

# Effectiveness of structured teaching programme on knowledge of preventive measures of low back pain among first year B.Sc. Nursing students in selected nursing college at Bangalore

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**Abstract:** Lower back pain is universally common issue. It can be experienced at any age, and most people experience at least once in their life. Low back pain (LBP) describes pain between the lower edge of the ribs and the buttock. The first episode usually occurs between early years of age. Nurses are vulnerable and ignored so they must supposed to be knowledgeable about the risk factors and preventive measures and effectively apply it into practice to prevent them from sustaining back injuries. Pain often gets better with rest, physical therapy and medication. Reduce your risk of low back pain by keeping at a healthy weight and staying active. Hence different treatments are available for it but knowledge and primary prevention is essential as core for any. This study done on a total of 50 second year B.Sc nursing students were selected in a college The study reveals that the structured teaching programme could increase the knowledge level of student nurse and it should be an on-going process. The findings of the present study have implications for Nursing practice like clinical instructor should expertise in assisting the student nurses to improve the knowledge about preventive measures of low back pain

**Key words:** Effectiveness, Structured teaching programme, Knowledge of preventive measures of low back pain, low back pain, LBP.

## 1. Introduction

Happy living is the gift everyone needs, but unfortunately due to physical and mental stress universally common issue is lower back pain. In 2020, low back pain (LBP) affected 619 million people globally and it is estimated that the number of cases will increase to 843 million cases by 2050, driven largely by population expansion and ageing. LBP is the single leading cause of disability worldwide and the condition for which the greatest number of people may benefit from rehabilitation. LBP can be experienced at any age, and most people experience LBP at least once in their life. Non-specific LBP is the most common presentation of LBP (about 90% of cases are youngsters). Low back pain is a ubiquitous health problem, representing one of the most frequent illnesses of mankind. It is often controversial, frustrating, and challenging for clinicians. Most persons will experience acute low back pain during their lifetime. The first episode usually occurs between 20 to 40 years of age. Pain can be moderate to severe and debilitating, causing anxiety. Many cases of acute LBP are self-limiting and resolve with little intervention. Pain is an unpleasant emotional state felt in the mind but identifiable as arising in a part of the body. In other words, it is a subjective sensation. Pain is a defense mechanism designed to make the subject protect an injured part from further damage. Back pain is pain felt in the human back that may come from the muscles, nerves, bones, joints or other structures in the spine. Low back pain or lumbago is a common musculoskeletal disorder affecting 80 percent of people at some point in their lives. The lumbar region or lower back region is made up of five vertebrae L1-L5. In between these vertebrae lie fibro cartilage discs or inter vertebral discs, which act as cushions, nerves runs from the spinal cord through foramina within the vertebrae, providing muscles with sensations and motor associated messages. Low back pain (LBP) is a significant problem among the nursing population worldwide. Manual lifting and shifting of heavy objects and patients are primary contributing factors. Low back pain (LBP) has the highest prevalence globally among musculoskeletal conditions and is the leading cause

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of disability worldwide. It is the condition where the greatest number of people may benefit from rehabilitation. physical therapies to improve muscle strength and ability to move and resume physical activity and exercise, psychological and social support to help people manage their pain and return to doing activities they enjoy, reducing strain during physical work, lifestyle changes including more physical activity, healthy diet and good sleep habits.

Nurses are supposed to be knowledgeable about the risk factors and preventive measures and effectively apply it into practice to prevent them from sustaining back injuries.

## 2. Material and Methods

This evaluative research approach was carried out on Second year B.Sc students in Department of Nursing at RR College of nursing chikkabanavara, Bangalore-90 from November 2021 to November 2022. A total 50 samples (both male and females) of aged  $\geq 18$ , years were for in this study.

**Study Design:** quasi experimental study using one group pretest posttest design

**Study Location:** This was a tertiary care teaching hospital based study done in RR College of nursing chikkabanavara, Bangalore-90.

**Study Duration:** November 2021 to November 2022.

**Sample size:** 50 students.

**Sample size calculation:** The sample size was estimated on the basis of a single proportion design. The target population from which we randomly selected our sample was considered 10,000. We assumed that the confidence interval of 10% and confidence level of 95%. The sample size actually obtained for this study was 46 students. As per the statistical guidance we made it as the 50 samples including the attrition ratio.

**Subjects & selection method:** The study population was 3<sup>rd</sup> year b.sc nursing students selected by nonprobability convenience sampling and samples who are available at the time of study between from November 2021 to November 2022.

### Inclusion criteria:

1. The second year B.Sc. Nursing students working in selected nursing college, Bangalore.
2. The second year B.Sc. Nursing students who are willing to participate in the study.
3. Both male and female participants.
4. The second year B.Sc. Nursing students who are available during the study period.

### Exclusion criteria:

1. The second year B.Sc. Nursing students who are absent on the day of data collection.
2. The second year B.Sc. Nursing students who are sick at the time of data collection.

