

**A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING  
PROGRAMME ON NON PHARMACOLOGICAL MANAGEMENT OF PAIN  
DURING FIRST STAGE OF LABOUR AMONG STUDENT NURSES IN  
SELECTED COLLEGE OF NURSING, HOSHANGABAD**

**Abstract**

To Assess the knowledge on “non pharmacological” pain management during First stage of labour among nursing students in the terms of pre-test. Evaluate the effectiveness of structured teaching programme on pain management during First stage of labour by comparing pre-test score on post-test knowledge score. Find out the association between knowledge scores among nursing students and selected demographic variables. The research approach selected was quantitative in nature and research design was pre experimental with one group pre-test post-test design. Sampling was done using convenient sampling using 60 student Nurses. The study was conducted in St Joseph College of nursing, Hoshangabad. The tools used for generating necessary data were structured knowledge questionnaire on non-pharmacological management of pain. The data were analyzed using descriptive and inferential statistics. Majority of nursing students i.e. 36 (60%) have inadequate knowledge score, 24 (40%) had moderate knowledge score and none of them were having adequate knowledge. This study found that majority of nursing students i.e. 33 (55%) have gained adequate knowledge whereas 26 (43.3%) have gained moderate knowledge and 1 (1.6%) with inadequate knowledge after administration of structured teaching programme on nonpharmacological methods on reduction of labour pain. The findings of the present study shows that the mean post-test knowledge score (20.6) was apparently higher than the mean pre-test score (11.08). The difference between pre-interventional and post-interventional knowledge was 8.8. The statistical significance between pre and post-test knowledge is evident by ‘t’ value of 14.02 at 0.05 level of significance. Hence, there is significant increase in the knowledge level of nursing students after structured teaching programme. The structured teaching program was effective in enhancing the knowledge of the student nurses on non-pharmacological management of pain during first stage of labour.

**Keywords:** Non-pharmacological methods, Effectiveness, Knowledge, Structured teaching program, student nurses.

**INTRODUCTION**

“We have a secret in our culture, and is not that birth is painful. It is that women are strong.”

Laura stave Harm.

During childbirth, women experience labour pain throughout the multiple stages of labour. The first stage is the longest stage of labour, beginning at the time of the labour onset and cervical dilation and ending when the cervix is fully dilated to 10 cm. The second stage starts when the cervix is fully dilated, and the labouring woman feels the urge to bear down and starts to push and ends after the delivery of the newborn and the placenta [1]. The third stage of labour is where the mother delivers the placenta, and the fourth stage is within the first four weeks postpartum [1]. Effective pain management is a challenge during the first stage of labour and affects many women that give birth every year. Most women perceive labour pain and childbirth as most severe and agonising event of a woman's existence [1, 2]. Childbirth is a physiologic and natural process that has been undertaken by women over the years with professional assistance [3, 4]. Although there are no underlying pathological processes, labour is linked with a painful experience [5], so a lot of women are worried about labour pain and how they can be relieved of pain [6, 7]. Although childbirth brings much joy to most women, it is usually painful and stressful. Labour pain is a physiological phenomenon; thus, experiencing the pain of childbirth is inherent in the process of giving birth. In various circumstances, however, this pain may be increased by the invasive procedures used in medicalized labour and delivery [8, 9]. Management of labour pain is an essential aspect of obstetric care and a major goal of intrapartum care [10]. Although complete suppression of the labour pain is not achievable, other techniques could be utilized. Several methods of pain relief and various coping strategies have been suggested to decrease the level and intensity of pain in labour. These strategies range from medical techniques, like epidural analgesia, to non-medical interventions, such as breathing exercises [11].

Non-pharmacological methods include massage, reflexology, touch therapy, relaxation, dancing, heat and cold therapy (e.g. taking a shower or hot bath), Trans or subcutaneous nerve stimulation and water therapy, acupuncture, aromatherapy and music therapy. Some believe these techniques had been very effective on pain relief [11]. One of the non-pharmacological methods of labour pain relief is the use of a birth ball. Also known as the fit ball, Swiss ball and Petzi ball, it was first used in 1963 by physiotherapists for patients with back pain [12,13] It was introduced as a childbirth tool in the 1980s by Perez and Simkin, who provided childbirth education to student nurses, midwives and professional labour assistants[12].Perez (2001) stated that the use of the birth ball was physically beneficial during pregnancy and labour [14].

