

Effectiveness of Structured Teaching Programme Regarding Management of Selected Musculoskeletal Injuries among Nursing Students in a Selected School at Mysuru

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Abstract: Adulthood is a unique stage of human development and an important time for laying the foundations of good health. Among adult's Musculoskeletal injuries are a leading cause of pain, disability, and reduced quality of life, with significant impacts on daily activities, work productivity, and overall well-being Musculoskeletal injuries most often result from road accidents and recreational activities. Traumatic injuries, especially those involving motor vehicles, is the leading cause of fatalities among children and teenagers. In addition, falls and Sports injuries constitute the largest group of injuries resulting in hospitalization or emergency department visits.

Aim of the study: The main aim of study is to assess the effectiveness of structured teaching programme regarding management of selected Musculoskeletal injuries among nursing students in a selected school at Mysuru. **Objectives:** 1) To assess the knowledge regarding selected musculoskeletal injuries among Nursing students. 2) To determine the effectiveness of structured teaching programme regarding the management of selected Musculoskeletal Injuries in terms of gain in knowledge scores among Nursing students. 3) To find the association between the level of knowledge regarding musculoskeletal injuries among Nursing students and their selected personal variables.

Methods: In this study pre-experimental, one group pre-test and post-test design was used and non-probability sampling technique adopted to select Nursing students with sample size of 60. Pilot study was conducted tool and study design were found to be feasible. Data were collected using structured knowledge questionnaire. The data were collected and analyses using descriptive and inferential statistics.

Results: The results of the study revealed that structured teaching programme regarding the management of selected Musculoskeletal Injuries was effective in enhancing the knowledge of nursing students as indicated by the computed 't' value which was statistically significant at ($t = 7.67$ $p < 0.05$). There was statistically significant association between the level of knowledge and their selected personal variables of nursing students viz age in years, place of staying, have you attended any educational programme previously. So that the researcher partially accepts the research hypothesis and reject the null hypothesis. Study concluded that the structured teaching programme was effective method to improve the knowledge regarding Management of Musculoskeletal injuries among nursing students. Study findings stresses the increasing the responsibility of health professionals in planning and implementing various educational strategies to improve the knowledge of nursing students.

Keywords: Musculoskeletal Injuries, Nursing students, Structured teaching programme

1. Introduction

Adulthood experience rapid physical, cognitive and psychosocial growth. This affects how they feel, think, make decisions and interact with the world around them. Musculoskeletal injuries are a common and debilitating condition affecting millions of adults worldwide. These injuries, which affect the muscles, tendons, ligaments, bones, and joints, can result from sudden trauma, repetitive strain or gradual wear and tear. Among adults, musculoskeletal injuries are a leading cause of pain, disability, and reduced quality of life, with significant impacts on daily activities, work productivity, and overall well-being Musculoskeletal injuries most often result from road accidents and recreational activities. Traumatic injuries, especially those involving motor vehicles, is the leading cause of fatalities among children and teenagers. Road injuries also maim millions in this age group each year. In addition, falls and sports injuries constitute the largest group of injuries resulting in hospitalization or emergency department visits¹.

Musculoskeletal injury refers to damage of muscular or skeletal systems, which is usually due to a strenuous activity and includes damage to skeletal muscles, bones, tendons, joints, ligaments, and other affected soft tissues. Musculoskeletal injuries commonly affect the following area:

Shoulders, Wrists, Back, Hip, Legs, Knees, Feet. There are several musculoskeletal injuries that people suffer from, such as: Bone fractures, Muscle, Tendon strain, Ligament Sprain, Ligament tear and many more. Most of people suffer from Musculoskeletal Injury due to our own lifestyle and age. A few causes of this type of injury are: Postural strain, Repetitive movements, Prolonged uses of computer, Poor Posture, Trauma, Uncomfortable working position, exerting too much force, Vibrations, working too long without breaks, Sitting in the same position for extended periods.³

This study aims to contribute to the existing body of knowledge on the management of musculoskeletal injuries by investigating effectiveness of structured teaching programme regarding management of selected musculoskeletal injuries among nursing students in selected nursing school at Mysuru. The findings of this study will have important implications for the development of evidence-based guidelines for the management of musculoskeletal injuries, and will ultimately improve patient outcomes and quality of life.

