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"Empowering Future Nurses: Assessing the Effectiveness of a Planned Teaching Programme on Knowledge Regarding Evidence-Based Non-Pharmacological Measures to Promote Labour Progress During the First Stage of Labour in Primigravida Women Among Final-Year B.Sc. Nursing Students in Selected Nursing Colleges, Mangaluru".

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Abstract:

Labour pain is an unpleasant, multifaceted, highly personalised phenomenon that includes both emotional and sensory elements.

Pregnant women frequently worry about the pain they will feel during labour and delivery, as well as how they will respond to and manage that discomfort.

She receives support, direction, encouragement,

and unwavering acceptance other coping mechanism.

In order to reduce pain and speed up labour, the lady and her spouse or other supportive individuals are assisted and guided in employing nonpharmacologic approaches and self-comforting strategies. Women report that they were "able to transcend their pain and experience a sense of strength and profound psychologic and spiritual comfort during l abour "after receiving this type of care. The type and intensity of the labouring woman's pain, as well as how she will react to and manage it, are influenced by a variety of physiological, emotional, psychological, and environmental factors.

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woman experiences, as well as how she reacts to and manages it,
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emotional, psychological, and environmental factors.
The current study sought to determine whether pretest knowledge scores among final year B.Sc. Nursing students were associated with specific
demographic variables and to "Empowering Future Nurses: Assessing the effectiveness of a Planned Teaching Programme (PTP) on knowledge regarding evidence-based non-pharmacological measures to promote labour progress during the first stage of labour in primigravida women. The present investigation was aimed to
determine whether pretest knowledge scores among final year
B.Sc. Nursing students are correlated with specific demographic variables and to assessing the effectiveness of a planned teaching programme on knowledge regarding evidence-based non-pharmacological measures to promote Labour Progress During the First Stage of Labour in Primigravida Women among 140 final year B.Sc. nursing students from particular nursing colleges 70 in the experimental group and 70 in the control group are employed in the evaluative study design with quasi- experimental pretest post-test control group design utilising a straight forward random sampling technique. A structured knowledge questionnaire and a demographic proforma were used to gather the data.
The experimental and control groups took a pre-test.
The experimental group received the planned educational programme.
A posttest was administered to both groups utilising the same structured questionnaire after sevendaysThe study's findings showed that, interms of the experimental group's level of k nowledge, 52 (74.3%) hadinadequate knowledge in the pretest, 18 (25.7%) had moderate k nowledge, and none of them had
adequate knowledge. This improved in the posttest, where the majority of 48 (68.6%) had adequate knowledge,
22 (31.4%) had moderate knowledge, and none of them had inadequate knowledge.
The control group, on the other hand, showed little variation between the pretest and post-test. In contrast to the
control group, which had a pretest mean percentage of 44.27% with mean and SD
of 17.73 ± 9.05 and a posttest mean percentage of 43.47% with mean and SD of 17.39 ± 4. 89 with calculated t69=0.37
($p>0.001$) and a posttest mean percentage of 78.85% with mean and SD of 18.072

(p<0.001). This indicates planned educational programme was effective.

Demographic factors such as age (χ2=0.001; p>0.974 (NS)), gender χ2=0.058; p>0.809 (NS)),

place of residence (χ2 =0.0062; p>0.997 (NS)), family type (χ2=0.092; p>0.762 (NS)), participants

birth order(χ2=3.634; p>0.162 (NS), and prior knowledge scores in the experimental group .The current study will contribute to assessing the effectiveness of a planned teaching programme on knowledge regarding evidence-based non-pharmacological measures to promote labour progress during the first stage of labour in primigravida women among final-year B.Sc. nursing students in selected nursing colleges, Mangaluru".

KEYWORDS: Evaluate, Effectiveness, Planned Educational Program, Primigravida Women, Nonpharmacological Measures, First Stage of Labour, Final Year B.Sc. Nursing Students, Nursing College.

INTRODUCTION:

The labour process can be seen as the first act of motherhood, a test of womanhood, a test of one's own abilities, and a pinnacle of experience.

The onset of regular uterine activity, which is linked to the cervix's effacement, dilation, and descent of the presenting part through the cervix, marks the beginning of the labour phase[1].

Pregnant women frequently worry about the agony they may feel during labour and childbirth, as it is a practically universal experience. Because each person's pain threshold is different, anxiety is frequently linked to increased discomfort during childbirth.

Pain is a complicated, multifaceted, individual phenomena that is influenced by a number of elements, including biological, psychological, sociocultural, and economic ones[2].

In order to reduce pain and speed up labour, the lady and her spouse or other supportive individuals are assisted and guided in employing non-pharmacologic approaches and self-comforting strategies. Women report that they were "able to transcend their pain and experience a sense of strength and profound psychologic and spiritual comfort during labour" after receiving this type of care[3]. Pharmacological methods are typically used to manage pain during childbirth.

