A Pre-Experimental Study To Assess The Effectiveness Of Self Instructional Module On Knowledge And Attitude Regarding Non-Pharmacological Pain Management Techniques During First Stage of Labour Among Staff Nurses Working In Selected Hospitals

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Abstract

A Pre-experimental study to assess the effectiveness of self instructional module on knowledge and attitude regarding non-pharmacological pain management techniques during first stage of labour among staff nurses working in selected hospitals.

Background: labor is the natural process which takes place 282 days after conception. During this process, the baby placenta and placental membranes are expelled through vagina (birth canal). Child birth causes physical and mental changes to pregnant women when child birth approaching. Duringlabor, pain which start as soon as the first stage of labor begins and the pain increases as the women enters the second stage of labor. Even if each mother response to pain in a personal and adoptive way, non-pharmacological interventions can help reduce the painful perceptions.this studies have revealed that there are a number of non-pharmacological methods which can help a women to relax during contractions. The breathing techniques, massage and positioning are also widely used ways of handling the discomfort. A positive perception of child birth experience can decrease anxiety and depression in first time mothers.an important role nurses have to play is to relieve pain during labor enable pregnant women to cope with labor pain delivery.

Objectives: To assess the knowledge and attitude on non-pharmacological pain management techniques during first stage of labor among staff nurses working in selected hospitals,to find the association between the post test knowledge score among staff nurse with selected demographic variables.

Methodology: The investigator selected pre-experimental one group pre-text post-text research design. The sample size was 60 and the samples were selected by non-probability convenient sampling techniques were used to selected the subjects which included samples 60 staff nurses. The data collected by the structured questionnaire developed to assess the knowledge and attitude on non-pharmacological pain management techniques during the first stage of labor and the tool validated by 5 nursing personnel and 2 medical personnel. The data has been analysed by using both descriptive and inferential statics.

Result: Maximum numbers of the staff nurses 46.67% were between the age group of 32-36 yrs. The maximum numbers of staff nurses 68% having basic educational status 10+2.the maximum numbers of the staff nurses of 90% having GNM as professional qualification. The maximum numbers of staff nurses 38% having 11-15 yrs. of clinical experience. The mean score for overalllevel of knowledge among staff nurses in the pre-text was 13.53 with standard deviation 4.073. the mean score for overall level of attitude among staff nurses in the pre-text was 40.37 with standard deviation 4.11.

Conclusion: The study to assess the effectiveness of self instructional module regarding non-pharmacological pain management techniques during first stage of labor on knowledge and attitude among staff nurse.

Introduction:

Labor is the natural process which takes place 282 days after conception. During this process, the baby placenta and placental membranes are expelled through the vagina (birth canal).Child birth causes physical and mental changes to pregnant women when child birth approaching. During labor, the uterine contraction leads to the dilatation of the cervix and vagina and the retraction of the tendon and membranes in the surrounding area, causing pain which stars as soon as the first stage of labor begins and the pain increases as the women enters the second stage of labor.For most women, labor pain is considered the worst experience of their lives. The pain of uterine contractions is a complex process involving interactions between central and peripheral mechanisms, as well as the continuous interchange of information by ascending and descending nociceptive channels. Labor pain is the most sever when compared to other types of pain and it is the cause of suffering and loss of control. When the pain increases, fear anxiety and stress increases. Thus, an important role nurses have to play is to relieve pain during labor enable pregnant women to cope with labor pain delivery appropriately. It is believe that the continuous and proper support by the midwives during labor to laboring women's, with knowledge of non-pharmacological methods of pain management during delivery tend to be more confident, in control of themselves and able to respond to pain appropriately.

Problem statement:

"A Pre-experimental study to assess the effectiveness of self instructional module on knowledge and attitude regarding non-pharmacological pain management techniques during first stage of labour among staff nurses working in selected hospitals."

Objectives:

1. To assess the knowledge and attitude on non-pharmacological pain management techniques during first stage of labor among staff nurses working in selected hospitals.
2. To find the association between the post test knowledge score among staff nurse with selected demographic variables.
3. To find the association between the post test attitudes score on among staff nurses with selected demographic variables.

Operational definition:

Self instructional module: Refers to teaching self by means of information booklet.

Knowledge: Knowledge means the information and understanding of staff nurses about meaning and utilization of non-pharmacological pain management techniques during first stage of labor.

Attitude: The attitude in this study means that how the staff nurse's (Subject) thinking and feeling towards non-pharmacological pain management techniques during first stage of labor.

Non-Pharmacological Pain Management Techniques: The Non-Pharmacological Pain management techniques which are provided during first stage of labor for the laboring women which are selected for the study are massage therapy, relaxation therapy, breathing techniques and positions to help lessen the labor pain.

First stage of labor: The first stage labor is when the pregnant women experiencing the pain which is having effect on cervix to dilate and gradually this pain becoming more intense and strong and cervix effaced and dilate fully.

Staff Nurses: The professional who are trend personal in nursing to give professional nursing care to patient who are admitted in maternity hospital who are working in selected hospital.

Hypothesis:

1. H_1–There will be significant difference between pre and post test knowledge and attitude score on non-pharmacological pain management techniques during first stage of labor among staff nurses.
2. H_2–There will be significant association between the post test scores and selected demographic variables.

Assumptions:

1. Thestaff nurse will have some knowledge regarding non-pharmacological pain management techniques during first stage of labor.
2. Thestaff nurse will have positive attitude towards the use of non-pharmacological pain management techniques during first stage of labor.
3. This SIM will have influence on knowledge and attitude among staff nurses and promote good practice regarding non-pharmacological pain management techniques during first stage of labor.

Delimitation:

1. Only nurses in particular hospitals will be included.
2. Nursing staff at particular duty time will be participating.

RESEARCH METHODOLOGY

Research approach-The present study adopted the evaluative approach for the research study.

Research design- Pre-experimental research design used for the present study.

Variables-

1. **The independent variable-**In this study the independent variable is the self-instruction module on non-pharmacological pain management techniques during first stage of labour.
2. **The dependent variable-**The dependent variable in this study is the knowledge and attitude of staff nurse regarding non-pharmacological pain management techniques during first stage of labor
3. **The extraneous variable-**The extraneous variable such as the age ,educational status both general and professional, interest in OBG, professional experience, exposure to means.