The birth ball is a relatively new tool for improving the experience of labour some studies suggest using the birth ball for pain management during labour. However, the effectiveness

of non-pharmacologic approaches such as the birth ball on obstetric interventions and outcomes has remained unclear. There is currently no consensus for the use of the birth ball for pain relief in hospital settings. The difficulty in translating this approach into practice may be explained by the lack of a systematic review assessing the impact of using a birth ball on labour pain.

## **MATERIAL AND METHODOLOGY**

### **Research Approach**

Quantitative research approach.

### **Research Design**

Pre-experimental design research design.

### **Setting**

The study was conducted in St Joseph's College of Nursing, Hoshangabad

### **Data Collection Period**

The data was collected from 11/03/21 to 25/03/21.

### **Population**

#### **Accessible population:**

Nursing students of a selected Nursing college

#### **Target population:**

B.Sc. and General nursing students

### **Criteria for Sample Selection**

#### **Inclusion Criteria**

This study included only:

- 4<sup>th</sup> year and 3<sup>rd</sup> year BSc and GNM Nursing students
- Students who were willing to participate in the study
- Students studying in St Joseph's College of nursing

#### **Exclusion Criteria**

The following were not included in the study:

- Students who were not willing to participate in the study
- Students studying in other classes

### **Sample Selection**

#### **Sample Size:**

The sample size of the study was 60 Nursing students

#### **Sample Technique:**

The research study was conducted by using non-probability convenience sampling technique

### Procedure for Data Collection

Before the collection of data, formal written consent was obtained from the Nursing students

Data collection was done by using a structured questionnaire.

### Development and Description of Tool

A structured knowledge questionnaire was used to assess the knowledge of **student nurses regarding Non-Pharmacological Methods of Reduction of Labor Pain**. The structured questionnaire consisted of: It consisted of 2 sections. **Section 1** comprised of 4 items for obtaining information about selected demographic factors such as Age, Religion, Professional qualification, previous knowledge. **Section 2** consists of 40 items to assess the knowledge of student nurses regarding non-pharmacological methods of reduction of labour pain in the form of self-structured administered knowledge questionnaire. Each item has 4 options with one correct answer. Score 1 is awarded for the correct answer and score 0 is awarded for the wrong answer. Range of scores is 0-30. The reliability co-efficient was found to be 0.77. Hence the tool was found to be reliable. The knowledge level has been divided into two categories based on the scores in the structured knowledge questionnaire.

- Above average: a score between 21 to 30
- Average: a score between 11 to 20
- Below average: a score between 1 to 10

## RESULT & DISCUSSION

### Section A

#### Distribution of the nursing students in terms of demographic variables

**Table 1 Frequency and percentage distribution of the nursing students according to their demographic variables N=60**

S. No.	Demographic variables	Frequency (f)	Percentage (%)
1.	<b>Age</b>		
	a. 18-20	24	40%
	b. 20-22	20	33.3%
	c. 22-24	10	16.6%
	d. 24 and Above	6	10%
2.	<b>Religion</b>		
	a. Christian	24	40%

	b. Muslim	3	5%
	c. Hindu	33	55%
	d. Others	0	0%
<b>3.</b>	<b>Professional Qualification</b>		
	a. B.Sc. Nursing	30	50%
	b. GNM	30	50%
<b>4.</b>	<b>Previous Knowledge</b>		
	a. Yes	46	76.6%
	b. No	14	23.3%

## SECTION B

**Assessment of Pre Interventional Level of Knowledge Score Regarding Non-Pharmacological Methods of Reduction of Labor Pain among Nursing Students.**

**Table 2: Frequency and percentage distribution of pre interventional knowledge score of Nursing Students regarding Non-Pharmacological Methods of Reduction of Labor**

