol after that official written approval letter, clarifying the purpose of the study was obtained from the director of Assiut University Hospital as an approval for data collection to conduct this study.

Field work:

Data collection of the study took about 8 months started at the beginning of February 2020, and completed by the end of October 2020. It involved three phases as the following:

Phase 1(pre audit phase):

- The researcher attended at Assiut University Hospital (labor ward) three days per week from 8am to 2pm
- The researcher introduced herself to nurses who involved in the study, then explained the aim of the study and ensured their cooperation. Then consent from participants was obtained.
- The researcher started to fill the structured interview questionnaire from the nurses to assess personal characteristics. It took about 10 to 15 minutes.
- Then the researcher assessed nurses' knowledge, practices (by using observational checklist), and

attitude regarding non-pharmacological measures to provide pain relief, it took about 15-20 minutes.

Phase2 (intervention phase):

- The researcher met all nurses involved in the study in each day at the end of the day in a separate room (studying room). Their number ranged from 1 – 4 nurses.
- The educational program was divided into two parts, theoretical and practical.
- The researcher explained to the studied nurses all items concerning knowledge about non-pharmacological measures to provide pain relief. The program implementation was represented in the form of lecture and took a time from 30-40 minutes.
- The researcher educated maternity nurses practices regarding non-pharmacological measures to provide pain relief measures during labor.
- The researcher gave the studied nurses the content of lecture in a booklet form to be a guide to her.

Phase 3 (post audit phase):

The researcher met the studied nurses after 4 weeks of educational program to fill data regarding knowledge, practices and attitude regarding non-pharmacological measures to relief pain as a post test.

Ethical considerations:

Tools of information collection were now not touch the moral, religious, moral and cultural issue of female life.

- Confidentiality was once maintained, and the researcher explained the purpose of the find out about to the pregnant women.
- The women and nurses had been cautioned of their proper to withdraw from the learn about at any point.

Statistical design:

The accrued records had been organized, categorized, coded, tabulated and analyzed the use of the Statistical Package for Social Sciences (SPSS). Data have been introduced and tables and charts the usage of numbers, percentages, means, popular deviation and Mecnumar test of value were used in order to locate an association between two qualitative variables. P-value considered statistically massive when $p < 0.05$.

Result:

Table (1): Distribution of the studied nurses according to their personal data (N=62):

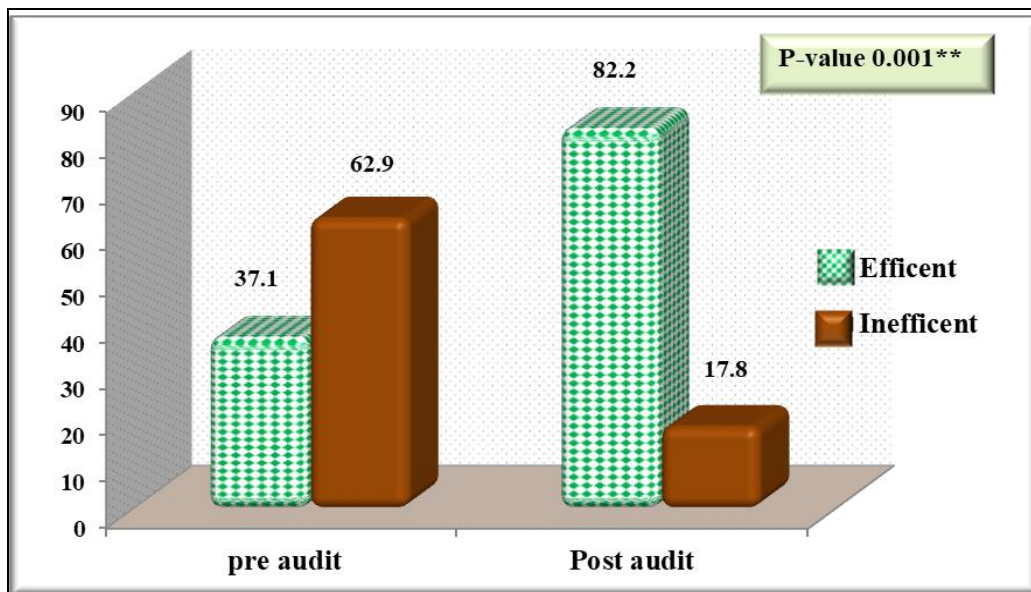
Personal data	No	%
1) Age		
• Less than 25 years	23	37.1
• From 25-30	7	11.3
• More than 30 years	32	51.6
2) Educational level:		
• Diploma nurse	50	80.6
• Baccalaureate nurse	12	19.4
3) Duration of service (years):		
• Less than 5 years	24	38.7
• From 5-10	9	14.5
• More than 10 years	29	46.8
4) Attendance of training or educational programs:		
• Infection control courses	62	100.0
• courses of pain relief measures	0	0.0
• Quality courses	0	0.0
• English language courses	0	0.0
• Others:	0	0.0
5) Department		
• Emergency department	32	51.6
• Reception department	30	48.4