Setting

In this study, the research was conducted in selected hospitals of Gwalior. The maternity area included antenatal ward, gynae ward, post natal ward, post operative ward, labor room.

Population

A population is a group whose members possess specific attributes that a researcher is interested in studying.

Sample

The samples depending on the availability of the staff who were available at the time of data collection and also who fulfil the inclusion criteria were selected.

Sample Techniques: The sample was selected through "non-probability convenient sampling techniques".

Criteria for sample selection

Inclusion criteria

1. Nurses holding a diploma ANM,GNM or BSc degree in nursing only.
2. Staff nurses who are exposed to the obstetrics and gynecology ward anytime.
3. Staff nurses who are able to communicate in hindi and English.
4. Staff nurses who are available at the time of data collection.
5. Staff nurses who are wanted to participate in the study.

Exclusion criteria

1. Staff nurses who are working in the night duties, operation therapies.
2. Staff nurses who are not willing to participate in the study.
3. Practical nurses or aids and nursing students who are getting training in the hospital.

Sample size: 60

Research tool

The tool was used for research study was structured questionnaire which was prepared to assess the effectiveness of self-instructional module regarding non-pharmacological pain management techniques during first stage of labor on the knowledge and attitude among staff nurses.

Description of tool

Section A: Demographic variables of staff nurses.

Section B: Self instruction module on non-pharmacological pain management techniques during first stage of labor.

Section A: Demographic variables

The tool was prepared after extensive review of literature search,consultation with expert and based on the passed clinical experience of the investigator demographic variables of staff nurses such as age,basic educational status,professional education,clinical experience in the maternity,clinical status and any educational programme on pain management in labor attended.

Section B: Self instruction module on non-pharmacological pain management techniques during first stage of labor.

The researcher prepared the self-instructional module on non-pharmacological pain management techniques during first stage of labor based on the 6 objectives in the form of booklet.

Score interpretation: The knowledge and attitude non-pharmacological pain management techniques during the first stage of labor was measured in terms of knowledge and score.each correct answer was given a score of one and zero for wrong answer,the total score were 36. The attitude likert scale of 24 items,the highest score was 48 and lowest score was 24.

Table1: Scored answer to self administred toquestionnaire

Level of knowledge	Range
Adequate knowledge	25-36
Moderate educate knowledge	13-24
Inadequate knowledge	0-12

Table2: Score interpretation the level of attitude

Level of attitude	Range
Positive	40-48
Neutral	30-39
Negative	24-31

Reliability

Reliability was established by split half method for structured knowledge and attitude questionnaire.6 samples were used to check the reliability through split half method. The items splitting in to odd and even

items. These values correlation co-efficient was computed were 'r' value obtained was 0.83 for structured knowledge questionnaire which showed that tool was highly reliable and the 'r' value for attitude scale obtained was .086 which showed that tool was highly reliable too.

Pilot study

The present study,the investigator selected hospitals in Gwalior. A period of 1 week was allotted for the conduction the pilot study. It was from 4-06-17 to 10-06-17. The hospital has maternity ward postnatal ward, post-operative ward and labor room. In total 11 nurses for all maternity wards.The investigator conducted pilot study with 6 staff nurses prior to main study.Staff nurses were selected using convenient sampling techniques based on the inclusion criteria.The statistical analysis of the pilot study for the overall knowledge and attitude of the staff nurses regarding non-pharmacological pain management during first stage of labour showed the improvement mean percentage score of 12.8 with 't' value 8.68 which was highly significant at $p < 0.001$.this signifies the feasibility to conduct the main study.

Results

Section A: - Demographic variables of Staff Nurses.

Section B: - Assessment of pre and post test of knowledge among staff nurses on non-pharmacological pain management techniques during first stage of labor.

Section-C: - Assessment of pre and post test of Attitude among staff nurses on non-pharmacological pain management techniques during first stage of labor.

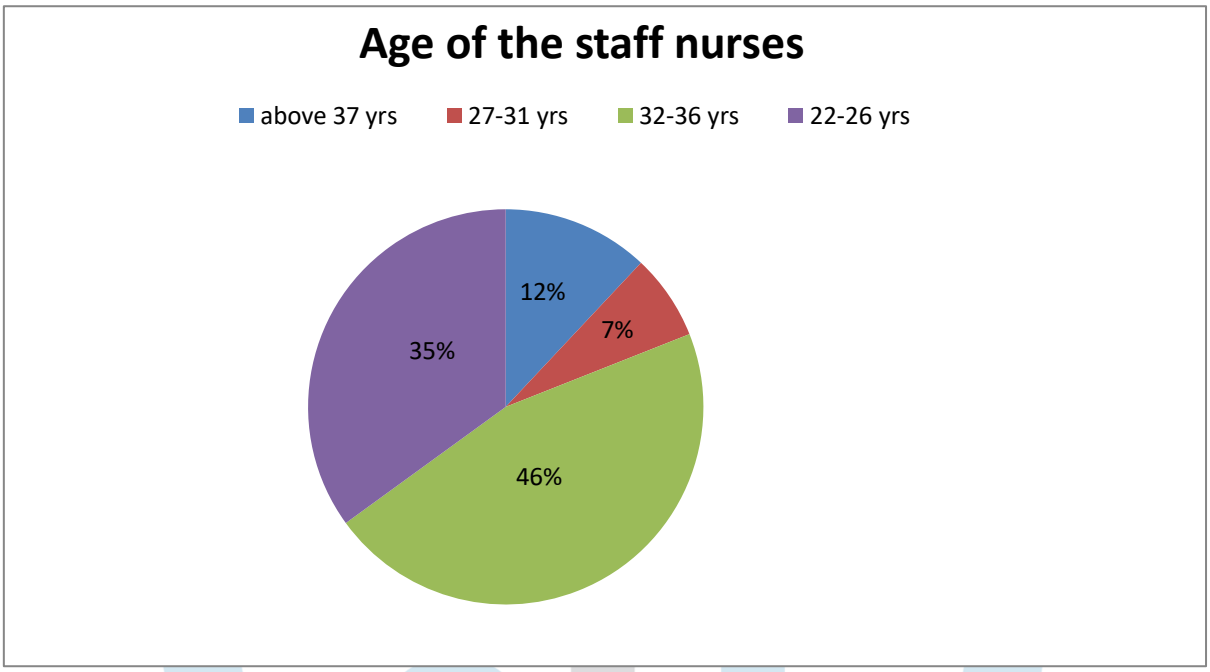
Section D:-effectiveness of self-instructional module in knowledge and attitude regarding non-pharmacological pain management techniques during first stage of labor among staff nurses.