### Methods:

A total of 50 second year B.Sc nursing students were selected. For selection of the sample, non-probability convenient sampling technique was used. Quasi experimental design with one group pre-test and post-test was adopted. Tools used to collect the data consisted of structured questionnaire. The pilot study was conducted from 8th May to 15th May 2021 in Manjunatha College of Nursing, Bangalore to find out the feasibility of the study Reliability of the structured questionnaire were established by split half reliability technique, using these values co-efficient correlation was done with the help of Spearman Brown Prophecy. The reliability score obtained was  $r = 0.80$  which showed structured questionnaire were highly reliable. The steps proceeded as followed after pilot procedure. After written informed consent was obtained, a well-designed questionnaire was used to collect the data of the recruited subjects retrospectively as a pretest. The questionnaire included socio-demographic characteristics such as age, gender, religion; class obtained in PUC, monthly income of the family, witnessed or experienced low back pain and sources of information about preventive measures of low back pain. Followed by the structured teaching program on the seventh day the post test was given by using the same questionnaire.

### Statistical analysis

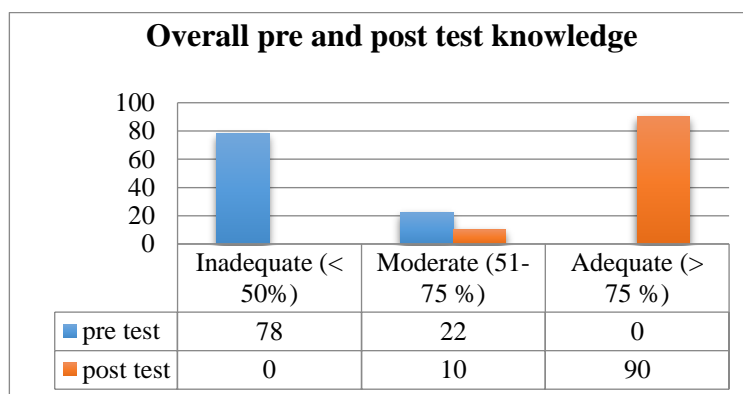
Data was analyzed using SPSS version 21. Frequency and percentage distribution was used to study the demographic variables. paired  $t$ -test was used to ascertain the significance of differences between mean values of pre and posttest regarding the knowledge on LBP and prevention. Knowledge scores of the demographic variables are assessed using chi-square test.

## 3. Result

Collected data was analyzed using descriptive and inferential statistics, the study confirms that 78.0% of the respondents possess inadequate knowledge and 22.0 % of the respondents possess moderate knowledge about the knowledge of preventive measures of low back pain. Whereas, in post-test 10.0 % of the respondents possess moderate knowledge and 90.0 % of the respondents possess adequate knowledge about the knowledge of preventive measures of low back pain. And also its shows that there is a considerable improvement of knowledge after the structured teaching programme and is statistically established as significant. The overall mean knowledge score percept in the pretest is 42.95% and 85.75% in the post test with paired  $t$  value 86.88. The study reveals that the  $\alpha$ -value for each of the variable is more than 0.05 ( $\alpha > 0.05$ ) this is statistically signifying on gender, witnessed or experienced knowledge of preventive measures of low back pain and source of information.

#### Overall pre and posttest knowledge N=50

Knowledge Level in percentage	pre test	post test
Inadequate (< 50%)	78	0
Moderate (51-75 %)	22	10
Adequate (> 75 %)	0	90



The pre-test knowledge of the first year B.Sc. nursing students had a significant demographic variables such as gender, witnessed or experienced knowledge of preventive measures of low back pain and source of information. Other demographic variables such as age, religion, class obtained in PUC of first year B.Sc. nursing students and monthly income were not significantly associated with the pretest knowledge score.

#### 4. Discussion

The hall mark of professional behavior is the personal commitment to the ongoing acquisition of new knowledge. In the present study a Lesson Plan was prepared with an aim to improve the knowledge regarding preventive measures of low back pain among first year B.Sc. Nursing students in selected nursing college at Bangalore. A pre experimental one group pre-test and post-test design ( $O1 \times O2$ ) was adopted to conduct this study. The designated populated for conducting the study was first year B.Sc. Nursing students in selected nursing college at Bangalore. The study samples were from the population using non probability convenience sampling technique. As a result 50 first years B.Sc. Nursing students were selected from RR College of Nursing. The present study confirms that 78.0% of the respondents possess inadequate knowledge and 22.0 % of the respondents possess moderate knowledge about the knowledge of preventive measures of low back pain. Whereas, in post-test 10.0 % of the respondents possess moderate knowledge and 90.0 % of the respondents possess adequate knowledge about the knowledge of preventive measures of low back pain. The present study confirms that there was considerable improvement of knowledge after the structured teaching programme and is statistically established as significant. The overall mean knowledge score percept in the pretest is 42.95% and 85.75% in the post test with paired t value 86.88. It is observed from the present table that knowledge scores of the 07 demographic variables are assessed using chi-square test. The above data shows that the  $\alpha$ -value for each of the variable is more than 0.05 ( $\alpha$ -0.05) this is statistically signifying that there is no significant association between demographic variables such as age, religion, class obtained in PUC of first year B.Sc. nursing students and monthly income. There are significant demographic variables such as gender, witnessed or experienced knowledge of preventive measures of low back pain and source of information.

#### 5. Conclusion

The study reveals that the structured teaching programme could increase the knowledge level of student nurse and it should be an on-going process. The findings of the present study have implications for Nursing practice like clinical instructor should expertise in assisting the student nurses to improve the knowledge about preventive measures of low back pain and in Nursing education if we take every opportunity to educate student nurses on the causes and signs and symptoms of low back pain and management of low back pain procedure which makes them less time in trouble shooting. The study also suggests strongly to the administration sector on working policies, and the awareness and incorporating the practices in work and living style. Apart from that further more research to be done widely to explore the dark.

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