2. Need for the Study

According to WHO a recent analysis of Global Burden of Disease (GBD) data showed that approximately 1.71 billion people globally live with musculoskeletal conditions,

including low back pain, neck pain, fractures, other injuries, osteoarthritis, amputation and rheumatoid arthritis ¹. While the prevalence of musculoskeletal conditions varies by age and diagnosis, people of all ages everywhere around the world are affected. High-income countries are the most affected in terms of number of people 441 million followed by countries in the WHO Western Pacific Region with 427 million and South-East Asia Region with 369 million. Musculoskeletal conditions are also the biggest contributor to years lived with disability (YLDs) worldwide with approximately 149 million YLDs, accounting for 17% of all YLDs worldwide. ⁴

The prevalence of musculoskeletal injuries among the general population in India is not well documented. Impairment is the most common chronic impairment in developed as well as in developing countries, as nearly 25% of the adult subjects suffer from chronic musculoskeletal injuries pain. In spite of the enormous global impact, these injuries do not receive the attention they deserve by the medical profession, policy makers or the media and are not considered national health priorities. This is because musculoskeletal injuries are perceived to be less serious than cardiovascular diseases, diabetes, AIDS and cancer, while musculoskeletal injuries are largely chronic, non-fatal conditions and are perceived to be a consequence of ageing. The United Nations and World Health Organization (WHO) declared the decade 2000–2010 as a bone and joint decade with the aim of increasing the understanding of the burden posed by musculoskeletal injuries and improving the health-related quality of life. ⁽⁶⁾

Musculoskeletal injuries in the active adolescent population are an inherent risk with participation in play, recreational activities, and sports. The physical and psychosocial consequences of a sedentary lifestyle make a compelling argument for fostering active lifestyles in the young population. Minimizing sequel, injury reduction, and keeping youth engaged in physical activities need to be the goals of the health care practitioner who participates in the care of the maturing child. Caring for the young athlete is more dependent on the stage of development than chronological age. There are several reasons why adults are a good population to study when evaluating the effectiveness of a structured teaching program on musculoskeletal injuries which are Musculoskeletal injuries are common among adults, making them a relevant population to study and adults represent a diverse population in terms of age, gender, occupation, and other factors, allowing for a more generalizable study population. Educating adults about musculoskeletal injury prevention and management can have long-term benefits for their health and well-being. By studying adults, researchers can develop effective strategies for preventing and managing musculoskeletal injuries, improving health outcomes, and reducing healthcare costs. ⁽⁹⁾

Objectives of the study

- 1) To assess the knowledge regarding selected Musculoskeletal injuries among Nursing students.
- 2) To determine the effectiveness of structured teaching programme regarding the management of selected Musculoskeletal Injuries in terms of gain in knowledge scores among Nursing students.

- 3) To find the association between the level of knowledge regarding Musculoskeletal injuries among Nursing students and their selected personal variables.

Hypotheses

H₁: Mean post-test knowledge scores of Nursing Students regarding management of selected musculoskeletal injuries will be significantly higher than their mean pretest knowledge scores.

H₂: There will be statistically significant association between the level of knowledge regarding management of selected musculoskeletal injuries among nursing students and their selected personal variables.

Assumption

Nursing students may have some knowledge regarding Management of Selected Musculoskeletal Injuries.

3. Review of Literature

Methodology

Research Approach

Quantitative, Evaluative approach is used in this study.

Research Design

Pre-experimental: One group pre-test and post - test design for this study.

E - O₁ X O₂

E - Experimental group

O₁: Pre-test

X : Interventions

O₂: Post-test

Variables of the Study

The variables of the study were:

- **Independent variable:** Structured teaching programme on Management of Musculoskeletal Injuries
- **Dependent variable:** Knowledge of Nursing students regarding management of Musculoskeletal Injuries
- **Selected personal variables:** Age, gender, place of staying, Family Monthly income in rupees , previous experience of musculoskeletal injuries, previous knowledge regarding management of musculoskeletal injuries

Setting of the Study

The study is conducted in JSS school of nursing in Mysuru.