Section A:- Demographic variables of Staff Nurses.

Table 3:- Frequency and Percentage distribution of Staff Nurses based on Demographic variables. N=60

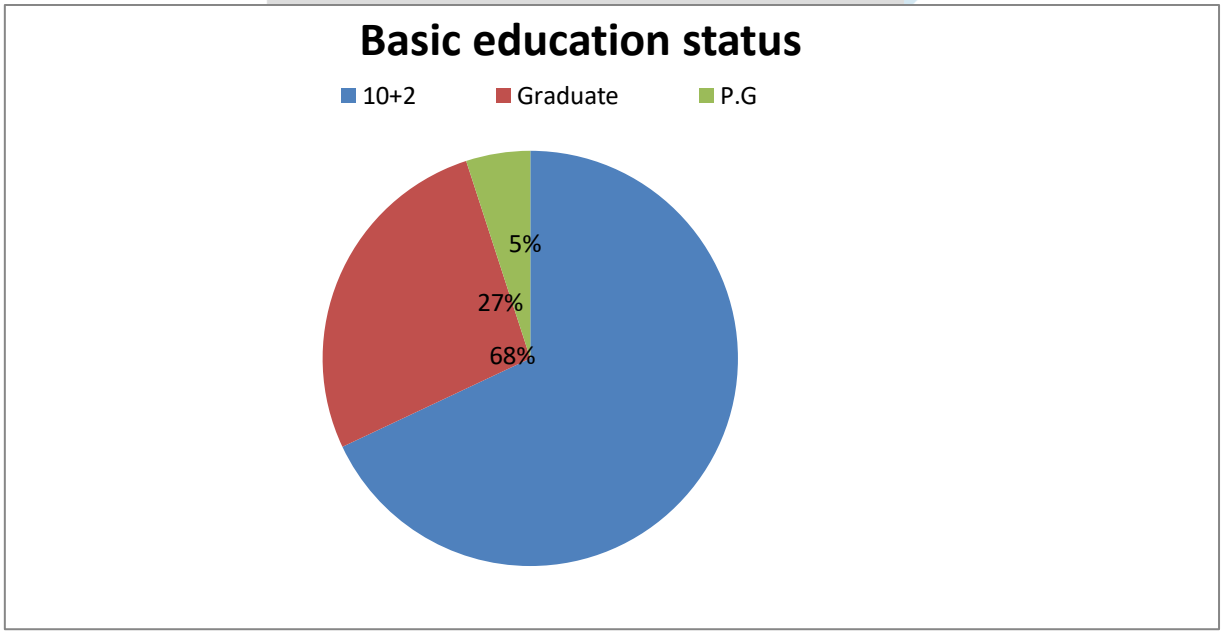
S.No.	Demographic Variables	Frequency	Percentage
1	Age of the staff nurses(in yrs)		
	22-26 yrs	7	11.67%
	27-31 yrs	4	7%
	32-36 yrs	28	46.67%
	Above 37 yrs	21	35%
2	Basic educational status		
	10+2	41	68%
	Graduate	16	27%
	P.G	3	5%
3	Professional education		
	GNM	54	90%
	B.Sc N	2	3%
	P.B.Sc N	4	7%
4	Clinical experience		
	1-5 yrs	7	11.67%
	6-10 yrs	11	18%
	11-15 yrs	23	38%
	Above	19	32%
5	Marital status		
	Married	51	85%
	Unmarried	9	15%

6	Any additional program on labor pain management attended		
	Yes		
	No	60	100%



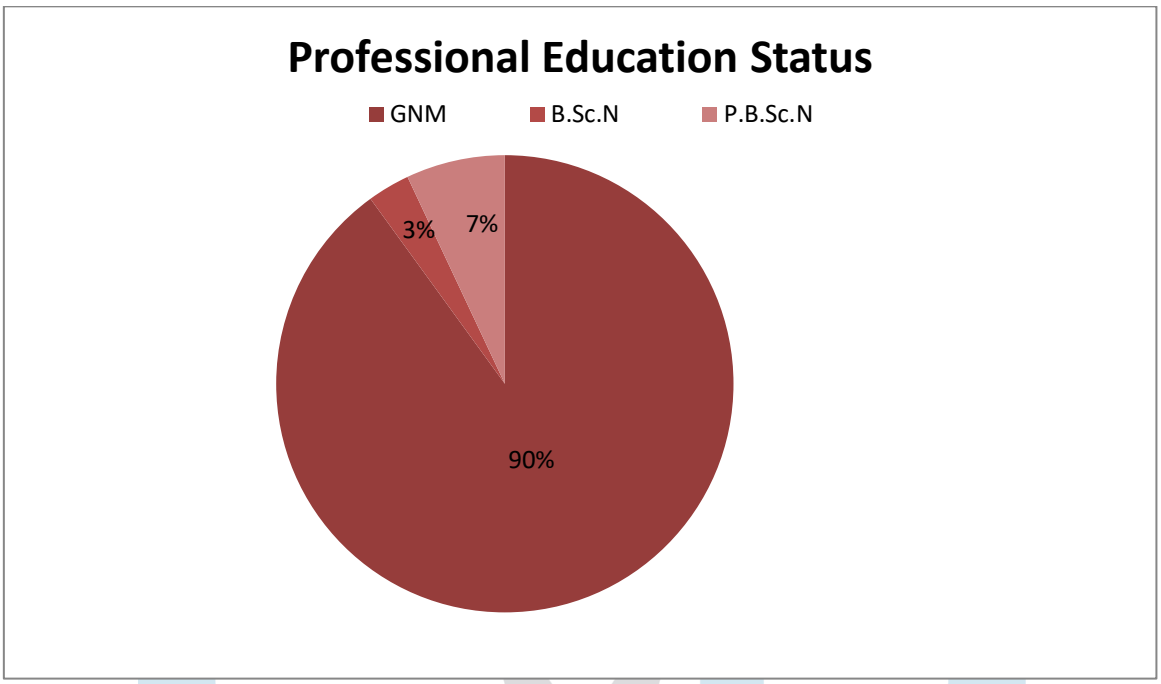
Graph 1: Percentage distribution of staff nurses according to their age

Majority of staff nurses is from the age group of 30-36 yrs (46%), where as only 7% of the staff nurses where from the age group (27-31 yrs).