Painkillers, such as intramuscular and intravenous painkillers, regional and local anaesthesia, epidurals, and spinal blocks, are frequently utilised in hospitals' labour and delivery units.

For many, the idea of using
nonpharmacological methods to relieve pain during delivery is relatively new.
Nurses must provide
care and support to women who choose to use nonpharmacological techniques to manage t heir delivery pain[4].
There are both pharmaceutical and non-pharmacological ways to alleviate childbirth pain.
Pethidine, morphine, fentanyl, and other pharmacological methods are commonly employed
to relieve labour pain, and their demand is higher in obstetrical facilities.40% of women re ceive good pain relief, it can cause nausea, vomiting, headaches, urine retention, back pain, hypotension, and
respiratory depression. It can also cause respiratory depression in foetuses after large or rep eated doses.
Additionally, the infant will be less vigilant, easily frightened, and anxious[5].
Women should be encouraged to attempt a variety of approaches and look for alternatives, such as pharmaceutical methods, even if they have prior experience. Many of these method s take practice for the greatest results.
Counterpressure, massage, walking, rocking, shifting positions, applying heat, hydrotherapy, aromatherapy, music, the use of focus points, hypnosis, and biofeedback are some non-pharmacological pain management techniques. According to other surveys, first time labour is much more unpleasant than subsequent births.
Not only is the mechanics of pain intricate, but its manifestation is even more mysterious. Some people are more open about their sorrow than others[6].
Inhibition of pain signalling is a key component of nonpharmacological pain relief strategi es.
Nociceptive transmission from the spinal cord to the cerebral cortex and higher brain nucle i is the source of pain.
Peripheral and central components that can either encourage or inhibit this input mediate non-receptive signals[7].
Many women would prefer to give birth without the use of medicines
and discover other ways to cope with the discomfort. Warm compresses, music,
massage therapy, and breathing techniques are some of these techniques.
Non-pharmacological pain management techniques are easy, secure, and affordable.
It views the human body as the culmination of its mental,

social, spiritual, and physical aspects. There are no adverse consequences.

The use of natural elements in remedies promotes a cure without the use of drugs. Alternative modalities are inexpensive and easy to use. Alternative modalities provide equal weight to preventive and promotional factors[8].

During her clinical posting and interactions with labouring moms, the investigator witnessed a variety of behavioural reactions, such as sobbing, striking the labour table, tightly biting herteeth, etc. Mothers are generally ill-prepared, both physically and psychologically, to handle the challenges of pregnancy

When nonpharmacological techniques are employed, such as breathing exercises, massages, music therapy, walking, and various positions, they can lessen labour pain and reduce the possibility of adverse effects for both the mother and the foetus.

There are no nonpharmacological interventions employed in maternity settings. Nonpharmacological measures are simple, low-cost, and don't require any particular training or delivery techniques.

For the purpose of the study, the researcher planned to instruct final-year B.Sc. nursing students.

STATEMENT OF THE PROBLEM

"Empowering Future Nurses: Assessing the Effectiveness of a Planned Teaching Programme on Knowledge Regarding Evidence-Based Non-Pharmacological Measures to Promote Labour Progress During the First Stage of Labour in Primigravida Women Among Final-Year B.Sc. Nursing Students in Selected Nursing Colleges, Mangaluru".

OBJECTIVES

The objectives of the study are to:

- assess pre-test knowledge regarding non-pharmacological measures during progress in first stage of labour in primigravida women among final year B.Sc. nursing students in experimental and control group.
- assess the effectiveness of planned teaching programme on knowledge regarding non-pharmacological measures during progress in first stage of labour pain among final year B.Sc. Nursing students in experimental and control group.
- find out the association between the knowledge score regarding non-pharmacological measures during progress in first stage of labour in primigravida women among final year B.Sc. nursing students with their selected socio demographic variables in experimental and control group.

RESEARCH HYPOTHESIS

The hypotheses will be tested at 0.05 level of significance.

H_1: There will be significant difference between knowledge score of final year B.Sc. nursing students before and after administration of the planned teaching programme regarding effectiveness of non-pharmacological measures during progress in first stage of labour in primigravida women among experimental and control group.

H_2: There will be significant difference between knowledge score of final year B.Sc. nursing students before and after administration of the planned teaching programme regarding effectiveness of non-pharmacological measures during progress in first stage of labour in primigravida women between experimental and control group.

H_3: There will be significant association between knowledge score with selected socio-demographic variable among final year B.Sc. nursing students.

MATERIALS AND METHODS:

Research approach: The researcher utilized an evaluative approach.

Research design: In this study, quasi experimental design was adopted.