**Pain N= 60**

SCORE	GRADE	PRE TEST			
		Frequency (n)	Percentage (%)	Mean	SD
1 – 10	Inadequate	36	60%	11.8	4.92
11 - 20	Moderate	24	40%		
21 - 30	Adequate	0	0%		

The data in the table depicts that frequency and percentage distribution of pre interventional knowledge score among Nursing Students regarding non pharmacological methods on reduction of labour pain is 36 (60%) were in inadequate category in the score between 1-10, which means that the more than half of the Nursing Students do not have much knowledge regarding non pharmacological methods on reduction of labour pain and other 24 (40%) Nursing Students were in moderate category in the score between 11-20. None of them came under adequate category that is 21-30

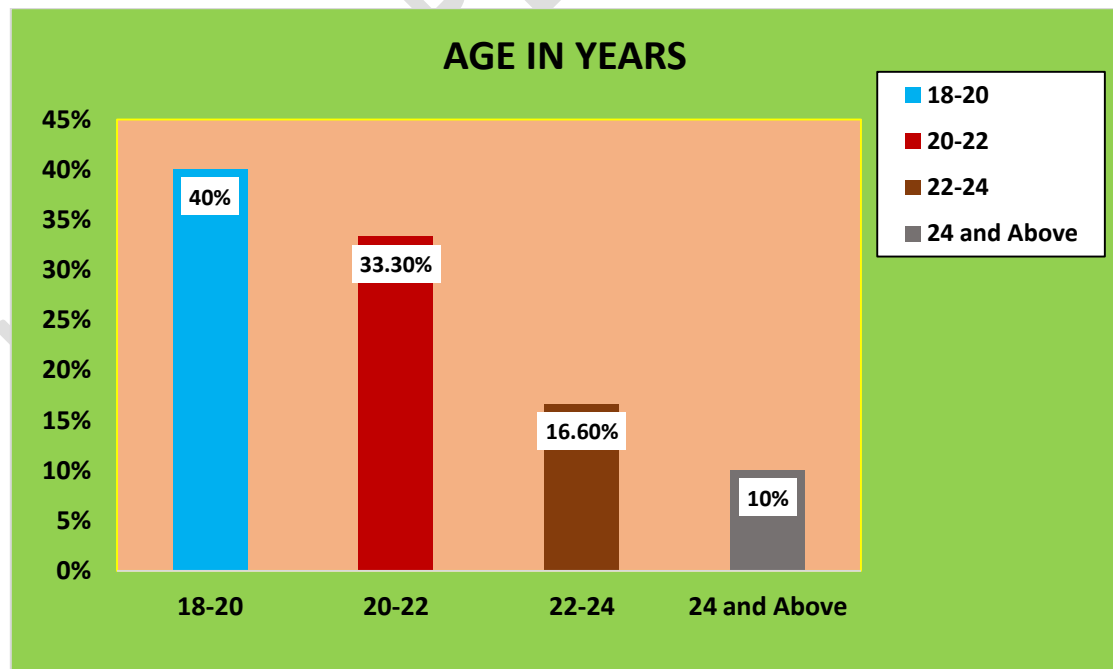
## SECTION C

**Assessment of post interventional level of knowledge score regarding nonpharmacological methods on reduction of labour pain**

