Effect of Training Program on Parturient Women's Satisfaction and Nurses' Compliance with Natural Measures for Relieving Labour pain

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Abstract

Aim: Evaluate effect of training program on parturient women's satisfaction and nurses' compliance with natural measures for relieving labour pain. **Design**: A quasi- experimental (Pre/post-test). **Setting:** Delivery room of Obstetrics and Gynecological department at Benha University hospitals. **Sampling:** Two samples were used; 47 Nurse and 200 parturient women both selected by purposive sample. **Tools:** Three tools for nurses; a structured Interviewing Questionnaire, nurses' compliance checklist with natural measures for relief pain during labour, Nurse's satisfaction regarding implemented training program about natural pain relief measures. Four tools for parturient women; a structured Interviewing Questionnaire, Rating Visual Analog Scale, Qualitative pain assessment, Parturient woman satisfaction regarding pain relief during labour. An instructional supportive nursing brochure. **Results:** There was a marked improvement in all domains of compliance with natural measures for relieving pain during labour among the studied nurses at post intervention compared to pre intervention with a highly statistically significant difference (P≤ 0.001). There is a marked decrease in pain level at **1st** and **2nd** stage of Labour among breathing exercises, foot and hand, back massage and counter pressure groups at post intervention compared to pre intervention with a highly statistically significant difference (P≤ 0.001). There is no significant difference between breathing exercises, foot and hand, back massage and counter pressure groups towards satisfaction regarding pain relief during labour at post-intervention (P> 0.05). **Conclusion:** Training program has positive effect on parturient women's satisfaction and enhance nurses' compliance with natural measures for relieving pain during labour. **Recommendation:** Developing awareness program for nurses to enhance compliance and improve parturient women's satisfaction regarding natural measures for relieving pain during labour.

Keywords: Compliance, labour pain, natural measures, Parturient, Satisfaction.

Introduction

Labor is a process which a fetus and placenta are delivered from the uterus through the vagina. Labor is one of the most painful events that women experience during lifetime. labour pain is an essential part of childbirth signing the onset and labour progress. Labour pain is described as bearable and positive as well even simultaneously as intolerable and traumatic. Managing pain according to the wishes of parturient is therefore a cornerstone of good quality obstetrical care (**Joensuu et al., 2022**).

Pain relief during labour is a way of promoting a satisfactory birth experience and

a healthy reproductive outcome for women. Natural measures labor pain management measures are non-invasive, cheap, and simple. Lack of labor pain management practice is one of the indications of poor quality of care and contributing factors of low utilization of institutional delivery and indirect contributing factors of maternal morbidity and mortality which important to improve maternal satisfaction and facilitate parturient woman ability for attachment. **(Wassihun et al., 2022)**.

Natural pain relief measures associated with massage, relaxation methods, breathing and counter pressures. Massage involves manipulation of soft tissues in the body used to relax tense muscles. Massage can reduce pain by improving blood flow or inhibiting pain signals. Hand, back, and foot massage may be very effective in reducing tension and enhancing comfort. Some evidence suggests that massage may improve management of labor pain. Also massaging at defined points correlate to another part of the body, pain relief is achieved in the alternate part of the body **(Sullivan and McGuiness, 2018).**

Breathing technique is one of natural measures that can help the woman during contractions. The early stages can relax the abdomen and abdominal cavity area muscles. The deep breathing technique taught is to take a slow breath from the nose, hold for a few seconds in the stomach and then exhale slowly through the mouth. **(Amru et al., 2021**). The counter pressure technique is carried out in the lumbar area where the uterine and cervical sensory nerves run with the uterine sympathetic nerves entering the spinal cord through the thoracic nerves 10-11-12 to the lumbar **(Sriayuningtyas and Galaupa, 2022).**

Nursing care during childbirth has changed significantly over time. Nurses understand the rationale and evidence that supports use of non-pharmacologic comfort measures also promote physiologic birth, which will be prepared to also promote parturient woman quality and safety. The nurses' role in providing comfort using measures as massage, birthing ball, showering, application of hot or cold, mental strategies such as relaxation, changes to the environment such as music, and breathing exercises which may delay or minimize the use of medical interventions **(Johnson et al., 2018).**

Significance of the study:

Labour pain may lead to severe consequences for women, as prolonged labour which may increase the risk of fetal distress, head compression, intrauterine fetal death and physical injuries to neonates, also play an essential role in informing about labour progress. Nurses have vital role for optimal labour pain management through proper pain assessment and applying knowledge about natural pain relief measures that reflect on parturient women awareness and choices. There is no previous study related to nurse's compliance with natural measures for relieving labour pain in faculty of nursing at Benha University. So this study conducted to evaluate effect of training program on parturient women's satisfaction and nurse's compliance with natural measures for relieving labour pain.