	GROUPS	PRE-TEST	TREATMENT	POST-TEST
R	EXPERIMENTAL	O_{E1}	X	O_{E2}
R	CONTROL	O_{C1}	----	O_{C2}

R: Randomised of the subjects to experimental and control group.

E: Experimental Group

C: Control group

O_{E1}: Assessment of pre-test knowledge score regarding non-pharmacological measures during progress in first stage of labour in primigravida women among final year B.Sc. nursing students using a structured knowledge questionnaire in experimental group.

O_{E2}: Assessment of post-test knowledge score regarding non-pharmacological measures during progress in first stage of labour in primigravida women among final year B.Sc. nursing students, 8^{th} day after the planned teaching programme using same structured knowledge questionnaire in experimental group.

X: Planned teaching programme on knowledge regarding non-pharmacological measures during progress in first stage of labour in primigravida women among final year B.Sc. nursing students after pre-test for experimental group.

O_{C1}: Assessment of pre-test knowledge score regarding non-pharmacological measures during progress in first stage of labour in primigravida women among final year B.Sc. nursing students using a structured knowledge questionnaire in control group.

O_{C2}: Assessment of post-test knowledge score regarding non-pharmacological measures during progress in first stage of labour in primigravida women among final year B.Sc. nursing students, 8^{th} day after the planned teaching programme using same structured knowledge questionnaire in control group.

Research setting: The setting for the study was conducted in selected nursing colleges. (Masood College of Nursing, S C S College of Nursing, Srinivas College of Nursing, Athena college of Nursing, Mangaluru.

Population: In this study, population comprises of students who are studying in final year B.Sc. nursing students at selected nursing colleges, Mangaluru.

Sample: The sample would comprise of 140 final year B.Sc. nursing students who met the inclusion criteria was selected. In that 70 students were in experimental group and 70 students were in control group.

Sampling technique: The samples were selected by Purposive sampling method for experimental group (two colleges) and control group (two colleges). And simple random sampling technique was used to select samples.

Description of the final tools:

The tool was selected based on the objectives of the study. It consists of 2 parts

Part 1: Socio Demographic proforma

Part 2: Structured knowledge questionnaire

PLAN FOR DATA ANALYSIS

The data were analysed by using both descriptive and inferential statistics

- Organization of ungrouped data into grouped data.
- Frequencies and percentages were used for analysis of socio-demographic characteristics.
- Calculation of mean, standard deviation of pre and post-test scores.
- Paired 't' test was used to ascertain whether there is significant difference in the mean knowledge score of pre-test and post-test values.

- Chi- square test was used to find the association between socio-demographic variables with pre-test knowledge scores.

RESULTS:

Section 1: Description Of Demographic Variables

Table 1: Frequency and percentage distribution of demographic variables of samples in experimental and control group.

n= 70 +70

Sl. No	Demographic variables	Experimental group (N=70)		Control group (N=70)	
		f	%	f	%
	Age in years				
	19 - 21	27	38.6	54	77.2
	22 - 24	43	61.4	15	21.4
	> 25	0	0	1	1.4
	Gender				
	Male	13	18.6	10	14.3
	Female	57	81.4	60	85.7
	Residence				
	Hostel	54	77.2	61	87.1
	Home	4	5.7	9	12.9
	Paying Guest	12	17.1	0	0
	Type of family				
	Nuclear	65	92.9	57	81.4
	Joint	5	7.1	13	18.6
	Extended	0	0	0	0
	Any other, specify	0	0	0	0
	Birth order of the participants				
	First Born	38	54.3	52	74.3
	Second Born	30	42.9	16	22.9
	Third Born	2	2.8	2	2.8
	If any other, specify	0	0	0	0
	Previous knowledge regarding non pharmacological measures				

during progress in first stage labour.				
Yes	**11**	**15.71**	**10**	**14.28**
No	**59**	**84.28**	**60**	**85.71**
If yes, source of information regarding non pharmacological measures during progress in first stage labour.				
Mass media	**0**	**0**	**0**	**0**
Text book / classroom education	**6**	**-**	**7**	**-**
Health personnel's	**0**	**0**	**0**	**0**
Newspaper/Magazine/Journal	**5**	**-**	**3**	**-**
Friends/Relatives	**0**	**0**	**0**	**0**