Table (2): Distribution of the studied nurses according to their knowledge about the non-pharmacological measures to relief pain (N=62)

Items	Pre-audit		Post-audit		P-value	
	No	%	No	%		
Definition of pain	Correct answer	36	58.1	52	83.9	0.001**
	Incorrect answer	14	22.6	8	12.9	
	I don't know	12	19.3	2	3.2	
Physiology of pain	Correct answer	31	50.0	50	80.6	0.001**
	Incorrect answer	13	21.0	7	11.3	
	I don't know	19	29.0	5	8.1	
Non pharmacological measures to provide pain relief during labor						
Touching and reassurance	Correct answer	28	45.2	54	87.0	0.001**
	Incorrect answer	15	24.2	4	6.5	
	I don't know	19	30.6	4	6.5	
Establishing a therapeutic relationship with the pregnant woman.	Correct answer	15	24.2	46	74.2	0.001**
	Incorrect answer	27	43.5	10	16.1	
	I don't know	20	32.3	6	9.7	
Providing emotional support and encouraging verbalization of feeling.	Correct answer	22	35.5	48	77.4	0.001**
	Incorrect answer	14	22.6	9	14.5	
	I don't know	26	41.9	5	8.1	
Mobilization and position changing.	Correct answer	32	51.7	52	83.9	0.001**
	Incorrect answer	12	19.3	3	4.8	
	I don't know	18	29.0	7	11.3	
Allow family member visit.	Correct answer	14	22.6	53	85.4	0.001**
	Incorrect answer	31	50.0	4	6.5	
	I don't know	17	27.4	5	8.1	
Providing relaxation techniques such as yoga and playing of music	Correct answer	12	19.3	50	80.6	0.001**
	Incorrect answer	18	29.0	8	12.9	
	I don't know	32	51.7	4	6.5	
Teaching patterned breathing.	Correct answer	19	30.6	49	79.0	0.001**
	Incorrect answer	29	46.8	7	11.3	
	I don't know	14	22.6	6	9.7	
Providing hot and cold compresses	Correct answer	18	29.0	53	85.5	0.001**
	Incorrect answer	27	43.6	6	9.7	
	I don't know	17	27.4	3	4.8	