Aim of the study:

The present study aimed to evaluate effect of training program on parturient women's satisfaction and nurses' compliance with natural measures for relieving labour pain.

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Research hypotheses:

H1: Nurses who would have attend training program had assured significant enhancement in compliance with natural pain relief measures during labour.

H2: There was improvement in parturient women satisfaction more than those who wouldn't have participate.

Subject and methods:

Study design: A quasi-experimental (Pre /post-test).

Setting:

This study was conducted at delivery room of Obstetrics and Gynecological department at Benha University hospitals.

Sampling:

Sample size: Two sample sizes were utilized for the purpose of the study, sample of nurses who was attended the pre-mention program for natural pain relief measures during labuor and sample of parturient women who was received the intervention.

1- Sample of nurses:

Nurses who were included in a total of 52 and 5 nurses were excluded for the purpose of the pilot study.

Sample type: was a purposive sample.

Sample criteria:

- Diploma with technical school of nursing who worked at delivery room.

2- Sample of parturient women:

According to the last hospital statistical 2020, a total of 2000 births had been occurred. Total sample of parturient women were 220 women. Accordingly, 10% of the total sample was selected to conduct the purpose of pilot study. 20 parturient women excluded for the purpose of pilot study. (150 studied group and 50 control group)

Sample type: A purposive sample.

Sample criteria:

- During active labour phase with 3-4cm with cervical dilatation

- Age 20-35 years old.

-Without medical and obstetric complications associated with pregnancy and labour.

For the purpose of the study, sample was divided equally into 4 groups:

- **Group 1:** was received breathing exrcises.
- **Group 2:** was received foot and hand massage.
- **Group 3:** was received back massage and counter pressure.
-**Group 4:** control group who was received routine hospital care.
- Each group included 50 parturient women.
- All groups were instructed by the attending nurses at 2nd stage all parturient women about how to push, finally at 3rd stage of labour all parturient women were instructed by the attending nurses about immediate neonatal sucking with mother breast.

Tools of data collection:

Two groups of tools were used for data collection. Tool to collect data from nurses. Second tool utilized to collect data from parturient women attending. The researcher reviewed the advanced national and international literature related to the purpose of the study then prepared, designed and implemented tools of data collection.

Tool (I): Nurse's tool: three tools of data collection were utilized

First: A structured Interviewing Questionnaire schedule: It was developed by researcher which included 2 parts:

Part 1: was assessed nurses' general characteristic (age, area of residence, education and attending to previous program).

Part 2: was assessed nurses' knowledge related to labour and natural pain relief measures which included 8 questions multiple choices.

Scoring of knowledge:

Each question was evaluated as (2) score for correct knowledge and a (1) score for incorrect knowledge.

Total score of correct knowledge was ≥ 60%.

Total score of incorrect knowledge was < 60%.

Second: tool for nurses' compliance check-list with natural measures for relief pain during labour (Baljon et al., 2020) was adapted and developed by researcher in the form of check list which included 24 items.

-The researcher evaluated nurses' compliance as comply scored (2) and not comply scored (1).

- Total compliance was ≥ 60% and Total not compliance < 60%.

Third: Nurses' satisfaction regarding implemented training program about natural pain relief measures: This included 12 statements.

Scoring system: Satisfied scored (3) and uncertainly scored (2) and dissatisfied scored (1).

All tools of data collection was utilized pre-intervention then immediately post intervention. Nurse's satisfaction tool was utilized 6 weeks post intervention.

Tool (II): for assessing parturient women.

Four tools of data collection were utilized for collect data from parturient women.

A- A structure Interviewing Questionnaire Schedule: It was be utilized pre intervention and repeated 6-week post childbirth that assessed parturient woman general characteristics (age, education, and work status and area of residence).