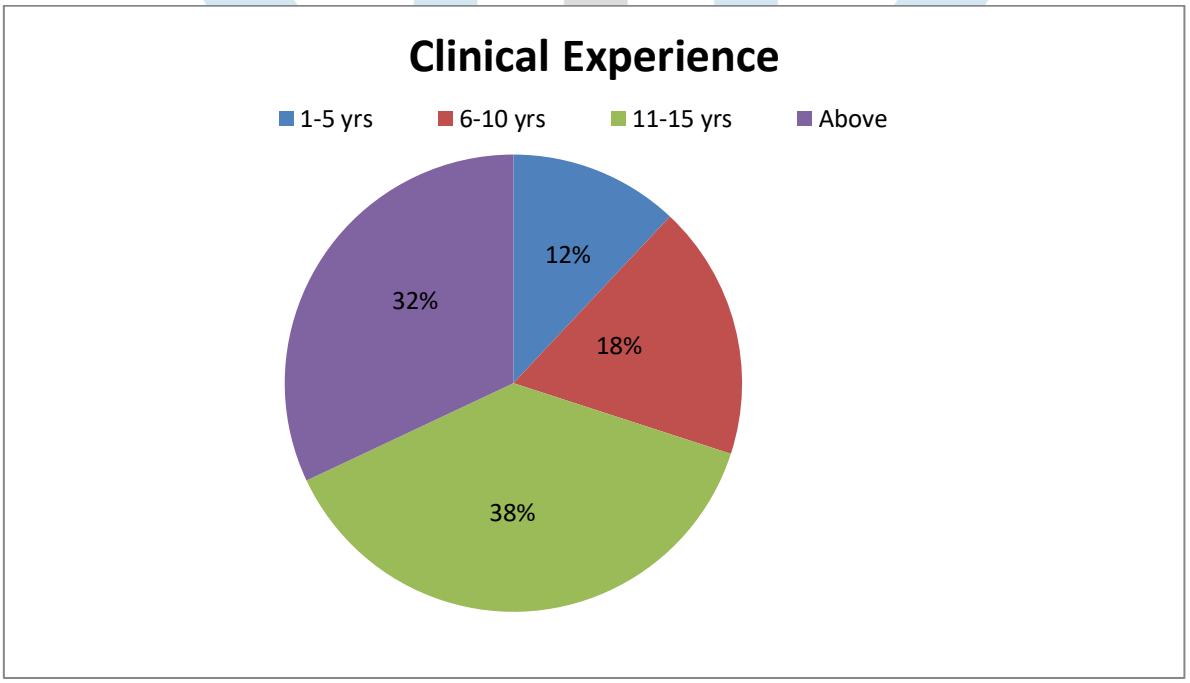
Graph 2: Percentage distribution of staff nurses according to their basic educational status

In relation to basic educational status of the staff nurses,(68%) majority of the staff nurses have completed their higher secondary education,while only(5%) have completed their post graduation before pursing the nursing education.



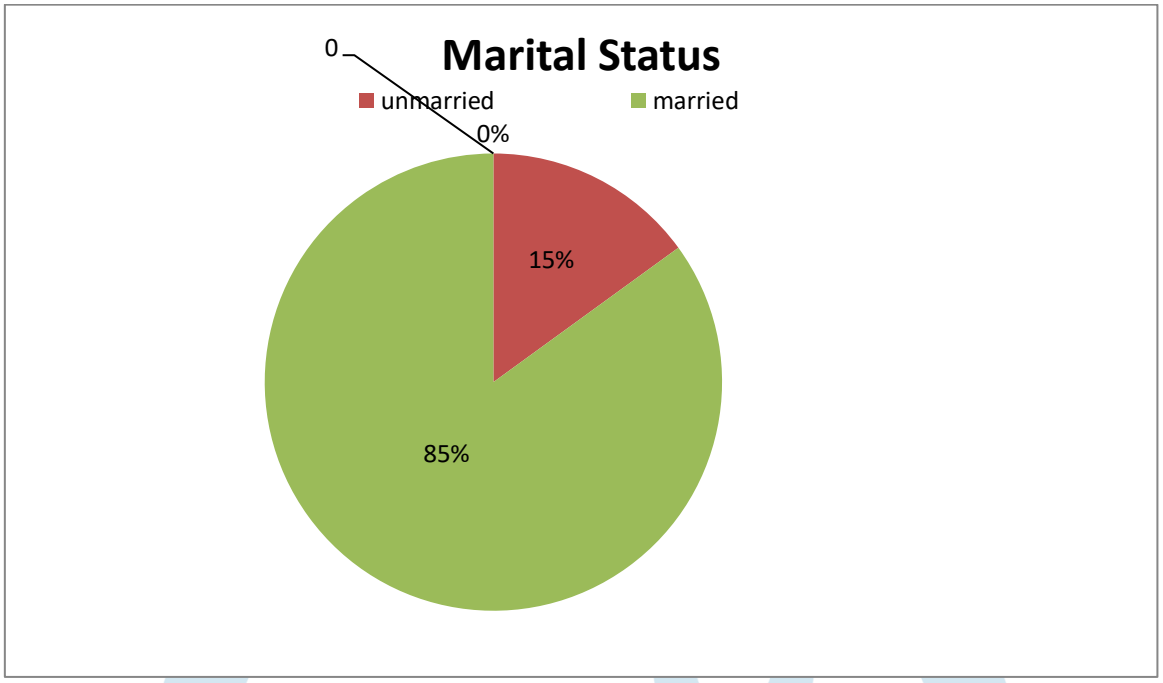
Graph 3: Percentage distribution of staff nurses according to their professional educational status.

When considering the professional education majority (90%) of staff nurses holding the GNM diploma whereas only (3%) were holding B.Sc.Nursing degree.