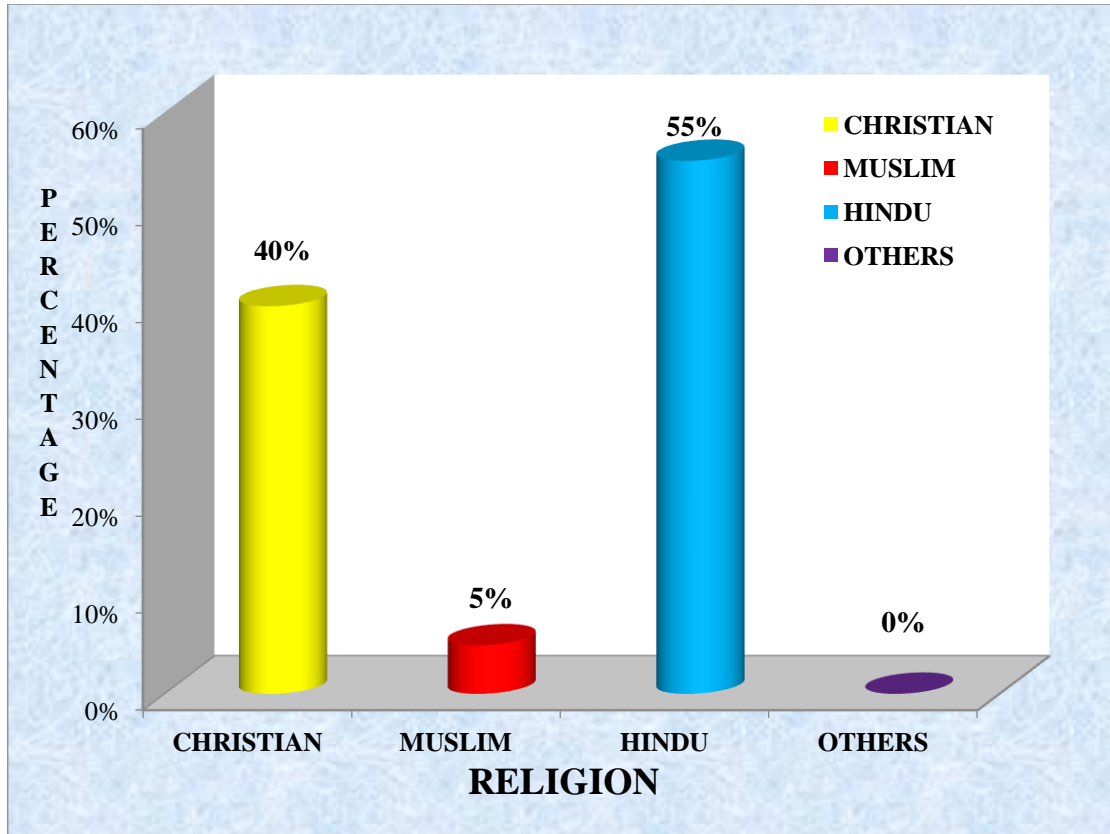
**Table 3: Frequency and Percentage Distribution Of Post Interventional Knowledge Score of Student Nurses Regarding Non pharmacological Methods on Reduction of Labour Pain N= 60**

SCORE	GRADE	POST TEST			
		Frequency (n)	Percentage (%)	Mean	SD
1 - 10	Inadequate	1	1.6%	20.6	3.90
11 - 20	Moderate	26	43.3%		
21 - 30	Adequate	33	55%		