B- Rating Visual Analog Scale: It was be adapted by researcher (**Jones et al., 2007,** **Breivik, et al 2008 and Jacques, 2009).** Certain items were changed to reach the aim of the study that assessed parturient woman pain level during labour that recorded pre intervention at 4cm, then 6cm, 8cm with cervical dilation post intervention. In the numerical scale, the user had the option to verbally rate their scale from 0 to 10 or to place a mark on a line indicating their pain level. 0 indicates the absence of pain, while 10 represents the most intense pain possible. The score distance between 1 and 3 was a mild pain while between 4 and 6 indicated moderate pain and between 7 and 10 score indicated sever pain**.**

C- Qualitative pain assessment (Eid et al 2022): that was adapted and developed by researcher that assessed parturient woman present qualitative pain during labour observed and recorded in form of check-list which included 3 items**:**

- **Vocalization:** such as crying, screaming and calm or silent.

- **Facial expression:** such as grimace, clenched teeth, lip biting and wrinkled fore head.

- **Body movement** such as walking, changing position, immobility and restless.

D- Parturient woman satisfaction regarding natural pain relief measures during labour: It was be adapted and developed by researcher after reviewing related literature (**Khumalo and Rwakaikara 2020)** that assessed parturient women satisfaction toward natural pain relief utilized during labour. This included 9 statements.

Scoring system: Each statement was evaluated as satisfied scored (3) and uncertainly scored (2) and dissatisfied scored (1).

Satisfaction tool was be utilized for parturient woman post intervention only.

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An instructional supportive nursing brochure: that enhanced nurses' knowledge and compliance regarding natural measures for pain relief during labour that included definition of labour, onset, stages, signs of true labour pain, differentiate between true and false labour pain, duration and signs of placental separation. Also methods, technique of each natural measures of pain relief as foot, hand massage counter pressure, breathing exercise and lower and upper back massage which include pictures, diagrams and Visual Analog Scale.

Tool Validity and Reliability:

All Tools which utilized were developed by researcher and sent to three specialized professors in the field of study obstetrics nursing to test content validity according to comment modifications were considered. Reliability of tools were tested utilizing Cronbach's alpha coefficient test which revealed that the internal consistency for nurse's compliance check-list with natural measures for relief pain during labour was 0.84, nurse's satisfaction regarding implemented training program about natural pain relief measures was 0.93, Rating Visual Analog Scale was 0.91, parturient woman satisfaction regarding pain relief during labour was 0.90.

Ethical considerations:

Ethical was considered before starting the study as the following:
Oral consent obtained from each parturient woman and nurse who participated in the study. Implementation of the program didn't cause any physical, psychological and social harm or risk for participants. Each participant was informed about the aim and title of the study.

Maintained confidentiality, self-esteem and dignity of subject. Freedom to withdraw from participation at any time.

Pilot study:

The pilot study was carried out before starting the data collection that was conducted on (10%) of the study sample which was excluded from total samples (5 nurses and 20 parturient women) to test clarity, applicability and feasibility of tools used and practicability of the study. According to the statistical analysis modification was considered.

Fieldwork:

This study was conducted at the previous mentioned setting in a period from February 2021 to April 2021. The study was conducted through three phases included preparatory, implementing and evaluation phases.

Preparatory phase:

The researcher reviewed the advanced national and international literature related to the purpose of the study, then prepared design tools of data collection. Finally, the researcher conducted pilot study to a test content validity of tools used.

Implementation and evaluation phase:

The researcher visited the previous mentioned study setting after taking permission and interviewed the studied sample (nurses) for three days/ week from 9 am to 2 pm. Nurses were interviewed daily according to attendance from hospital registration book. The researcher introduced herself and explaining the aim of the study to build confidence and trust and finally obtain consent to participate in the study. Each day 4 nurses were interviewed daily utilizing Interview Questionnaire Schedule to assess knowledge regarding natural measures for

relieving labour pain pre-intervention then were utilized 6-week post intervention. Duration of each interview was 25 minutes then the researcher designed and implemented training program which included 10 sessions, 4 sessions for theoretical part and 6 sessions for clinical part. Duration of each session was 25 minutes. Number of participants for each session was 4 Nurses.

Methods of teaching: such as lecture, group discussion, brainstorming, demonstration, bed side teaching, role play.

Media: lap-top, flipchart and female model.

-The researcher distributed post program tool to assess nurses' satisfaction related to implement training program about natural pain relief measures.

-Implementation natural pain relief measures on parturient woman was started after 6 week from implementation of nursing training program.