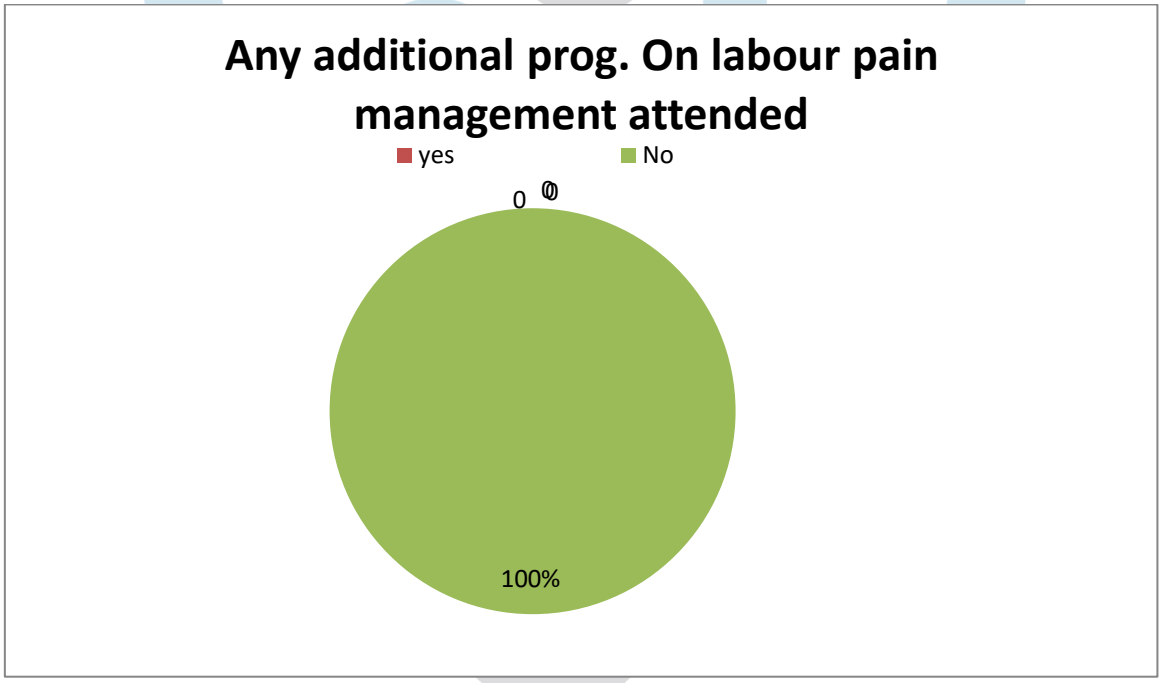
Graph 4: Percentage distribution of staff nurses according to their clinical experience.

With regard to the clinical experience in maternity ward (38%) of the staff nurses are having 11-15 yrs of experience. And only (11.67%) were having 1-5 yrs of clinical experience.



Graph 5: Percentage distribution of staff nurses according to their marital Status.

In relation to marital status, majority (85%) of the staff nurse were married and only (9%) were belongs to unmarried status.



Graph 6: Percentage distribution of staff nurses according to their any additional programme on labor pain management attended.

Lastly in relation to any additional programme in labor pain management attended were total 60 (100%) were not attended.

Section B: - Assessment of pre and post test of knowledge among staff nurses on non-pharmacological pain management techniques during first stage of labor.

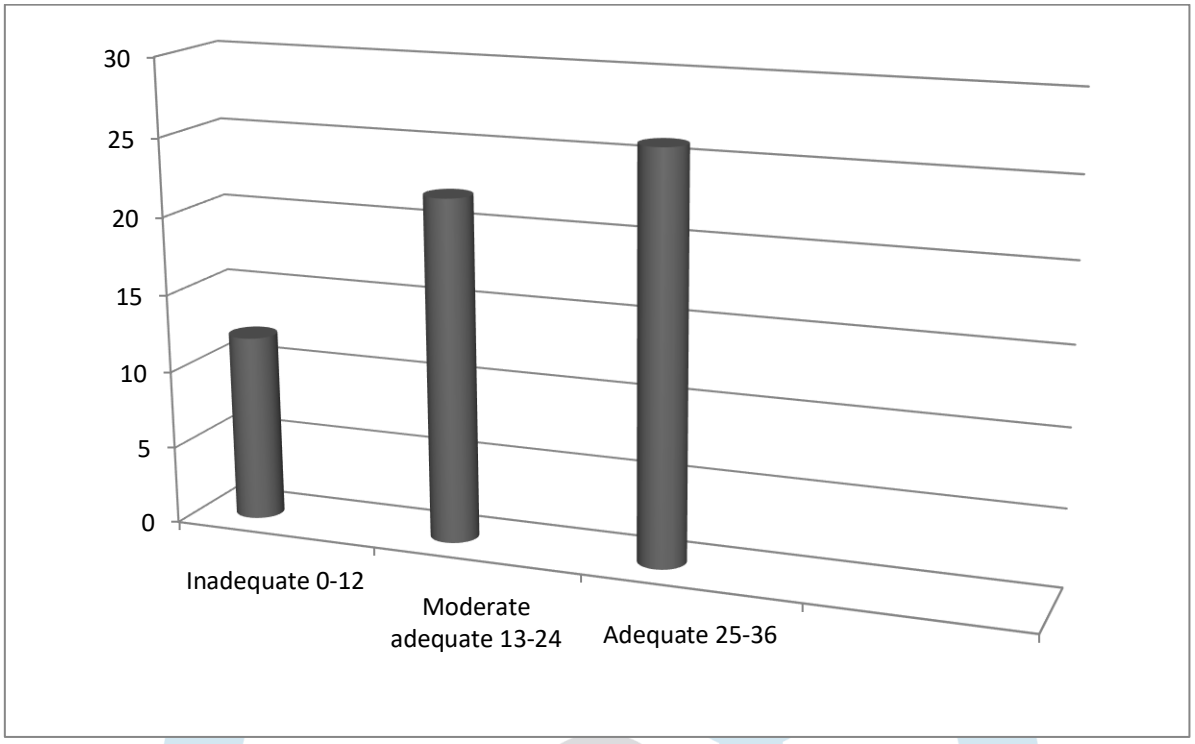
Table 4:- Frequency and percentage distribution of level of knowledge among staff nurses in pre test.