Mc Nemar significant test for pair qualitative variables

(**) highly statistically significant $p < 0.01$



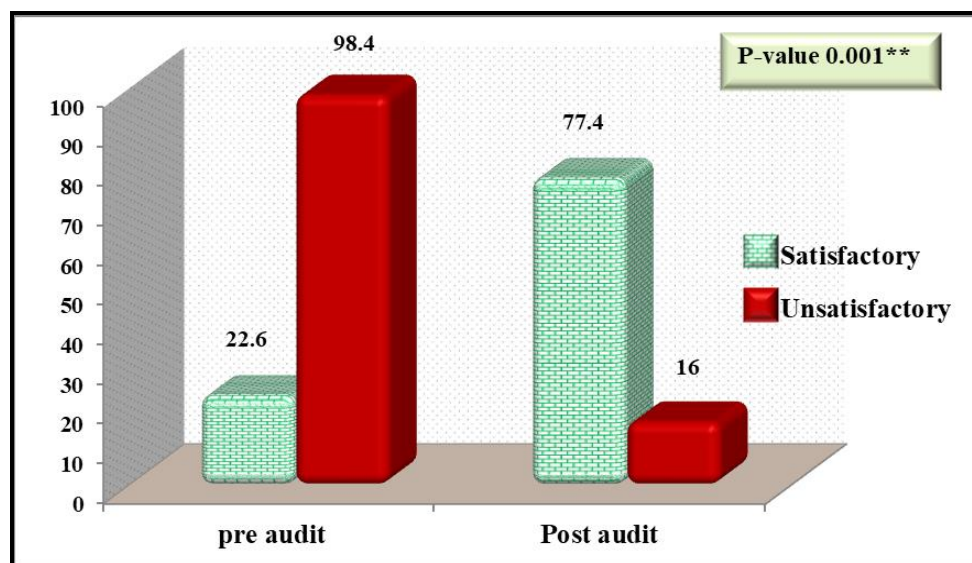
Mc Nemar significant test for pair qualitative variables (**) highly statistically significant $p < 0.01$

Figure (1): Total nurse' knowledge about pain-relief methods in pre and post audit (N=62)

Table (3): Distribution of the studied nurse according to observational practices regarding the non-pharmacological measures to relief pain for women in labor in pre and post audit (N=62)

Degree of pain	Pre-audit		Post-audit		P-value
	No	%	No	%	
1) Using suitable communication technique with the pregnant woman					0.001**
• Done	43	69.4	60	3.2	
• Not done	19	30.6	2	96.8	
2) Tender loving care					0.004**
• Done	37	59.7	61	98.4	
• Not done	25	40.3	1	1.6	
3) Providing emotional support and encourage verbalization of feelings					0.002**
• Done	25	40.3	59	95.2	
• Not done	37	59.7	3	4.8	
4) Mobilization and position changing					0.001**
• Done	2	3.2	45	72.6	
• Not done	60	96.8	17	27.4	
5) Allow family member visit					0.568
• Done	1	1.6	2	3.2	
• Not done	61	98.4	60	96.8	
6) Deep breathing exercise					0.002**
• Done	4	6.5	58	93.5	
• Not done	58	93.5	4	6.5	
7) Massage					0.001**
• Done	3	4.8	15	24.2	
• Not done	59	95.2	47	75.8	
8) Providing hot and cold compresses on lower back and symphysis pubis					0.058
• Done	1	1.6	6	9.7	
• Not done	61	98.4	56	90.3	
9) Applying the comparative pain scale					0.001**
• Done	2	3.2	61	98.4	
• Not done	60	96.8	1	1.6	

Mc Nemar significant test for pair qualitative variables (**) highly statistically significant $p < 0.01$



Mc Nemar significant test for pair qualitative variables (**) highly statistically significant $p < 0.01$

Figure (2): Total nurse' practices regarding pain-relief methods in pre and post audit (N=62)

Table (4): Distribution of the studied women according to degree of pain in vaginal delivery (N=62)

Degree of pain	Pre-audit		Post-audit		P-value
	No	%	No	%	
1) In the onset of labor					0.001**
• No pain	0	0.0	7	11.3	
• Minor pain	2	3.2	29	46.7	
• Moderate pain	56	90.4	24	38.8	
• Severe pain	4	6.4	2	3.2	
2) During period of rupture of membrane					0.001**
• No pain	2	3.2	0	0.0	
• Minor pain	1	1.6	11	17.7	
• Moderate pain	5	8.0	46	74.3	
• Severe pain	54	87.2	5	8.0	
3) During the period of delivery of the baby					0.002**
• No pain	1	1.6	0	0.0	
• Minor pain	1	1.6	10	16.1	
• Moderate pain	6	9.6	6	9.7	
• Severe pain	54	87.2	46	74.2	
5) During the period of delivery of placenta					0.001**
• No pain	2	3.2	0	0.0	
• Minor pain	3	4.8	41	66.2	
• Moderate pain	51	82.3	10	16.1	
• Severe pain	6	9.7	11	17.7	
6) During episiotomy if done					0.009**
• Not done	18	29.0	29	46.8	
• No pain	0	0.0	0	0.0	
• Minor pain	0	0.0	33	53.2	
• Moderate pain	44	71.0	0	0.0	
• Severe pain	0	0.0	0	0.0	