According to the data in Table 1, the majority of finalyear B.Sc. nursing students were bet ween the ages of 19 and 21 (27 (38.6%) and 54 (77.2%) from the experimental group and control gr oup, 22 to 24 (43 (61.4%) and 15 (21.4%) from the experimental group and control group, and 25 years and older (1 (1.4%) from the control group).Regarding gender, 13 (18.6%) an d 10 (14.3%) students from the experimental group and control group were male, while 57 (81.4%) and 60 (85.7%) student s from the experimental group and control group were female.Regarding where they lived, 54 (77.2%) and 61 (87.1%) of the experimental group and control group lived in hostels, 4 (5.7%) and 9 (12.9 %) of the experimental group and control group lived at home, and 12 (17.1%) of the exper imental group and control group did not live as paying guests.Regarding family structure, 6 5 (92.9%) and 57 (81.4%) students from the experimental group and control group lived in nuclear families, 5 (7.1%) and 13 (18.6%) from the experimental group and control group l ived in joint families, and none of them lived in extended families. According to information about their birth order, 38 (54.3%) and 52 (74.3%) of the experimental group and control group were born first, 30 (42.9%) and 16 (22.9%) were born second, and 2 (2.8%) and 2 (2.8%) were born third. 11 students (15.71%) and 10 students (14.28%) from the experimental group and control group had prior knowledge of nonpharmacological measures in progress during the first stage of labour, while 59 students (84.28%) and 60

students (85.71%) from the experimental and control groups had prior knowledge of nonpharmacological measures in progress during the first stage of labour.

SECTION II:

PRETEST KNOWLEDGE SCORE DISTRIBUTION FOR THE EXPERIMENTAL AND CONTROL GROUPS.

Table 2: Frequency and percentage distribution of B.Sc. Nursing students based on pre-test level of knowledge in the experimental and control group.

n=70 +70

PRE-TEST LEVEL OF KNOWLEDGE	RANGE OF SCORE	EXPERIMENTAL GROUP		CONTROL GROUP	
		f	%	f	%
Inadequate	0-20	52	74.3	44	62.9
Moderate	21-30	18	25.7	26	37.1
Adequate	31-40	0	0	0	0

SECTION 3: COMPARISON OF PRE-TEST POST-TEST KNOWLEDGE SCORE IN EXPERIMENTAL AND CONTROL GROUP.

Table 4: Frequency and percentage distribution of B.Sc. Nursing students based on pre-test and post-test level of knowledge in the experimental and control group.

n=70 +70

Level of knowledge	Score	Experimental group				Control group			
		Pre-test		Post-test		Pre-test		Post-test	
		f	%	f	%	f	%	f	%
Inadequate	0-20	52	74.3	0	0	44	62.9	37	52.9
Moderate	21-30	18	25.7	22	31.4	26	37.1	33	47.1
Adequate	31-40	0	0	48	68.6	0	0	0	0

Table 3;The experimental group's knowledge level improved in the posttest, with the major ity of 48 (68.6%) having adequate knowledge, 22 (31.4%) having moderate knowledge, an d none of them

having inadequate knowledge. In the pretest, 52 (74.3%) had inadequate knowledge, 18 (2 5.7%) had moderate knowledge, and none of them had adequate knowledge.

However, there was little variation between the pre-test and post-test in the control group. In the pre-
test and posttest, the majority of 44 (62.9%) and 37 (52.9%) had insufficient knowledge, w hile 26 (37.1%) and 33 (47.1%) had none.

SECTION 4: EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON KNOWLEDGE BETWEEN PRE-TEST AND POST-TEST KNOWLEDGE SCORE AMONG EXPERIMENTAL AND CONTROL GROUP.

To find the effectiveness of planned teaching programme regarding non-pharmacological measures during progress in first stage of labour pain among final year B.Sc. Nursing students, following hypothesis was stated.

H_0: There will be no significant difference between knowledge score of final year B.Sc. nursing students before and after administration of the planned teaching programme regarding effectiveness of non-pharmacological measures during progress in first stage of labour in primigravida women within experimental and control group.The hypothesis was tested by using paired 't' test.

Table 4: Overall mean, SD, mean difference, mean percentage and paired "t" test of pre-test and post-test level of knowledge score within experimental and control group.

n=70 + 70

Groups	Time	Mean ± SD	Mean difference	Mean %	t value	p value
Experimental Group	Pre-test	17.73 ± 9.05	13.83	44.27%	18.072	<0.001
	Post-test	31.54 ± 5.00		78.85%		
Control Group	Pre-test	17.7 ± 9.51	-0.31	44.27%	0.37	>0.001 (NS)
	Post-test	17.39 ± 4.89		43.47%		

t_{69} = 1.995 **Significant at 0.005 level**

The data presented on table 4 shows that experimental group pre-test mean percentage was 44.27% with mean and SD of 17.73 ± 9.05 and in post-test mean percentage 78.85% with mean and SD 31.54 ± 5.00 with calculated t_{69}=18.072 (p <0.001) which was greater than the table value t_{69}=1.995 showing there was statistically significant difference between pre-

test and post-test, whereas in control group of pre-test was 44.27% with mean and SD of 17.7 ± 9.51 and in post-test mean percentage 43.47% with mean and SD 17.39 ± 4.89 with calculated t_{69}=0.37 (p>0.001) which was lesser than the table value t_{69}=1.995 showing there was no statistically significant difference between pre-test and post-test.