N=60

Knowledge variables	Inadequate 0-12		Moderate adequate 13-24		Adequate 25-36	
	f	%	f	%	f	%
Labor and Labor Pain	35	58.33	20	33.33	5	8.33
Labor pain control methods	37	61.67	20	33.33	3	5
Relaxation and Breathing therapy	37	61.67	23	38.33	0	0
Massage Therapy	36	60	24	40	0	0
Effleurage therapy	38	63.33	22	36.67	0	0
Position During Labor	30	50	30	50	0	0
Over All	36	60	24	40	0	0

Level of knowledge score in pre-test

N=60



Graph 7: Percentage distribution of staff nurses on pre-test level of knowledge score

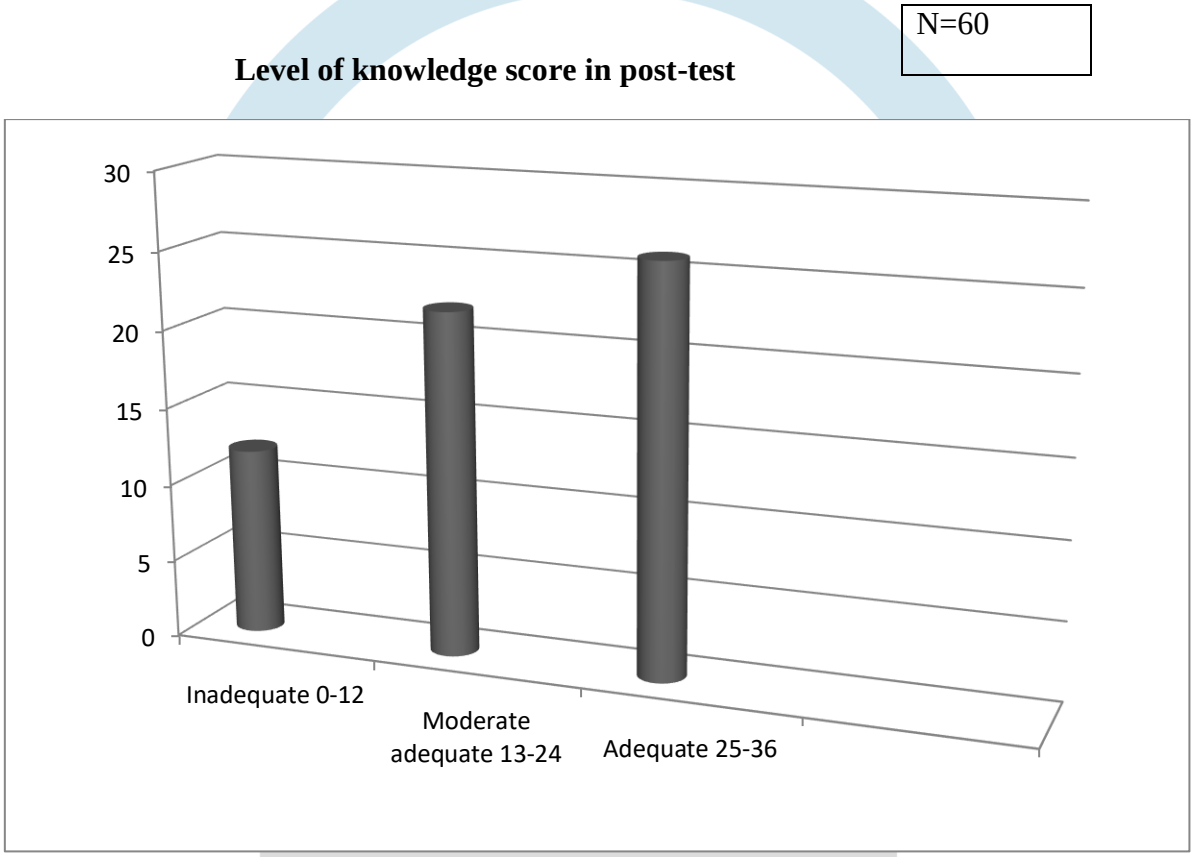
Table 5:- In the study represents the frequency and percentage distribution of level of knowledge among staff nurses in the post-test

N=60

Knowledge variables	Inadequate 0-12		Moderate adequate 13-24		Adequate 25-36	
	f	%	f	%	f	%
Labor and Labor Pain	5	8.33	22	36.67	33	55
Labor pain control methods	7	11.67	24	40	29	48.33
Relaxation and Breathing therapy	7	11.67	27	45	26	43.33
Massage Therapy	16	26.67	16	26.67	28	46.67
Effleurage therapy	18	30	15	25	27	45

Position During Labor	3	5	21	35	36	60
Over All	12	20	22	36.67	26	43.33

N=60



Graph 8: Percentage distribution of staff nurses on post-test level of knowledge score.

Section-C: - Assessment of pre and post test of Attitude among staff nurses on non-pharmacological pain management techniques during first stage of labor.

Table 6:- Frequency and percentage distribution of level of Attitude among staff nurses in pre test.