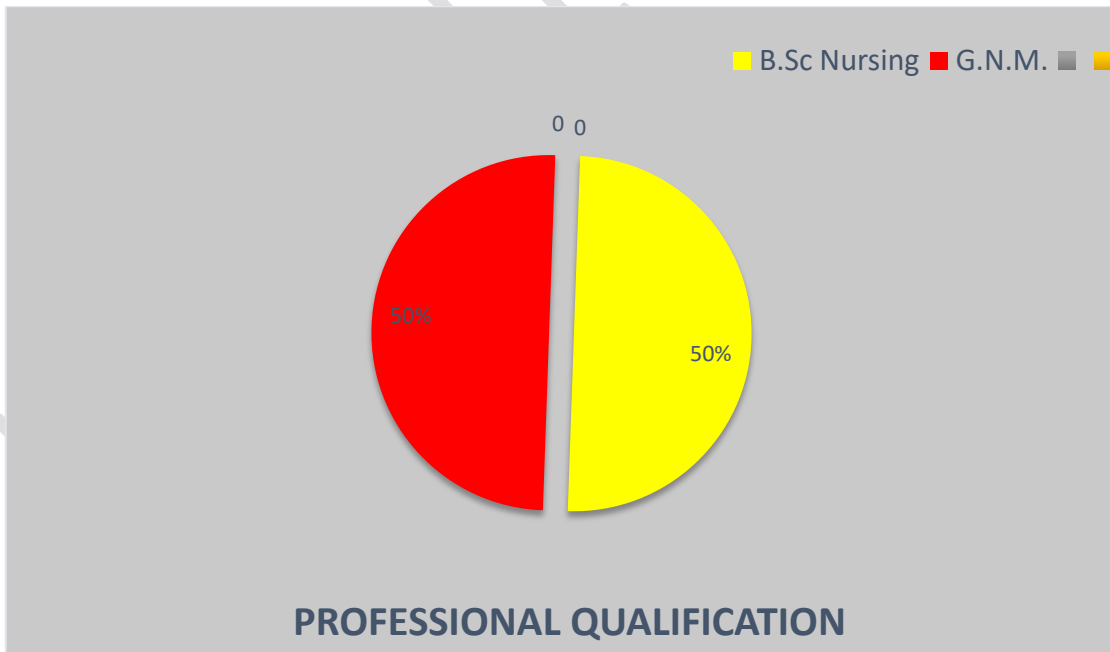
The above table depicts that frequency and percentage distribution of post interventional knowledge score after the structured teaching programme the knowledge score had drastic improvement among Nursing Students. It can be clearly stated that most of the Nursing Students 33 (55%) have gained knowledge regarding non pharmacological methods on reduction of labour pain, 26 (43.3%) have adequate knowledge regarding and 1(1.6%) in inadequate category.



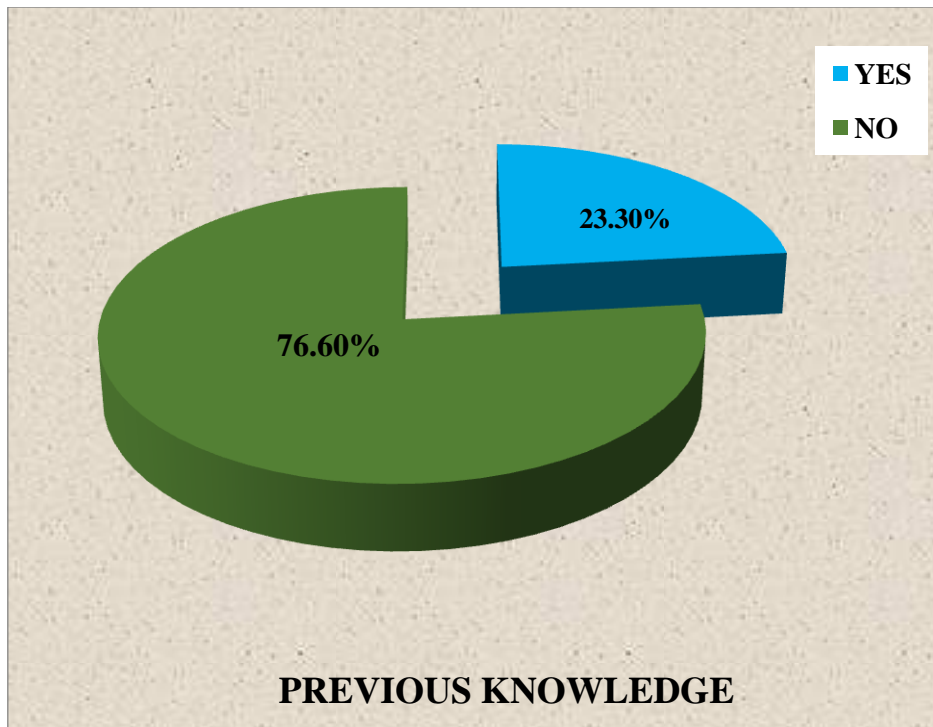
**Fig. 1: Stacked Column showing the percentage distribution of student nurses in relation to their age group**