Hence null hypothesis (H_0) was rejected and research hypothesis (H_1) was accepted in experimental group i.e., the PTP of effective in improving the knowledge of the samples in experimental group and no difference in the level of knowledge is seen in control group in pre-test and post-test. Hence null hypothesis (H_0) was accepted and research hypothesis(H_1) was rejected in control group.

Table 5: Area wise mean, standard deviation, mean percentage, t value of knowledge score regarding non-pharmacological measures during progress in first stage of labour in primigravida women among final year B.Sc. nursing students in experimental and control group

n=70

+70

S.NO	AREAS	TIME	EXPERIMENTAL GROUP			CONTROL GROUP		
			Mean ±SD	Mean %	t value	Mean ± SD	Mean %	t value
1	General information regarding labour	Pre-test	3.89±1.22	48.6	14.08*	4.18±1.61	59.1	0.10
		Post-test	6.53±1.10	81.6		4.21±1.61	52.6	
2	General information on labour pain.	Pre-test	1.39±0.95	46.3	7.62*	1.21±0.92	40.3	0.45
		Post-test	2.41±0.60	80.3		1.14± 0.94	38	
33	Non-pharma-cological measures	Pre-test	1.09±0.71	50.5	4.71*	0.82±0.68	41	0.23
		Post-test	1.60±0.55	80.0		0.8±0.71	40	
4	Massage	Pre-	2.3 ± 1.04	47.2	11.30	2.31±1.31	46.2	0.06

		test			*****			
		Post -test	**3.94±0.85**	**78.8**		**2.3±1.36**	**46**	
5	**Hydrotherapy**	**Pre-test**	**1.79±0.93**	**44.8**	**8.68***	**1.71±0.11**	**42.75**	**0.25**
		Post -test	**3.16±0.88**	**79.0**		**1.75±1.17**	**43.75**	
6	**Breathing exercises**	**Pre-test**	**1.81±1.11**	**45.3**	**7.36***	**1.78±1.08**	**44.5**	**0.074**
		Post -test	**3.09±0.93**	**77.3**		**1.77±1.28**	**44.25**	
7	**Heat application**	**Pre-test**	**1.59±0.91**	**39.8**	**12.82 ***	**1.75±1.06**	**43.75**	**0.88**
		Post -test	**3.20±0.77**	**80.0**		**1.6±1.14**	**40**	
8	**Ambulation and various position changes**	**Pre-test**	**2.20±1.20**	**44.0**	**8.82***	**1.88±1.36**	**37.6**	**1.32**
		Post -test	**3.80±1.02**	**76.0**		**2.2± 1.44**	**44**	
9	**Aromatherapy**	**Pre-test**	**1.61±0.98**	**32.2**	**13.77 ***	**2.07 ±1.38**	**41.4**	**2.13***
		Post -test	**3.81± 0.86**	**76.2**		**1.6 ±1.41**	**32**	
Overall		**Pre-test**	**17.67± 9.05**			**17.71±9.51**		
		Post -test	**31.54±7.56**			**17.37±11.0**		

t_{69}= 1.995 ***Significant at 0.005evel**

Table 5shows that in experimental group, during pre-test maximum knowledge was in the area of general information regarding labour with mean percentage of 46.6% in pre-test with mean and SD of 3.89±1.22 which is greater than the post -test mean percentage 81.6% with mean and SD 6.53±1.10 with calculated "t" value 14.084. The lowest score was in

ambulation and various position changes with mean percentage of 44.0% in pre-test with mean and SD of 2.20±1.20 which is greater than the post -test mean percentage 76.0% with mean and SD of 3.81± 0.86 which is greater than the post -test mean percentage with calculated "t" value 8.824.The area of general information on labour pain with mean percentage of 46.3% in pre-test with mean and SD of 1.39±0.95 which is greater than the post -test mean percentage 80.3% with mean and SD of 2.41±0.60 which is greater than the post -test mean percentage with calculated "t" value 7.623. The area of non-pharmacological measures with mean percentage of 50.5% in pre-test with mean and SD of 1.09±0.71 which is greater than the post -test mean percentage 80.0% with mean and SD of 1.60±0.55 which is greater than the post -test mean percentage with calculated "t" value 4.714.Regarding the areas in Massage therapy with mean percentage of 46.2% in pre-test with mean and SD of 2.3 ± 1.04 which is greater than the post -test mean percentage 78.8% with mean and SD of 3.94±0.85 which is greater than the post -test mean percentage with calculated "t" value 11.308. The area of hydrotherapy with mean percentage of 44.8% in pre-test with mean and SD of 1.79±0.93 which is greater than the post -test mean percentage 79.0% with mean and SD of 3.16±0.88 which is greater than the post -test mean percentage with calculated "t" value 8.688. The area of breathing exercises with mean percentage of 45.3% in pre-test with mean and SD of 1.78±1.08 which is greater than the post -test mean percentage 77.3% with mean and SD of 3.09±0.93 which is greater than the post -test mean percentage with calculated "t" value 7.368. The area of heat application with mean percentage of 43.75% in pre-test with mean and SD of 1.59±0.91 which is greater than the post -test mean percentage 80.0% with mean and SD of 3.20±0.77 which is greater than the post -test mean percentage with calculated "t" value 12.820. The area of the aromatherapy with mean percentage of 32.2% in pre-test with mean and SD of 1.61±0.98 which is lesser than post-test mean percentage 76.2% with mean and SD of 3.81± 0.86 which is greater than the post -test mean percentage with calculated "t" value 13.775.