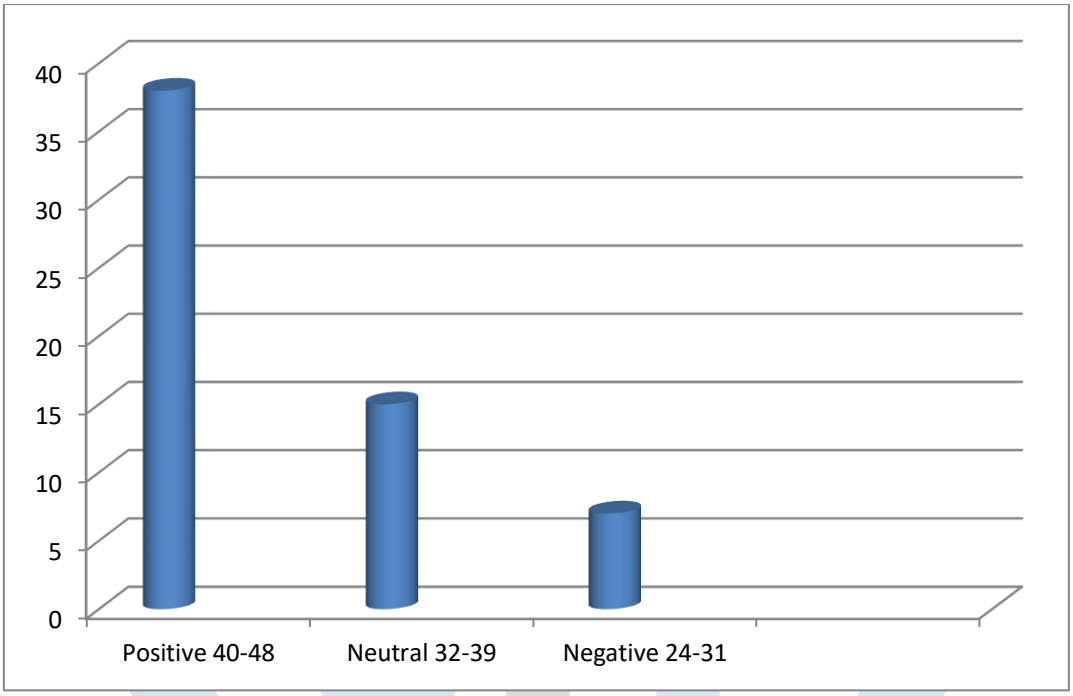
Attitude Variable	Positive 40-48		Neutral 32-39		Negative 24-31	
	f	%	f	%	f	%
	38	63.33	15	25	7	11.67

In the study table -4 represent that the frequency and percentage distribution of pre-test level of attitude score among staff nurses on non-pharmecological pain management techniques during first stage of labor.

The majority 38 (63.33%) of staff nurses having positive attitude towards non-pharmacological pain management techniques during first stage of labor and only 15 (25%) had neutral & 7 (11.67%) had negative attitude towards it practice.

Level of attitude score in pre-test

N=60



Graph 9: Percentage distribution of staff nurses on pre-test level of attitude score.

Table 7:- Frequency and percentage distribution of level of Attitude among staff nurses in post test.

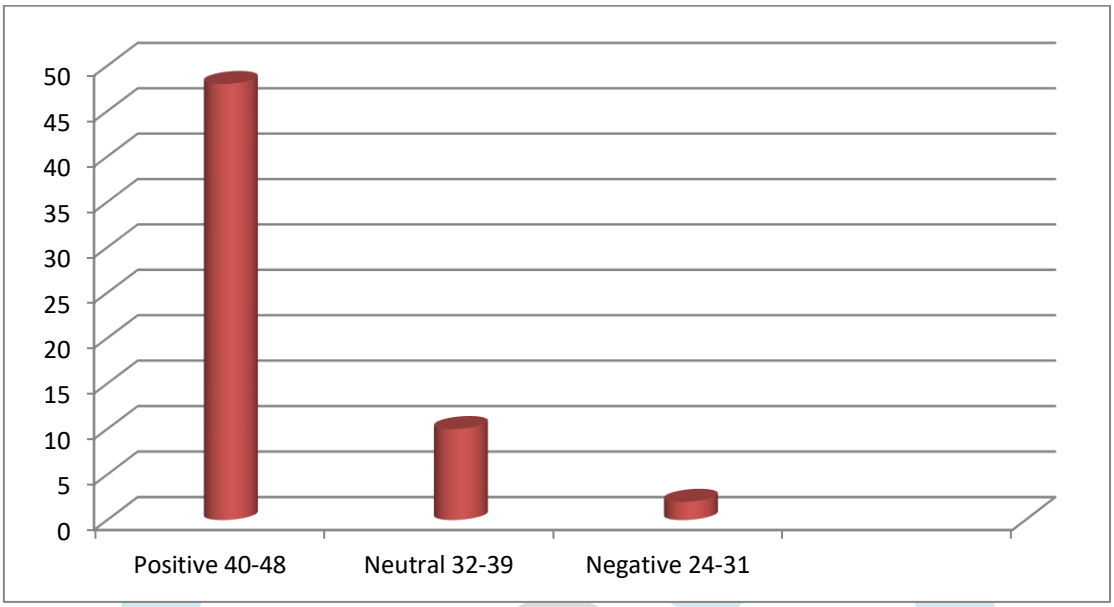
Attitude Variable	Positive 40-48		Neutral 32-39		Negative 24-31	
	f	%	f	%	f	%
	48	80	10	16.67	2	3.33

In the study,table -5 represent that the frequency and percentage distribution of post-test level of attitude score among staff nurses on non-pharmacological pain management techniques during first stage of labor.

The attitude of staff nurses after the administration of self instructional module have increases more positively.The majority 48 (80%) of staff nurses having positive attitude towards non-pharmacological pain management techniques during first stage of labor and only 10 (16.67%) had neutral &2 (3.33%) had negative attitude towards it practice.

Level of Attitude score in post-test

N=60



Graph 10: Percentage distribution of staff nurses on pre-test level of attitude score.

Section D:-effectiveness of self-instructional module in knowledge and attitude regarding non-pharmacological pain management techniques during first stage of labor among staff nurses.

Table 8:- comparison of mean, Standard Deviation median and Mean Difference for the knowledge variables among Staff Nurses in the pre-test and post-test.

Attitude Variable	Pre-test				Post Test		Mean Difference
	Mean	S.D	Median	Mean	S.D	median	10.27
	13.53	4.073	13	23.80	4.39	22	

The present study reveals that the pre-test mean was 13.53 with SD 4.073 and post –test mean was 23.80 with SD 4.39 and the overall mean difference obtained between pre-test and post-test was 10.27.

Table 9:- comparison of mean, Standard Deviation median and Mean Difference for the attitude variables among Staff Nurses in the pre-test and post-test.

Attitude Variable	Pre-test				Post Test		Mean Difference
	Mean	S.D	Median	Mean	S.D	median	5.11
	40.17	4.11	38	45.28	2.78	46	

The present study reveals that the pre-test mean was 40.17 with SD 4.11 and post –test mean was 45.28 with SD 2.78 and the overall mean difference obtained between pre-test and post-test was 5.11.