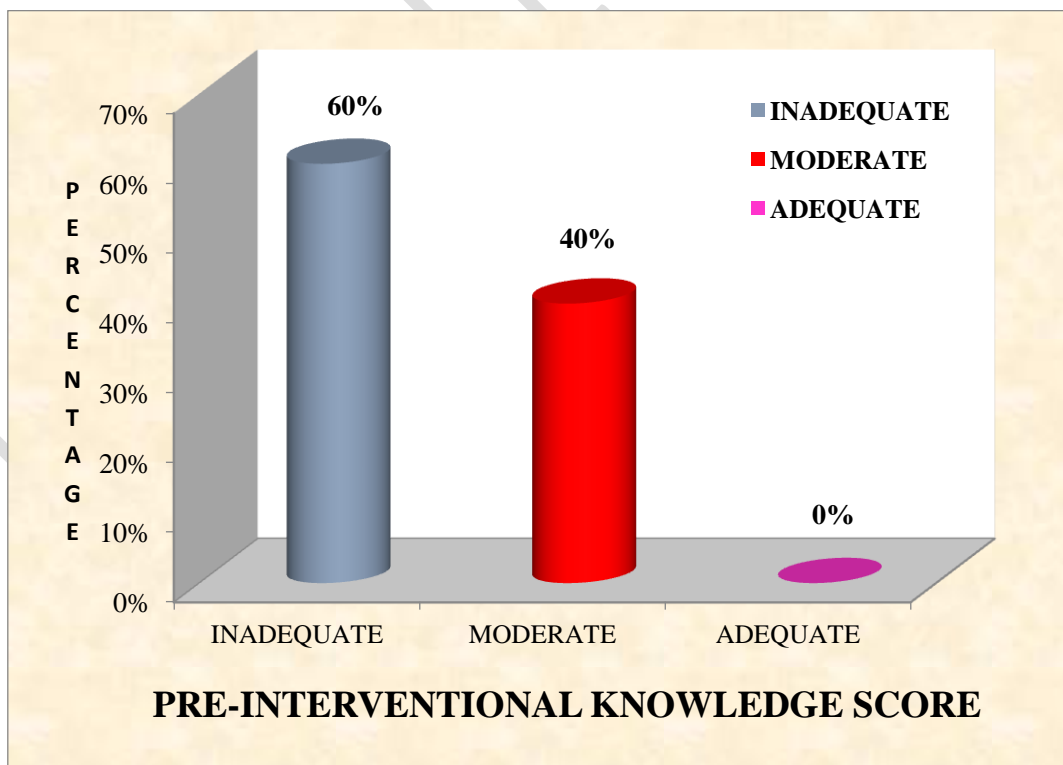
**Fig. 2: Cylindrical diagram showing the percentage distribution of student nurses in relation to their religion.**



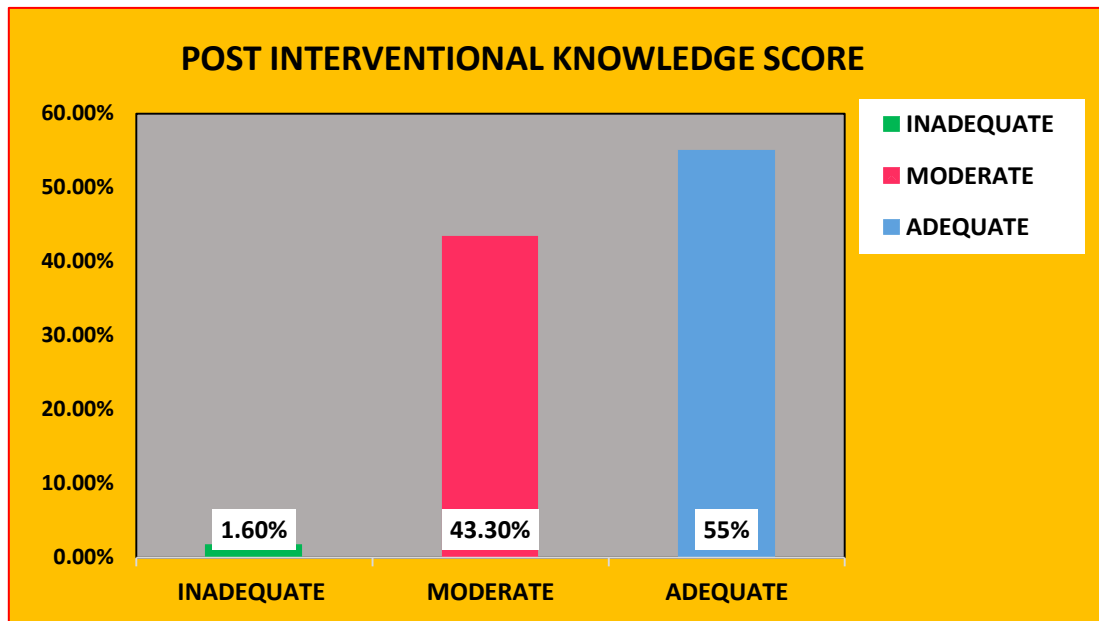
**Fig. 3: Doughnut diagram showing the percentage distribution of student nurses in relation to their professional Qualification**