-The researcher was visit the previous mentioned study setting for three days / week from 9 am to 4 pm. 4 parturient women was interviewed daily that was selected from hospital registration book according to sample criteria. The researcher explained the aim of the study to each woman to build confidence and trust and finally obtain oral consent to participate in the study.

-The sample was divided into groups: The control group who received routine hospital care. The study groups (breathing exercise group, foot &hand group, back massage group & counter pressure group who received natural pain relief measures. The researcher started by control group and followed by the study group to avoid contamination of the study.

-Four groups were interviewed utilizing Interview Questionnaire schedule duration of interview 25 minutes. Visual Analog Scale were applied to all groups at 4cm, then at

6cm, and finally at 8cm with cervical dilation post intervention. Qualitative pain assessment was utilized for all groups that was recorded pre-intervention at 4cm, then at 6cm, and finally at 8cm with cervical dilation post intervention. Each nurse provided natural pain relief measures for 1 parturient woman daily. Parturient women satisfaction for natural pain relief measures were assessed immediately post childbirth.

-At the end the researcher assessed nurse's compliance while applying natural pain relief measures on parturient woman. This was repeated daily till pre-determined sample size reached. **Finally,** The researcher evaluated effect of training program on parturient women's satisfaction and nurses' compliance with natural measures for relieving labour pain.

Limitations of the study:

-Interrupted application of natural pain relief measures due to overcrowded with medical and nursing student and also sudden admission of emergency cases.

-Nurses sick leave consumed time to implementation of training program.

Statistical Analysis:

Analysis of data and statistical results were done by using Statistical Package for Social Science (SPSS) version 25. All data collected were verified prior to computerized entry Analysis was performed using descriptive statistics in the form of frequencies and percentages for variables, the arithmetic mean, the standard deviation, Chi square test, Friedman test, p - value and correlation coefficients test.

Results:

Table (1): Shows that, less than half (46.8%) of the studied nurses were aged 25≤29 years with mean age is 27.92 ± 5.02 years. Also, more than two-thirds (68.1%) of them living in rural areas. Regarding educational

qualification, more than half (57.4%) of them had three-year nursing technical diploma. Also, all (100.0%) of them don't attend training courses on natural measures for relieving labour pain.

Table (2): Shows that, the studied parturient women's age ranged from 20 - 35 years. The mean ± SD age of foot, hand, back massage & counter pressure and control groups was 26.4 ± 4.02, 26.6 ± 4.31, 26.8 ± 4.09 and 25.9 ± 3.89, respectively. Also, the women who had secondary education were more prevalent, they constitute 64.0%, 60.0%, 68.0% and 64.0% in four groups, respectively. The majority of the studied parturient women in four groups (84.0%, 90.0%, 88.0% and 86.0%, respectively) were housewives. As regard, the majority of the studied parturient women in four groups (76.0%, 70.0%, 80.0% and 84.0%, respectively) were residing in rural areas.

Figure (1): Illustrates that, there is a marked improvement in all knowledge items about Labour among the studied nurses at post intervention phase compared to pre intervention phase with a highly statistically significant difference (P≤ 0.001). Regarding total knowledge, more than one-third (40.4%) of the studied nurses had correct total knowledge score about Labour at pre intervention phase compare to the most (93.6%) at post intervention phase.

Figure (2): Illustrates that, there is, more than one-quarter of the studied nurses complied with natural measures for relief pain during labour at pre intervention phase compare to the most at post intervention.

Table (3): Shows that, there is a marked decrease in level of pain at 1st and 2nd stage of Labour among breathing exercise, foot & hand, back massage & counter pressure groups at post intervention phase compared to

pre intervention phase with a highly statistically significant difference (P≤ 0.001). Also, there is no significant difference between breathing exercise, foot & hand, back massage & counter pressure groups and control group regarding level of pain at 1st and 2nd stage of Labour at pre intervention phase (P > 0.05). Moreover, there is a highly significant difference between breathing exercise, foot & hand, back massage & counter pressure groups and control group regarding level of pain at 1st and 2nd stage of Labour at post intervention phase (P≤ 0.001).

Table (4): Clarifies that, all (100%) of the studied nurses found that, the teaching aids are appropriate with the scientific content of the program and the objective of the training program is identical to the scientific content. Also, (100%) of them found that the contents of the training program are organized and interrelated and on-the-job training reinforces nurses' commitment to applying natural procedures to relieve labor pain in a short time by improving and evaluating their practice and correcting their mistakes at the same time by following the checklist tool.