Whereas in control group, during pre-test maximum knowledge was in the area of general information regarding labour with mean percentage of 59.1% in pre-test with mean and SD of 18±1.61which is greater than the post -test mean percentage 52.6% with mean and SD with 4.21±1.61 calculated "t" value 0.107. The lowest score was in Ambulation and various position changes with mean percentage of 37.6% in pre-test with mean and SD of 1.88±1.36 which is greater than the post -test mean percentage 44% with mean and SD of 2.2± 1.44 which is greater than the post -test mean percentage with calculated "t" value

1.3266. The area of general information on labour pain with mean percentage of 40.3 % in pre-test with mean and SD of 1.21±0.92 which is greater than the post -test mean percentage 38% with mean and SD of 0.8±0.71 which is greater than the post -test mean percentage with calculated "t" value 0.45. The area of non-pharmacological measures with mean percentage of 41 % in pre-test with mean and SD of 0.82±0.68 which is greater than the post -test mean percentage 40% with mean and SD of 1.60±0.55 which is greater than the post -test mean percentage with calculated "t" value 0.237.

The area of massage with mean percentage of 47.2% in pre-test with mean and SD of 2.31±1.31which is greater than the post -test mean percentage 46% with mean and SD of 2.3±1.36 which is greater than the post -test mean percentage with calculated "t" value 0.0684. The area of hydrotherapy with mean percentage of 42.75 % in pre-test with mean and SD of 1.71±1.11 which is greater than the post -test mean percentage 43.75% with mean and SD of 1.75±1.17 which is greater than the post -test mean percentage with calculated "t" value 0.2509. The area of breathing exercises with mean percentage of 44.5% in pre-test with mean and SD of 1.81±1.11 which is greater than the post -test mean percentage 44.25% with mean and SD of 1.77±1.28 which is greater than the post -test mean percentage with calculated "t" value 0.0746. The area of heat application with mean percentage of 39.8% in pre-test with mean and SD of 1.75±1.06 which is greater than the post -test mean percentage 40% with mean and SD of 1.6±1.14 which is greater than the post -test mean percentage with calculated "t" value 0.8880. The area of the aromatherapy with mean percentage of 41.4 % in pre-test with mean and SD of 2.07 ±1.38 which is lesser than post-test mean percentage 32% with mean and SD of 1.6 ±1.41 which is greater than the post -test mean percentage with calculated "t" value 2.1352. The calculated "t" value was more in all areas in experimental group.

The calculated t value was more in all the areas in experimental group. This indicates that PTP was effective in all the areas. Hence null hypothesis (H_0) is rejected and research hypothesis (H_1) is accepted. In control group the calculated "t" value is more in aromatherapy area, and lesser in all other areas. Hence the null hypothesis (H_0) is accepted and research hypothesis (H_1) is rejected, that is there will be no significant difference in knowledge score in pre-test and post-test of final year B.Sc. nursing students without administration of PTP regarding non-pharmacological measures during progress in first stage of labour in primigravida women.

SECTION 5: EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON KNOWLEDGE SCORES BETWEEN EXPERIMENTAL AND CONTROL GROUP.

To test significant differences, null hypothesis was stated as follows:

H_{01}: There will be no significant difference between in the knowledge score of final year B.Sc. nursing students before and after administration of the planned teaching programme on non-pharmacological measures during progress in first stage of labour in primigravida women between experimental and control group.