p-value done to variables without zero cases

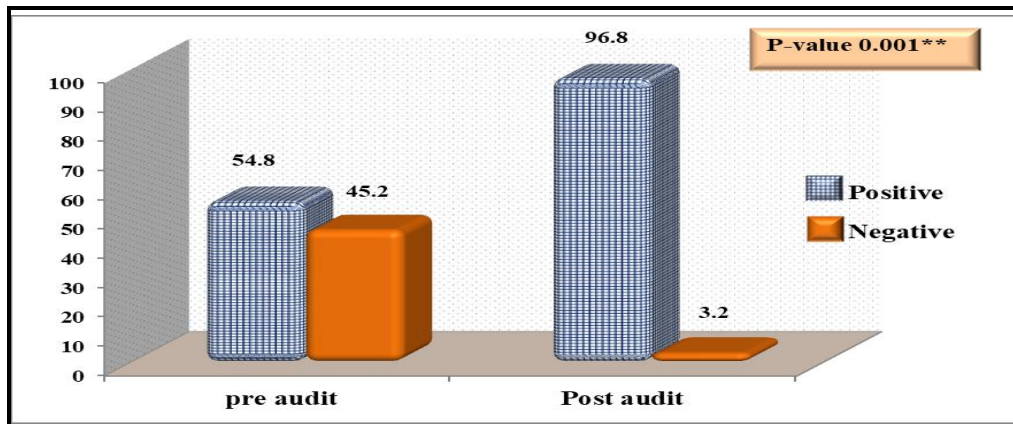
(**) highly statistically significant $p < 0.01$

Table (5): Attitude of studied nurses regarding the effect of pain-relief methods during labor in pre and post audit (N=62)

Attitude of the nurse	Pre-audit		Post-audit		P-value
	No	%	No	%	
1) Women should expect pain during labor. • Agree • Disagree	60 2	96.8 3.2	61 1	98.4 1.6	0.568
2) Belief that pain relief in labor is necessary. • Agree • Disagree	29 33	46.8 53.2	61 1	98.4 1.6	0.005**
3) Use of non-pharmacological methods for pain relief during labor is safer • Agree • Disagree	1 61	1.6 98.4	60 2	96.8 3.2	0.001**
4) Opinion regarding the effect of methods on the ability of women to cope with pain. • Agree • Disagree	1 61	1.6 98.4	61 1	98.4 1.6	0.001**
5) Agreement to give pain relief when asked and resources are available • Agree • Disagree	11 51	17.7 82.3	60 2	96.8 3.2	0.001**

Mc Nemar significant test for pair qualitative variables

(**) highly statistically significant $p < 0.01$



Mc Nemar significant test for pair qualitative variables (***) highly statistically significant $p < 0.01$

Figure (3): Total nurse's attitude regarding pain-relief methods in pre and post audit (N=62)

Table (6): Relation between total nurses' knowledge regarding pain-relief methods in pre audit and their personal data (N=62)

Socio demographic characteristics	Total knowledge score				P-value
	Efficient(23)		Inefficient(39)		
	N	%	N	%	
1) Age/ years • Less than 25 years • From 25-30 • More than 30 years	3 2 18	13.0 8.7 78.3	20 5 14	5.3 12.8 35.9	0.001**
2) Educational level: • Diploma nurse • Baccalaureate nurse	12 11	52.2 47.8	38 1	97.4 2.6	0.001**
3) Duration of service (years): • Less than 5 years • From 5-10 • More than 10 years	5 3 15	21.7 13 65.3	19 6 14	48.7 15.4 35.9	0.001**
5) Department • Emergency department • Outpatient department • Reception department	12 7 4	52.2 30.4 17.4	20 15 4	51.3 38.4 10.3	0.251