Population

Nursing students in a selected nursing school at Mysuru.

Sample

In the present study 60 students were included in the study.

Sampling Technique

Purposive Sampling technique was used to select the 60 samples for this study.

Criteria for Sampling:

Inclusion criteria

Nursing students who are

- Studying in IIIrd Year in JSS School of Nursing at Mysuru.
- Available during the period of data collection.
- Willing to participate in study.

Exclusion Criteria

Nursing students who not available during the time of data collection.

Data Collection Techniques and Instruments

Section 1: Proforma for selected personal variables of Nursing students.

Section 2: Structured Knowledge questionnaire used to assess the knowledge regarding Management of Musculoskeletal injuries among Nursing students.

Description of the Tool

Personal variables

The personal variables were used to collect the sample characteristics like age, gender, place of staying, family income, previous experience on musculoskeletal Injuries, previous knowledge on musculoskeletal injuries.

A set of knowledge questionnaire to assess the level of knowledge regarding management of musculoskeletal injuries among nursing school students. Extensive literature was reviewed in the area of management of musculoskeletal injuries. A blue print was prepared with content areas divided under definition, types, etiology, signs and symptoms complication and management of musculoskeletal injuries. The set consists of 27 questionnaires in total. There were four alternative options from which the participants had to choose the correct answer. The four responses are options which are related to the questions in which one of them would be the correct answer.

Data Collection Procedure

Formal administrative permission for conducting the study was obtained from the principal school of nursing. Ethical clearance for conducting the study was obtained from the ethical committee of the JSS University AHER. To obtain a free and true response, the respondents were explained about the purpose and usefulness of the study and cooperation required from the respondents was explained to them. Confidentiality was assured. An informed consent was obtained from each sample indicating their willingness to participate in the study. Data collection was done from 28/05/2024 to 05/06/2024.

Plan for Data Analysis

Descriptive Statistics:

- 1) Frequency and percentage to analyse the selected personal Variables of Nursing Students.
- 2) Mean, Median and Standard deviation used to analyze the knowledge scores among Nursing students regarding management of Selected Musculoskeletal injuries.

Inferential Statistics:

- 1) Paired 't' test to analyse the effectiveness of structured teaching programme regarding management of selected musculoskeletal injuries among Nursing Students.

- 2) Chi square test is used to determine the association between the level of pre-test knowledge scores among nursing students and their selected personal variables.

Organization Of Findings

The data collected were tabulated, analyzed and interpreted by using descriptive and inferential statistics. The findings are presented under the following headings.

Section 1: Description of selected personal variables of Nursing students

- Frequency and percentage distribution of Nursing students according to their selected personal variables

Section 2: Effectiveness of structured teaching programme on knowledge regarding the management of Musculoskeletal injuries.

- Frequency and percentage distribution of knowledge scores among nursing students according to their pre-test and post- test scores.
- Mean, median, range and standard deviation of Knowledge scores
- Significance of difference between mean pre-test and post-test knowledge scores regarding the management of musculoskeletal injuries among nursing students.

Section 3: Association between level of knowledge and selected personal variables of nursing students.

Section I

Description of Selected Personal Variables of Nursing Students

Frequency and percentage distribution of nursing students according to their selected personal Variables, n=60

S. No.	Personal variables	Frequency (f)	Percentage (%)
1	Age in years		
	• 18-19	26	43%
	• 20-21	34	57%
2	Gender		
	• Male	16	26%
	• Female	44	74%
3	Place of staying		
	• Home	38	63%
	• PG/Hostel	22	37%
4	Family income		
	• 10000-20000	37	61%
	• 20001-30000	15	25%
	• above 30001	8	14%
5	Do you experience any Musculoskeletal Injuries		
	• Yes	41	68%
	• No	19	32%
6	Have you attended any Educational Programme previously		
	• Yes	30	50%
	• No	30	50%

Section II

Effectiveness of Structured Teaching Programme Regarding the Management of Musculoskeletal Injuries among Nursing Students

Frequency and percentage distribution of knowledge scores among nursing students according to their pre-test and post- test scores.