Table 10:- comparison of overall mean, Standard Deviation median and improvement in mean scores of pre-test and post-test level of knowledge among staff nurses on non- pharmacological pain management techniques during first stage of labor.

N=60

S.no	Group	Range	Mean	Standard Deviation	Mean Difference	Z-Test	P Value
1.	Pre-test	7-24	13.53	4.073	10.27	13.84	<0.001
2.	Post-test	18-35	23.80	4.39			

In the study post-test mean value is higher than the pre test value of about 10.27 the mean difference between pre test and post test was and the obtained z test 13.84 was highly significant at ($p<0.001$). It was inferred that, there was significant increase in knowledge levels among staff nurses non-pharmacological pain management techniques during first stage of labor.

Table 11:- comparison of overall mean, Standard Deviation and improvement in mean scores of pre-test and post-test level of attitude of among staff nurses on non- pharmacological pain management techniques during first stage of labor.

N=60

S.no	Group	Range	Mean	Standard Deviation	Mean Difference	Z-Test	P Value
1.	Pre-test	35-48	40.37	4.11	5.11	7.81	<0.001
2.	Post-test	38-48	45.37	2.78			

In the study post-test mean value is higher than the pre test value of about 5.11 the mean difference between pre test and post test was and the obtained Z - test 7.81 was highly significant at ($p<0.001$). It was inferred that, there was significant increase in attitude levels among staff nurses non-pharmacological pain management techniques during first stage of labor.

Section D: - Association between post test of knowledge among staff nurses with selected demographic variables.

Table- 12 Association between post test levels of knowledge among Staff Nurses with selected demographic variables.

Demographic Variables	Inadequate 0-12		Moderately Adequate 13-24		Adequate 25-36		Chi-square Value
Age of the Staff nurses	f	%	f	%	f	%	

(in yrs) 22-26 yrs 27-31 yrs 32-36 yrs Above 37 yrs	 1 2 4 5	 2 3 7 8	 4 2 11 5	 7 3 18 8	 2 0 13 11	 3 22 18	 5.33 df=6 not significant
Basic educational status 10+2 Graduate P.G	 10 2	 17 3	 12 10	 20 17	 19 4 3	 32 7 5	 7.558 df=4 Not significant
Professional Education GNM B.Sc N P.B.Sc N	 12	 20	 20 2	 33 3	 22 2 2	 37 3 3	 1.191 df=4 not significant
Clinical Experience 1-5 yrs 6-10 yrs 11-15 yrs Above	 1 7 4	 2 12 7	 2 4 12 4	 3 7 20 7	 4 0 7 15	 7 12 25	 10.293 Df=6 Highly Significant At p<0.005
Marital status Married Unmarried	 12	 20	 18 4	 30 7	 21 5	 35 8	 0.8562 Df=2 Not significant
Any additional prog. On labor pain management attended Yes No	 12	 20	 22	 37	 26	 43	 0.0 df=2 Not Significant

In the study, the above table-10 depicts the association between post test levels of knowledge score.With their demographic variables. In relation to the clinical experience, the chi-square value obtained was 20.96 and thus found to be significant at 0.05% levels of significance, whereas the values for age basic educational status, professional educational status, clinical experience, marital status, and any programme attended on pain management during labor were in order of 5.33, 7.558, 08562 & 0.00 respectively for the same. So, the demographic variables have no significance association with the post test level of knowledge among staff nurses.

Section D:- Association between post test of attitude among staff nurses with selected demographic variables.

Table- 13 Association between post test levels of attitude among Staff Nurses with selected demographic variables.

N=60

Demographic Variables	Inadequate 0-12		Moderately Adequate 13-24		Adequate 25-36		Chi-square Value
Age of the Staff nurses (in yrs) 22-26 yrs 27-31 yrs 32-36 yrs Above 37 yrs	f	%	f 1	% 2	f 6 4 28 21	% 10 7 47 35	6.866 df=6 not significant
Basic educational status 10+2 Graduate P.G			1	2	40 16 3	66.67 27 5	7.558 df=4 Not significant
Professional Education GNM B.Sc N P.B.Sc N	2	3	2	3	50 2 4	83 3 7	0.156 df=4 not Significant
Clinical Experience 1-5 yrs 6-10 yrs 11-15 yrs Above			2 2	3 3	5 9 23 19	8 15 38 32	7.961 df=6 Not significant
Marital status Married Unmarried			2	3	51 7	85 12	10.87 df=2 significant
Any additional prog. On labor pain management attended Yes No	2	3	10	17	48	80	0.0 df=2 Not Significant

In the study, the above table-11depicts the association between post test leels of knowledge score.With their demographic variables. In relation to the clinical experience, the chi-square value obtained was 10.87 and thus found to be significant at 0.05% levels of significance, For basic educational status , he chi-square value was 8.150, which is significant at 0.05% levels of significance, whereas the values for age, professional education, clinical experience, and any programme attended on pain management during labor were in order of 6.886,0.156,7.96,0.00 respectively for the same. So, the demographic variables have no significance association with the post test level of attitude among staff nurses.

Summary

The purpose of the study,technical research effort of the investigator.That revealed the fact about knowledge and attitude of the staff nurses regarding non-pharmacological pain management techniques during first stage of labour after administration of self instructional module,the objectives of the study,one group pre

and post test design was adopted.convenient sampling techniques were used to selected.The data collected from 60 respondents of the staff nurses before and the administration of self instructional module by structural self administered knowledge and attitude questionnaire.

CONCLUSION

Non-probability convenient sampling techniques was used to select the samples. The data were collected from 60 respondents who were staff nurses by structured self administered questionnaire before and after the administered of self instructional module. The finding of the study revealed that there was a marked increases in overall knowledge level scores 23.80 of post-test than the pre-test score 13.53 and the obtained Z-test value was 13.84 which was highly significant at $p<0.001$ which represent the effectiveness of self instructional module on non-pharmacological pain management techniques during first stage of labour.

RECOMMENDATION

Replication of this study can be done with the large samples in different setting to validate and generalize the findings.

1. Similar studies can be conducted on practice of the staff on non-pharmacological pain management techniques during first stage of labour room.

2. The same study can be conducted with an experiemental research approach having a control group among intranatal women.

3. Alternative teaching strategies like interactive learning sessions, structured teaching programme,etc can be conducted and evaluated.

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