(**) highly statistically significant $p < 0.01$

Table (7): Relation between total nurses' practices regarding pain-relief methods in pre audit and their personal data (N=62)

Socio demographic characteristics	Total practices score				P-value
	Satisfactory(14)		Unsatisfactory(48)		
	N	%	N	%	
1) Age					0.271
• Less than 25 years	5	35.7	18	37.5	
• From 25-30	0	0.0	7	14.6	
• More than 30 years	9	64.3	23	47.9	
2) Educational level:					0.001**
• Diploma nurse	7	50.0	43	89.6	
• Bacallaureate nurse	7	50.0	5	10.4	
3) Duration of service (years):					0.959
• Less than 5 years	5	35.7	19	39.6	
• From 5-10	2	14.3	7	14.6	
• More than 10 years	7	50.0	22	45.8	
5) Department					0.370
• Emergency department	5	35.7	27	56.3	
• Outpatient department	7	50.0	15	31.3	
• Reception department	2	14.3	6	12.4	

(**) highly statistically significant $p < 0.01$

Table (8): Relationship between total nurses' attitude regarding pain-relief methods in pre audit and their personal data (N=62)

Socio demographic characteristics	Total attitude score				P-value
	Positive(34)		Negative(28)		
	N	%	N	%	
1) Age					0.400
• Less than 25 years	15	44.1	8	28.6	
• From 25-30	4	11.8	3	10.7	
• More than 30 years	15	44.1	17	60.7	
2) Educational level:					0.004**
• Diploma nurse	23	67.6	27	96.4	
• Bacallaureate nurse	11	32.4	1	3.6	
3) Duration of service (years):					0.100
• Less than 5 years	15	44.1	9	32.2	
• From 5-10	7	20.6	2	7.1	
• More than 10 years	12	35.3	17	60.7	
5) Department					0.025*
• Emergency department	18	52.9	14	50.0	
• Outpatient department	15	44.2	7	25.0	
• Reception department	1	2.9	7	25.0	

(**) highly statistically significant $p < 0.01$ (*) statistically significant $p < 0.05$

Table (9): Relation between total nurses' knowledge regarding pain-relief methods in pre audit and their practices and attitude (N=62):

Items	Total knowledge score				P-value
	Efficient(23)		Inefficient(39)		
	N	%	N	%	
1) Total practices					0.001**
• Satisfactory	11	47.8	3	7.7	
• Unsatisfactory	12	52.2	36	92.3	
2) Total attitude:					0.001**
• Positive	18	78.3	16	41.1	
• Negative	5	21.7	23	58.9	

(**) highly statistically significant $p < 0.01$

Table (10): Barriers to use labor pain-relief methods in health care settings, using the four-point Likert scale (N=62)

Barriers to use labor pain-relief methods	No (62)	%
1) Patient-related factors		
• Agree	28	45.2
• Disagree	34	54.8
2) Clinician-related factors.		
• Agree	33	53.2
• Disagree	29	46.8
3) Hospital-related factors		
• Agree	62	100.0
• Disagree	0	0.0
4) Place of working (department)		
• Agree	41	66.1
• Disagree	21	33.9
4) Mixed.		
• Agree	13	20.9
• Disagree	49	79.1

Table (1): Illustrates personal data of studied nurse and reported that 51.6% of them had an age more than 30 years and worked at emergency department, about 80.6% and 46.8% of the studied nurses had a diploma degree and duration of services for more than 10 years respectively. Also all of studied nurses attended infection control courses.

Table (2): Clarifies that there was once fairly statistical full-size difference between pre and post audit involving know-how about the non-pharmacological measures to relief pain p-value <0.01 for all items.