Table (5): Reveals that, there is no significant difference between Breathing exercises, foot & hand, back massage & counter pressure groups towards their satisfaction regarding pain relief during labour at post-intervention phase (P> 0.05). As regard, all (100%) of the studied groups found that, the natural measures were used to relieve pain without financial cost and they will use natural measures to relieve pain without hesitation during future Labour. Also, the vast majority (96.0%) of them satisfied with the nurses' support during the Labour and natural measures to relieve Labour pain are psychologically and physically comfortable.

Table (1): Distribution of the studied sample nurses according to general characteristics (n=47).

Items	No.	%
Age		
20≤24 years	14	29.8
25≤29 years	**22**	**46.8**
≥ 30 years	11	23.4
Mean ± SD	**27.92 ± 5.02**	
area of residence		
Rural	**32**	**68.1**
Urban	15	31.9
Educational qualification		
Three-year Nursing Technical Diploma	**27**	**57.4**
Five-year Nursing Technical Diploma	20	42.6

Table (2): Distribution of the studied sample (parturient women) according to general characteristics (n=200 parturient woman).

Items	Breathing exercise group (n=50)		Foot and hand Massage group (n=50)		Back massage & counter pressure group (n=50)		Control group (n=50)		X²	P-Value
	No	%	No	%	No	%	No	%		
Age (Year)										
20≤24	15	30.0	13	26.0	15	30.0	16	32.0	**1.296**	**0.350**
25≤29	26	52.0	25	50.0	22	44.0	25	50.0		
≥ 35	9	18.0	12	24.0	13	26.0	9	18.0		
Mean ± S.D	**26.4 ± 4.02**		**26.6 ± 4.31**		**26.8 ± 4.09**		**25.9 ± 3.89**		**F= 0.822**	**0.216**
Educational level										
Illiterate	2	4.0	2	4.0	1	2.0	2	4.0	**1.055**	**0.163**
Read and write	2	4.0	4	8.0	3	6.0	3	6.0		
Basic education	7	14.0	6	12.0	5	10.0	7	14.0		
Secondary education	32	64.0	30	60.0	34	68.0	32	64.0		
High education	7	14.0	8	16.0	7	14.0	6	12.0		
Marital status										
Married	50	100.0	48	96.0	50	100.0	48	96.0	**0.958**	**0.428**
Divorced	0	0.0	0	0.0	0	0.0	1	2.0		
Widowed	0	0.0	2	4.0	0	0.0	1	2.0		
Working status										
Employee	8	16.0	5	10.0	6	12.0	7	14.0	**0.811**	**2.010**
Housewife	42	84.0	45	90.0	44	88.0	43	86.0		
Residence										
Rural	38	76.0	35	70.0	40	80.0	42	84.0	**1.150**	**0.425**
Urban	12	24.0	15	30.0	10	20.0	8	16.0		

X²: Chi Square Test   No Statistically significant at p >0.05.

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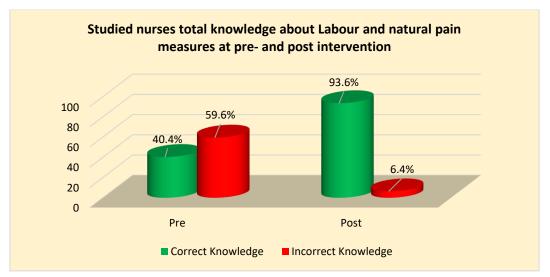

Figure (1): Percentage distribution among the studied nurses total knowledge regarding Labour and natural pain relief measures at pre- and post-intervention (n=47).
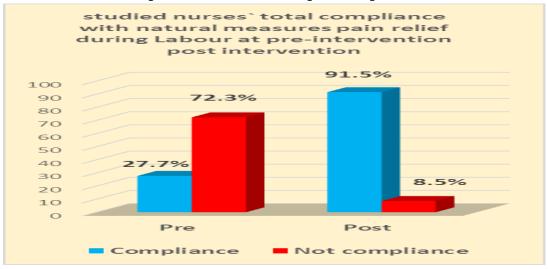

Figure (2): Percentage distribution among the studied nurses regarding total compliance with performing natural measures pain relief during labour at pre- and post-intervention (n=47).