**Fig. 4: Pie diagram showing the percentage distribution of student nurses in relation to their previous knowledge regarding non pharmacological methods on reduction of labour pain.**



**Fig. 5: Cylindrical diagram showing the pre interventional knowledge score of nursing**



**students regarding non pharmacological methods on reduction of labour pain**

**Fig. 6: Clustered Column chart showing the post interventional knowledge score of nursing students regarding non pharmacological methods on reduction of labour pain**

This study intended to find out the effectiveness of structured teaching programme on non pharmacological methods on reduction of labour pain among nursing students.

#### **Section-A: Distribution of nursing students according to their demographic variables**

In the present study, most of the selected nursing students.i.e.24 (40%) belonged to the age group of 18-20 years, 20 nursing students (33.3%) belonged to the age group of 20-22 years, whereas 10 nursing students belonged to 22-24 years and 6 nursing students belonged to above 24 years age group.

In the present study, majority of selected nursing students 33 (55%) belonged to Hindu religion, 24 (40%) belonged to Christian and 3 (5%) belonged to Muslim religion.

In present study, half of selected nursing students i.e. 30 (50%) had professional qualification of GNM, 30 (50%) nursing students had B.Sc. professional qualification,

In present study, majority of nursing students46 (76.6%) do not have previous knowledge regarding non pharmacological methods on reduction of labour pain where 14 (23.3%) have knowledge of non pharmacological methods on reduction of labour pain through Newspaper, Internet and Books. Hence, it is interpreted that most of the nursing students do not have previous knowledge of non pharmacological methods on reduction of labour pain

#### **Section-B: Assessment of pre-interventional knowledge of nursing students**

This study found that majority of nursing students i.e. 36 (60%) have inadequate knowledge between 1-10 knowledge score, 24 (40%) had moderate knowledge between 11-20 knowledge score and none of them were having adequate knowledge.

Similar study by Dr. Keyser T.G. et. al. (2001) to assess the “Knowledge level and attitudes of staff nurses in Israel towards complementary and alternative medicine” found 40% with inadequate knowledge, 15% having moderate knowledge and 5% adequate knowledge in pre-test.

#### **Section-C: Assessment of post-interventional knowledge of nursing students**

This study found that majority of nursing students i.e. 33 (55%) have gained adequate knowledge whereas 26 (43.3%) have gained moderate knowledge and 1 (1.6%) with inadequate knowledge after administration of structured teaching programme on non pharmacological methods on reduction of labour pain

Similar study by Dr. Keyser T.G, et al (2001) to assess the “Knowledge level and attitudes of staff nurses in Israel towards complementary and alternative medicine” found 42% staff nurses with moderate knowledge and 58% with adequate knowledge.

#### **Section-D: Comparison of pre-interventional and post-interventional knowledge of nursing students**

The findings of the present study shows that the mean post-test knowledge score (20.6) was apparently higher than the mean pre-test score (11.08). The difference between pre-interventional and post-interventional knowledge was 8.8. The statistical significance between pre and post-test knowledge is evident by ‘t’ value of 14.02 at 0.05 level of significance. Hence, there is significant increase in the knowledge level of nursing students after structured teaching programme

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