Figure (1): This figure demonstrates that 37.1% and 82.2% of the studied nurses had an efficient knowledge about pain-relief methods in pre audit and post audit respectively with highly significant difference between pre and post audit p-value <0.01.

Table (3): Clarifies that there was highly statistically significant between pre and post audit regarding observational sheet which contain the non-pharmacological measures to relief pain for women in labor as p-value <0.01 for all items except two [allow family member visit and providing hot and cold compresses on lower back as p-value for them <0.05 (not significant).

Figure (2): This figure demonstrates that 22.6% and 77.4% of the studied nurses had a satisfactory practices about pain-relief methods in pre audit and post audit respectively with highly significant difference between pre and post audit p-value <0.01.

Table (4): Shows the degree of pain of studied women in vaginal delivery in pre and post audit and clarified that 90.4% of the studied women in pre audit and 46.7% in post audit had a moderate and minor level of pain in the onset of labor respectively. During period of rupture of membrane about 87.2% of the studied women in pre audit and 74.2% in post audit

had a severe and moderate level of pain respectively. During the period of delivery of the baby, 87.2% of the studied women in pre audit and 74.2% in post audit had a severe level of pain. Concerning level of pain during placenta's delivery, about 82.3% of studied women in pre audit and 66.2% in post audit had a moderate and minor level of pain respectively. Regarding level of pain in episiotomy if done, about 71.0% of studied women in pre audit and 53.2% in post audit had a moderate and minor level of pain respectively, with highly statistical significant difference between pre and post audit p-value <0.01 for all previous items.

Table (5): shows attitude of the studied nurses regarding the effect of pain-relief methods during labor in pre and post audit, and demonstrated that there was no statistical significant difference between pre and post audit regarding women should expect pain during labor p-value >0.05. While there was highly significant difference between pre and post audit regarding all other items p-value <0.01.

Figure (3): This figure demonstrates that 54.8% and 96.8% of the studied nurses had a positive attitude regarding pain-relief methods in pre audit and post audit respectively with highly significant difference between pre and post audit p-value <0.01.

Table (6): Reports the relationship between total knowledge score and nurses' personal characteristics, and found that there was highly statistical significant difference between total knowledge and nurses' age, educational level, and duration of service p-value (<0.01), and there was no statistical significant difference between total knowledge and nurses' department p-value (>0.05).

Table (7): Shows the relationship between total practices score and nurses' personal characteristics, and found that there was highly statistical significant

relationship between total practices and nurses' educational level p-value (<0.01), and there was no statistical significant relationship between total practices and nurses' age, duration of service, and department p-value (>0.05).

Table (8): Shows the relationship between total attitude score and nurses' personal characteristics, and found that there was highly statistical significant relationship between total attitude and nurses' educational level, and p-value (<0.01), and there was statistical significant relationship between total attitude and nurses' department p-value (<0.05). While, there was no statistical significant relationship between total attitude and nurses' age and duration of service p-value (>0.05).

Table (9): Illustrates the relationship between total knowledge and total practice and total attitude, and found that there was highly statistical significant relationship between total knowledge and total practice and total attitude p-value (<0.01).

Table (10): Illustrates that all the studied nurses agreed that hospital related act as a barrier to use labor pain-relief methods, also 66.1%, 45.2% and 53.2% of them agreed that place of working, patient and clinician related factors respectively act as a barrier to use labor pain-relief methods.

Discussion:

Pain is an essential stressor dealing with hospitalized patients. (Konlan et al., 2021). Nurses spend a sizeable element of their time with patients. Thus, they have a necessary role in the decision-making manner regarding pain management. Nurses have to be well prepared and knowledgeable on ache assessment and administration strategies and have to no longer keep false beliefs about pain management, which can lead to inappropriate and insufficient pain administration exercise (Samarkandi, 2018).