Table (3): Distribution of the studied sample (parturient women) regarding pain level during 1st and 2nd stage of Labour at pre- intervention A post-intervention (n=200).
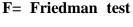
Stages of Labour	Levels of total pain	Breathing exercise group (n=50)				Foot and hand Massage group (n=50)				Back massage and counter pressure group (n=50)				Control group (n=50)			
		Pre intervention		Post intervention		Pre intervention		Post intervention		Pre intervention		Post intervention		Pre intervention		Post intervention	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1st stage of Labour	Mild	6	12.0	22	44.0	8	16.0	20	40.0	7	14.0	22	44.0	5	10.0	6	12.0
	Moderate	38	76.0	26	52.0	34	68.0	27	54.0	35	70.0	26	52.0	36	72.0	37	74.0
	Severe	6	12.0	2	4.0	8	16.0	3	6.0	8	16.0	2	4.0	9	18.0	7	14.0
	X^2 P-value	X^2=19.74 P=0.000**				X^2=18.02 P=0.000**				X^2=20.65 P=0.000**				X^2=1.269 P=0.263			

X^2: **Chi-square**   **p= p-value**   No Statistically significant at p >0.05. **: Highly statistically significant at p ≤ 0.001.

Table (4): Distribution of the studied sample (nurse's) satisfaction regarding implemented training program about natural pain relief measures (n=47).

Items	Satisfied		Uncertain		Not Satisfied	
	No.	%	No.	%	No.	%
The program was easy and included advanced knowledge	45	95.7	2	4.3	0	0.0
Training methods are appropriate with the scientific content of the program.	**47**	**100**	0	0.0	0	0.0
The objective of the training program is correlated to the scientific content.	**47**	**100**	0	0.0	0	0.0
Training program was organized and exploration its content.	**47**	**100**	0	0.0	0	0.0
The trainer gave opportunity to the participants to ask questions to increase understanding, clarify the answer and accept the suggestions.	45	95.7	2	4.3	0	0.0
The training program duration didn't interfere with the basic activities assigned to the nurse.	40	85.1	7	14.9	0	0.0
The training program improves the nurses' knowledge, attitude and practice regarding the natural measures for relieving the pain of Labour.	45	95.7	2	4.3	0	0.0
Bedside training program reinforces nurses' compliance to applying natural measures to relieve labor pain in a short time by improving and evaluating their practice and correcting their mistakes at the same time by following the checklist tool	**47**	**100**	0	0.0	0	0.0
It is recommended to re-apply this program to another sample	44	93.6	3	6.4	0	0.0
Training during activity was inexpensive and free of stress.	45	95.7	2	4.3	0	0.0
The training program was applied in comfortable, good ventilation, light, and safe place.	44	93.6	3	6.4	0	0.0
The duration of the training program is sufficient for skill acquisition.	43	91.5	4	8.5	0	0.0

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Table (5): Distribution of the studied sample (parturient women) satisfaction related to different natural pain relief measures utilized during labour (n=150).

Items	Breathing exercises group (n=50)						Foot and hand Massage group (n=50)						Back massage and counter pressure group (n=50)						
	Satisfied		Uncertain		Not Satisfied		Satisfied		Uncertain		Not Satisfied		Satisfied		Uncertain		Not Satisfied		
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	
Nurses support women during the labour.	48	96.0	2	4.0	0	0.0	48	96.0	2	4.0	0	0.0	48	96.0	2	4.0	0	0.0	Fr =0 p=0
Explain importance of uterine contractions during labour.	46	92.0	4	8.0	0	0.0	45	90.0	5	10.0	0	0.0	47	94.0	3	6.0	0	0.0	Fr =0.424 p=.820
Nurse instructed parturient woman on the importance of deep breathing and relaxation during and after uterine contraction.	45	90.0	5	10.0	0	0.0	46	92.0	4	8.0	0	0.0	46	92.0	4	8.0	0	0.0	Fr =0.115 p=2.044
Massaging the back, hands and feet relieving labour pain during contraction.	46	92.0	4	8.0	0	0.0	47	94.0	3	6.0	0	0.0	50	100	0	0.0	0	0.0	Fr =1.002 p=.255
Natural measures completely relieve labour pain.	46	92.0	4	8.0	0	0.0	47	94.0	3	6.0	0	0.0	50	100	0	0.0	0	0.0	Fr =1.002 p=.255
Natural pain relieve measures weren't expensive, effective and easy to be utilized.	50	100	0	0.0	0	0.0	50	100	0	0.0	0	0.0	50	100	0	0.0	0	0.0	Fr =0 p=0
I will not use natural procedures to relieve pain in future labour.	0	0.0	0	0.0	50	100	0	0.0	0	0.0	50	100	0	0.0	0	0.0	50	100	Fr =0 p=0
Natural measures to relieve Labour pain are no harm to woman and fetal health.	48	96.0	2	4.0	0	0.0	48	96.0	2	4.0	0	0.0	48	96.0	2	4.0	0	0.0	Fr =0 p=0
useing natural measures to relieve pain without hesitation during future Labour	50	100	0	0.0	0	0.0	50	100	0	0.0	0	0.0	50	100	0	0.0	0	0.0	Fr =0 p=0