Table 7: Overall Mean, SD, mean percentage, Mean difference, "t" value and p value of post-test level of knowledge between experimental group and control group.

n=140

Level of post-test knowledge	Mean ± SD	Mean %	Mean difference	t value	p value
Experimental group	31.54± 7.56	78.85	14.15	16.146	<0.001***
Control group	17.39±4.89	43.47			

t_{138} = 1.977 ***Significant at 0.005 level**

Regarding overall knowledge between experimental and control group in table 7 shows that calculated "t" value 16.146 ($p<0.001$) was greater than the table value hence null hypothesis (H_{01}) was rejected and the research hypothesis (H_1) was accepted so there is a significant difference between experimental group and control group. This indicates planned teaching programme was effective in improving the level of knowledge of final year B.Sc. Nursing students regarding nonpharmacological measures during progress in first stage of labour in primigravida women.

Table 8: Area wise mean, SD, mean percentage, unpaired "t" value showing the difference between the mean post-test level of knowledge in non-pharmacological measures during progress in first stage of labour in primigravida women among final year B.Sc. nursing students in experimental group and control group.

n=70 +70

S.NO	AREAS	EXPERIMENTAL GROUP		CONTROL GROUP		t value
		Mean ±SD	Mean %	Mean& SD	Mean	

					%	
1	General information regarding labour	6.53±1.10	81.6*	4.21±1.61	52.6	10.401*
2	General information on labour pain	2.41±0.60	80.3*	1.14±0.94	38	8.50*
3	Non-pharmacological measures	1.60±0.55	80.0*	0.8±0.71	40	7.48*
4	Massage	3.94±0.85	78.8*	2.3±1.36	46	8.55*
5	Hydrotherapy	3.16±0.88	79.0*	1.75±1.17	43.75	7.40*
6	Breathing exercises	3.09±0.93	77.3*	1.77±1.28	44.25	7.58*
7	Heat application	3.20±0.77	80.0*	1.6±1.14	40	10.20*
8	Ambulation and various position changes	3.80±1.02	76.0*	2.2±1.44	44	7.16*
9	Aromatherapy	3.81±0.86	76.2*	1.6±1.41	32	10.24*
Overall		31.54±7.56	78.85	17.39±4.89	43.47	

$t_{69} = 1.995$ ***Significant at 0.005 level

Regarding area wise knowledge between experimental and control group table 8 shows that calculated "t" value was 10.401($p<0.001$) in general information regarding labour, the calculated "t" value was 8.50 general information regarding labour pain, the calculated "t" value was 7.88 in non-pharmacological measures, calculated "t" value was 8.55 in the area of Massage, the calculated "t" value was 7.40 in hydrotherapy, the calculated "t" value was 7.58 in breathing exercises, the calculated "t" value was 10.20 in heat application, the calculated "t" value was 7.16 in ambulation and various position changes, the calculated "t" value was 10.24 in aromatherapy. In all the areas calculated t value is greater than the

table value hence null hypothesis (H_0) was rejected and research hypothesis (H_1) was accepted in areas. So, there is significant difference between experimental group and control group. This indicates PTP was effective in improving the knowledge of the samples in experimental group and no difference in the level of knowledge level of final year B.Sc. nursing students.

SECTION 6: ASSOCIATION BETWEEN THE KNOWLEDGE SCORES AND THEIR SELECTED SOCIO DEMOGRAPHIC VARIABLES.

Table 9: Association between the pre-test knowledge score among final year B.Sc. nursing students in experimental group and control group and their selected socio demographic variables

n=70 +70

DEMOGRAPHIC VARIABLES	EXPERIMENTAL GROUP			CONTROL GROUP		
	χ^2 test	df	P value	χ^2 test	df	P value
Age in years	0.001	1	0.974 (NS)	1.833	2	0.400 (NS)
Gender	0.058	1	0.809 (NS	0.826	1	0.363 (NS)
Residence	0.006	2	0.997 (NS)	7.304	1	0.007(S)
Type of family	0.092	1	0.762 (NS	0.555	1	0.531 (NS)
Birth order of the participants	3.634	2	0.162 (NS)	1.489	2	0.475 (NS)
Previous knowledge	0.168	1	0.682 (NS)	0.844	1	0.656 (NS

NS-Not significant **S-significant** **p< 0.05,**

To test significant association, the null hypothesis was tested.

H_{03}: There will be no significant association between the pre-test knowledge scores of final year B.Sc. Nursing students and selected socio-demographic variables.

The data represented in table 9 reveals that there was no association between demographic variables like age ($\chi2$=0.001; p>0.974 (NS), gender ($\chi2$=0.058; p>0.809 (NS), residence $\chi2$

=0.0062; p>0.997 (NS), type of family (χ2=0.092; p>0.762 (NS), birth order of the participants (χ2=3.634; p>0.162 (NS) and previous knowledge (χ2=0.168; p>0.682 (NS) in experimental group with knowledge scores and other variables. As a result, the research hypothesis was accepted in the experimental group while the null hypothesis **(H_{03})** was partially rejected.Age (χ2=1.833; p>0.400 (NS)), gender (χ2=0.826; p>0.363 (NS)),

residence (χ2 =7.304; p<0.007), type of family (χ2=0.555; p>0.531 (NS)), participants' birt h order

(χ2=1.489; p>0.475 (NS)), and prior knowledge (χ2=0.844; p>0.656 (NS) in the control gr oup.