Regarding total nurses' knowledge about pain-relief techniques in pre and publish audit, current study reviews that less than two fifths and the majority of the studied nurses have an efficient expertise about pain-relief techniques in pre audit and put up audit respectively with fantastically great difference between pre and post audit p-value <0.01 . These findings have been in the same line with (Shokry et al., 2022), who utilized their study in Egypt to look into the impact of supportive measures suggestions on nurses' practices in the course of labor, and validated that, there used to be a marked enchancement in information of the studied pattern about labor supportive measures publish implementation of an hints with exceedingly statistically sizable distinction at ($p \leq 0.01$) between pre, instantaneous publish and comply with up implementation of an guidelines.

Also previous findings have been consistent with (Hasan et al., 2020), who implemented their study to verify nurses-midwives' expertise about ache administration throughout labor earlier than and after implementation of academic application and to decide the effectiveness of instructional application on nurses- midwives', and it confirmed that that there were a vast correlations between pretest and posttest intervals after the implementation of education software for nurse- midwives involving labor pain ($p \leq 0.01$). This similarity help the vital role to academic program carried out and encourages continuous maternity nurses' attending an conferences or seminar that decorate their knowledge. On the other hand (Alharbi & Khamis, 2022), who carried out their study to assess knowledge and attitudes regarding non-pharmacological pain relief methods during labor among midwives and nurses at Madina, and revealed that more than one half (51.2%) of the studied nurses had an adequate knowledge about non-pharmacological labor pain relief. This dis-similarity back to the changing in study setting.

And (Wakgari et al., 2020), who performed their learn about in Ethiopia to assessed labor pain management practices and related elements amongst obstetric care carriers in public health institutions, and mentioned that the majority (88.1%) of the studied nurses were educated about pain remedy all through labor and childbirth, this difference lower back to earlier received of a terrific percentage (74%) of nurses to academic program pertaining to labor ache and its management.

Concerning nurses' complete practices about non-pharmacological measures to comfort pain, proper learn about illustrates that much less than one quarter and more than three quarters of the studied nurses have a nice information about pain-relief strategies in pre audit and publish audit respectively with rather sizable difference between pre and put up audit p-value <0.01 .

This discovering was supported with the aid of (Hassan & Hashem, 2019), who carried out their find out about in Egypt to determine the impact of in-service coaching application on nurses' performance toward non- pharmacological pain management, and mentioned that there used to be quite statistically extensive difference concerning the degree of performance toward non- pharmacological pain management both inside the learn about team nurses and between the manage and find out about agencies nurses submit the in -service training software p-value (<0.01). This may also be due to the demonstration training used as a part of the in -service training.

As regard total nurse' attitude related to pain-relief techniques in pre and post audit, current find out

about demonstrates that more than one half of and the giant majority of the studied nurses have a fine mindset related to pain-relief techniques in pre audit and publish audit respectively with relatively substantial distinction between pre and submit audit p-value <0.01. Congruent with previous findings (**Alharbi & Khamis, 2022**), confirmed that round three fifths (60.8%) of them had a appropriate mind-set involving non-pharmacological Labor pain relief.

Also preceding findings have been in settlement with (**Liyew et al., 2020**), who carried out their study to perceive gaps in knowledge and mind-set of nurse's degree of pain management, and illustrated that more than half (51.6%) of the studied nurses had a favorable mindset about pain management. This similarity explores that nurses who had a true understanding about non pharmacological ache measures had a tremendous attitude towards the usage of it, and this no longer located in unknowable group. Concerning to relationship between whole understanding rating and nurses' non-public characteristics, the existing study illustrates that there is notably statistical sizeable distinction between complete expertise and nurses' age, academic level, and duration of service p-value (<0.01), and there is no statistical sizeable distinction between whole know-how and nurses' department p-value (>0.05).

Consistent with preceding findings (**Ali et al., 2017**), clarified that there was once statistical extensive distinction relationship between total expertise and nurses' age and years of ride p-value (<0.05). Also (**Jira et al., 2020**), who applied their find out about to assess knowledge and attitude closer to non-pharmacological ache administration and related factors amongst nurses working in Benishangul Gumuz Regional State Hospitals, western Ethiopia, and clarified that there is statistical enormous difference relationship between whole understanding and nurses' degree of schooling and years of experience p-value (<0.05).