F= Friedman test   p= p-value   No Statistically significant at p >0.05.

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Discussion

This aim of study was significantly achieved within the frame work in the present study research hypotheses which were nurses who attended training program had assured significant improvement compliance with natural pain relief measures during labour also enhancing parturient women satisfaction more than those who didn't participated.

Regarding total knowledge, the current study clarified that more than one-third of the studied nurses had correct total knowledge score about Labour at pre intervention phase compare to the most at post intervention phase. This result was in accordance with a study of "The impact of an in-service educational program on nurses' knowledge and attitudes regarding pain management in an Ethiopian university hospital" conducted by **Germossa et al., (2018)** who reported that the studied participants answered more than one third of the survey knowledge items about pain management correctly before the intervention and nearly two thirds after the intervention.

Conversely, a study of "Skilled health attendants' knowledge and practice of pain management during labour in health care facilities in Ibadan, Nigeria" that carried out by **Ohaeri et al., (2019)** who indicated that most of the studied participants had a good knowledge level about labor pain management. This discrepancy might be result of differences in demographic characteristics of both study participants and data collection tools.

Additionally, the current study revealed that there was a marked improvement in all domains of compliance with natural measures for relief pain during labour among the studied nurses at post intervention phase compared to pre intervention phase with a

highly statistically significant difference. Regarding total compliance with natural measures for relief pain during labour, more than one-quarter of the studied nurses complied with natural measures for relief pain during labour at pre intervention phase compare to the most at post intervention.

This result was inconsistent with a study carried out by **Wakgari et al., (2020)** who studed "Labour pain management practices among obstetric care providers in Hawassa city" and found that only less than one fifth of providers routinely practiced natural measures for relief pain during labour. Besides, a study of "Utilization of labor pain management methods and associated factors among obstetric care givers at public health institutions of East Gojjam Zone, Amhara region" that carried out by **Temesgen et al., (2022)** who mentioned that the overall utilization of non-pharmacological labor pain management was more than two fifth among the study respondents. The discrepancy might be due to the sociocultural characteristics of the study sample, health facilities rules and regulations, traditional practices at birth, and poor communication of health professionals.

Related to the studied parturient women's pain level during 1st stage of Labour at pre-intervention converse post-intervention, the present study indicated that there was a marked decrease in level of pain at 1st stage of Labour among breathing exercise, foot & hand massage, back massage & counter pressure groups at post intervention phase compared to pre intervention phase with a highly statistically significant difference. This finding was agree with a study of "Comparison of the effect of mechanical massage and warm mechanical massage application on perceived labor pain and childbirth experience in Turkey" that conducted by **Kaçar & Keser, (2021)** who

reported that the labor pain level for each intervention group was found to be lower than the control group.

In relation to the studied nurses' satisfaction regarding implemented training program about natural pain relief measures post-intervention, the present study indicated that all of them found that the teaching aids were appropriate with the scientific content of the program and the objective of the training program was identical to the scientific content. This result was in accordance with a study conducted by **Germossa et al., (2018)** who found that the majority of participants reported that content of the educational program was suitable to its objectives and teaching aids were appropriate.

Besides, the present study clarified that all of the studied nurses found that the contents of the training program were organized and interrelated and on-the-job training reinforces nurses' compliance to applying natural procedures to relieve labor pain in a short time by improving and evaluating their practice and correcting their mistakes at the same time by following the checklist tool. Similarly, a study conducted by **Shokry et al., (2022)** who studed "Effect of Supportive Measures Guidelines on Nurses' Practices during Labor in Egypt" and stated that all of studied sample the training program enhances nurses' practices and the objective of the training program was simple and clear. Also, majority of studied sample satisfied about the educational sessions cover the objective, number of participant was suitable to the place of training and material of the training program was effective and scientific.