And the research hypothesis (H1) was accepted in the control group whereas the null hypot hesis(H03) was rejected.

Discussion:

The results of the present study confirmed that there was a considerable improvement of knowledge among Final-Year B.Sc. Nursing Students after the administration of Evidence-Based Non-Pharmacological Measures to Promote Labour Progress During the First Stage of Labour in Primigravida Women and it is also statistically established as significant at 0.05 level. The study revealed that, in experimental group pre-test mean percentage was 44.27% with mean and SD of 17.71 ± 4.24 and in post-test mean percentage 78.85% with mean and SD 31.54 ± 5.00 with calculated t_{69}=18.072 (p <0.001) which was greater than the table value t_{69}=1.995 showing there was statistically significant difference between pre-test and post-test, whereas in control group of pre-test was 44.27% with mean and SD of 17.7 ± 5.63 and in post-test mean percentage 43.47% with mean and SD 17.39 ± 4.89 with calculated t_{69}=0.37 (p>0.001) which was lesser than the table value t_{69}=1.995 showing there was no statistically significant difference between pre-test and post-test.

Regarding association between the knowledge scores and their selected socio demographic variables reveals that there was no association between demographic variables like age (χ2=0.001; p>0.974 (NS), gender (χ2=0.058; p>0.809 (NS), residence χ2 =0.006; p>0.997 (NS), type of family (χ2=0.092; p>0.762 (NS), birth order of the participants (χ2=3.634; p>0.162 (NS) and previous knowledge (χ2=0.168; p>0.682 (NS) in experimental group with knowledge scores whereas there was no association between in other variables and knowledge scores. Hence the Null hypothesis (H_{03}) is partially rejected and the Research Hypothesis was partially accepted in experimental group. Whereas in control group age (χ2=1.833;p>0.400(NS), gender (χ2=0.826; p>0.363 (NS), residence χ2 =7.304; p<0.007,

type of family ($\chi 2$=0.555; p>0.531(NS), birth order of the participants ($\chi 2$=1.489; p>0.475(NS) and previous knowledge ($\chi 2$=0.844; p>0.656 (NS) there was no association between demographic variables like age, gender, residence, type of family, birth order of the participants and previous knowledge regarding non-pharmacological measures during progress in first stage of labour in primigravida women. Hence the Null hypothesis (H_{03}) is rejected and the Research Hypothesis was accepted in control group.

Conclusions:

The current study showed that the Planned Teaching Programme (PTP) was successful in raising final-year B.Sc. students' knowledge. Nursing students regarding evidence-based non-pharmacological measures to promote labour progress during the first stage of labour in primigravida women. The beneficial effects of the educational programme were demonstrated by a notable increase in post-test knowledge scores relative to pre-test scores. The results emphasise how crucial it is to include organised, evidence-based educational programs in undergraduate nursing curriculum in order to improve stude ntscomprehension and use of non-pharmacological labour support strategies.

Future nurses' increased knowledge can help provide safe, evidence-based, and woman-centered maternity care, which will improve the outcomes for mothers and newborns.

The study highlights the necessity of ongoing professional training and instruction in evide nce-based intrapartum care techniques. To evaluate the long-term retention of knowledge and its application to clinical practice, more studies with large r and more varied samples are advised.

Limitations of the study

- The study is delimited to B.Sc. Nursing Students
- Data collection period is for 1 month
- Structured knowledge questionnaire was prepared for data collection, which restricts the amount of information that can be obtained from the respondents.
- Study is limited only those who are willing to participate in the study.

Recommendations

- A follow-up study to find out the effectiveness terms of retention of knowledge among final year B.Sc. Nursing students and to reinforce health promotion.
- An explorative study can be done to assess the existing knowledge of the care givers regarding pain relief measures.

- A study can be conducted on knowledge and practice of non-pharmacological pain relief measures followed by midwives.
- A study can be conducted to assess the knowledge and practices of the labour room nursing staff about the use of effleurage on pain relief, their advantages, risk factors and preliminary considerations etc. among mothers during their 1st and 2nd stage of labour.
- Experimental study comparing two different non pharmacological measures of the labour pain.
- A Comparison of alternative & complementary therapies.
- A similar study can be conducted for Comparison of pharmacological vs. non-pharmacological measures for labour pain.
- Replicating study on a larger sample size with different demographic characters.
- A similar study can be conducted for Comparing urban and rural mothers.

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