Inconsistent with previous finding, (**Sezer et al., 2022**), who carried out their study in Turkey to determine the understanding and practice of non-pharmacological methods (NFM) used in labor pain (LP) control of Health Care Workers (HCWs) working in labor wards, and published that there was once no statistical extensive distinction relationship between complete information and nurses' age and years of ride p-value (>0.05). This distinction can also be lower back to changing in the study's setting.

As regard relationship between whole exercise score and nurses' personal characteristics, the actual learn about shows that there is fairly statistical sizable relationship between complete practices and nurses' instructional level, p-value (<0.01), and there is no statistical great relationship between total practices

and nurses' age, period of service, and department p-value (>0.05).

The same findings was reported (**Wakgari et al., 2020**), who showed that there was highly statistical significant relationship between total practices and nurses' educational level p-value (<0.01), Also (**Sezer et al., 2022**), who clarified that there was no statistical significant relationship between total practices and nurses' age, experienced period p-value (>0.05).

Different findings used to be supported by means of (**Shokry et al., 2022**), who illustrated that there was tremendously statistical sizeable relationship between whole practices and nurses' age, duration of service, and branch p-value (<0.01).

Regarding relationship between complete nurses' mind-set involving pain-relief strategies in pre audit and their private data, modern-day learn about clarifies that there is notably statistical enormous distinction between total mindset and nurses' educational level, and p-value (<0.01), and there is statistical giant relationship between total mindset and nurses' branch p-value (<0.05). While, there is no statistical good sized relationship between total mindset and nurses' age and duration of provider p-value (>0.05).

The same findings were reported via (**Jira et al., 2020**), who located that there was no statistical good sized relationship between total attitude and nurses' age and years of ride p-value (>0.05). Also (**Innab et al., 2022**), who applied their learn about to evaluate the effectiveness of a structured education software on nurses' information and attitudes toward pain management, and mentioned that there was once tremendously statistical considerable difference between complete mindset and nurses' educational level, and p-value (<0.01) and there was once no statistical widespread relationship between complete mind-set and nurses' years of journey p-value (>0.05).

In addition (**Wassihun et al., 2022**), who applied their find out about to determine the practice of labor ache administration and related factors among professional attendants working in public health amenities in Southern, Ethiopia, agreed with preceding findings and said that there had been exceptionally statistical great relationship between complete expertise and whole exercise and total attitude p-value (<0.01). This similarity explained the critical impact of having know-how on the nurses' practices and attitude.

As regard personal characteristics of the studied nurses, found out about reviews that extra than one 1/2 of them have an age greater than 30 years and labored at emergency department, the majority and less than one half of the studied nurses have a

diploma diploma and length of offerings for extra than 10 years respectively. Also all of studied nurses attended infection control courses.

Near to previous findings, (Al-harbi & Khamis, 2022), who determined that extra than two thirds (69%) of the studied nurses had an age more than 30 years, and had a nursing diploma stage of education. That used to be disagreed with (Shokry et al., 2022), who reported that extra than one half (55%) of the studied nurses had diploma degree of education, and more than three quarters of them had > 10 years of experience.

From my point of view this study clarified that there was statistical significant distinction between pre and post audit regarding information about the non-pharmacological measures to comfort pain, that affected the degree of pain that diminished in a seen degree in the post audit section, and the extra the instructional stage of nurses used to be accelerated, the more the mind-set of performing the non pharmacological measures to relief pain was once increased.

Conclusion:

There was once a especially considerable enchancement in nurses' knowledge and practices after audit in contrast to pre audit. Also the mindset of the studied nurses was once improved.

Recommendations:

Implementation of labor supportive measures at exceptional child- birth gadgets to improve nurses' practice regarding pain relief measures.

- Further Studies to check out parturient women's pleasure with childbirth system after enforcing of labor supportive measures.
- Studying the effect of labor supportive measures on childbirth manner out-come.
- Discussing the effect of using pain relieving measures to decrease cesarean section rate.

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