Regarding different natural pain relief measures utilized during labour related to the studied parturient women's satisfaction post-

intervention, the current study represented that there was no significant difference between breathing exercise, foot & hand massage, back massage & counter pressure groups towards their satisfaction regarding pain relief during labour at post-intervention phase. This finding was consistent with a study of "Patient Satisfaction with Non-Pharmacological Pain Management during Labour at a Midwife Obstetric Unit in a Peri-Urban South Africa" that carried out by **Musonda & Mabathoana, (2022)** who reported that the studied women are satisfied with Non-Pharmacological Pain relief measures that utilized during Labour and there wasn't significant difference between them.

Similarly, a study of "Assessment of Women's Satisfaction with Childbirth Experience after Utilization of Pain Management Practices in Iraq" carried out by **Ali, (2021)** who stated that women's satisfaction with childbirth experience after utilization natural pain management practice's items showed good status, since highly evaluation was obtained, and that reflected the positive site of effectiveness for the intervention which were applicable indeed.

As well, the current study clarified that all of the studied parturient women found that, the natural measures were used to relieve pain without financial cost and they will use natural measures to relieve pain without hesitation during future Labour. This result was partially in accordance with a study of "Non-Pharmacologic Management of Labour Pains Among Women in Moniya General Hospital, in Nigeria " conducted by **Ogunniran, Oluwatosin & Rahji, (2020).** They mentioned that the majority of the women would like to use non-pharmacologic

measures of pain relief in labour because it has no adverse effect on the mother and child and it is cost effective.

Also, the present study indicated that the vast majority of the studied parturient women satisfied with the nurses' support during the Labour and natural measures to relieve Labour pain were psychologically and physically comfortable. This finding was supported by a study of "Women's experiences of pain management during childbirth at Bwaila Hospital in Lilongwe, Malawi" conducted by **Phiri Kachapila, (2018)** who reported that participants describe the care as satisfactory when the midwife was comforting them physically and psychologically.

Conclusion:

Training program has positive effect on parturient women's satisfaction and enhance nurse's compliance with natural measures for relieving pain during labour. So hypotheses was supported and accepted and the study aim was achieved.

Recommendations:

• Developing awareness program for nurses to enhance compliance and improve parturient women's satisfaction regarding natural measures for relieving pain during labour.

• Reapplication the present study in another setting and on a large sample size for generalizing the findings.

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تأثير البرنامج التدريبي علي رضا السيدات اثناء الولادة و التزام الممرضات بالإجراءات الطبيعية لتخفيف الآم الولادة

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الإجراءات الطبيعية تحد من آلام الولادة وعدم حدوث ضرر لألم والطفل حديث الولادة وتعمل على تطور الولادة كما انها بسيطة وفعالة من حيث التكلفة. يمكن أن يقلل ذلك من استخدام المسكنات أثناء ويشمل ذلك على التدليك وتدريبات التنفس والعلاج بالضغط علي مركز الآلام في اسفل الظهر. لذلك هدفت هذه الدراسة إلى تقييم تأثير البرنامج التدريبي علي رضا السيدات اثناء الولادة و التزام الممرضات بالإجراءات الطبيعية لتخفيف الآم الولادة. تم إستخدام تصميم شبه تجريبي (قبل / بعد الاختبار) لإجراء هذه الدراسة. أجريت هذه الدراسة في غرفة الولادة بقسم أمراض النساء والتوليد بمستشفيات جامعة بنها. تم استخدام عينتين لغرض الدراسة: 47 ممرضة و200 سيدة اثناء الولادة وكانت العينة هادفة. كشفت الدراسة الى ان البرنامج التدريبي له تأثير إيجابي على رضا النساء أثناء الولادة ويعزز التزام الممرضة للإجراءات الطبيعية لتخفيف الألم أثناء الولادة. لذلك تم دعم الفرضية وقبولها وتم تحقيق هدف الدراسة. حيث اوصت الدراسة إلى تطوير برنامج لتوعية الممرضات وذلك لتعزيز التزامهن وتحسين رضا السيدات تجاه الإجراءات الطبيعية لتخفيف الآم الولادة.