Table 2, n = 60

Knowledge level	Pre-test f (%)	Post -test f (%)
Good knowledge (above 75%)	10(17%)	20(33%)
Average knowledge (51-75%)	30 (50%)	40(67%)
Poor knowledge (up to 50%)	20 (33%)	00(0%)

It is evident from Table 2 that, Majority 50% of the nursing students had average knowledge, 17% Students had good knowledge and 33% nursing students had poor knowledge regarding the management of musculoskeletal injuries in the pre-test. Data revealed that in post-test Majority 33% of them had good knowledge and 67% of them had average knowledge no one had poor knowledge.

Significance of difference between level of pre-test and post-test Knowledge scores regarding management of selected musculoskeletal injuries among Nursing students.

In order to find out the Significance of difference between pre-test and post-test Knowledge scores regarding management of selected musculoskeletal injuries, paired 't' test was computed. The data are represented in the table - 4. To test the statistical significance following null hypothesis was stated.

H₀₁: There will be no Statistically significant difference between the **post-test and pre -test knowledge scores among Nursing Students** regarding management of selected Musculoskeletal injuries.

Table 3: Mean, Median, Standard deviation and Range of pretest and post -test knowledge scores of nursing students, n=60

Test	Mean	Median	Range	SD
Pre test	16	16	9 -19	±3.68
Post test	17	18	10-22	±4.46

The data presented in Table 3 shows that, the mean pre-test knowledge score is Median 16 with standard deviation of ±3.68 and ranged from 9-19 and the mean post -test knowledge score is 17 with the standard deviation of ±4.46 and ranged from 10-22. This indicates that there was an increase in mean knowledge scores of nursing students after the structured teaching programme.

Table 4: Mean, mean difference, standard deviation difference, standard error and paired 't' value of pre- test and post -test knowledge scores among nursing students, n=60

Knowledge scores	Mean	Mean Difference	S.D. Difference	Paired 't' test value
Pre-test	16	1	±0.78	7.67*
Post-test	17			

t(59)=2.358; p<0.05* Significant

The data presented in the Table 4 shows that the mean difference between knowledge pre- test score and post test score is 1. To find the significant difference in mean knowledge scores, paired 't' test was computed and obtained value of paired 't'=7.67, p<0.05 is found to be significant.

Hence the null hypothesis rejected. It is inferred that there was statistically significant difference between the improvement of knowledge teaching programme.

Section III

Association between the level of knowledge and their selected personal variables among nursing students.

To find out the association between the pre-test level of knowledge regarding management of selected musculoskeletal injuries among nursing students and their selected personal variables chi square was computed and following null hypothesis is stated.

H₀₂: There will be no significant difference between the **pretest and post scores regarding management of selected musculoskeletal injuries.**

Computed Chi- Square values for pre-test level of knowledge among nursing students regarding management of selected musculoskeletal injuries. There was statistically significant association between the level of knowledge and their selected personal variables of nursing students viz age in years, place of staying, have you attended any educational programme previously. So that the researcher partially accepts the research hypothesis and reject the null hypothesis. and it is inferred that younger age, place of staying, previously attending the educational programme had influence on their knowledge level regarding management of musculoskeletal injuries.

Data also revealed that there was no statistically significant association between the level of knowledge of nursing students regarding the management of musculoskeletal injuries and their selected personal variables like gender, Family monthly income in Rupees and Do you experience any Musculoskeletal Injuries.

4. Discussion

Study findings revealed that Majority 50% of the nursing students had average knowledge, 17% Students had good knowledge and 33% nursing students had poor knowledge regarding the management of musculoskeletal injuries in the pre-test. Data revealed that in post-test Majority 33% of them had good knowledge and 67% of them had average knowledge no one had poor knowledge.

The findings of the present study are consistent with the study conducted on undergraduate nursing students at Universiti Sains Malaysia to assess their knowledge and practice regarding the RICE method for the first aid management of musculoskeletal injuries. The study revealed that 62.1% of the students had adequate knowledge and 60.5% demonstrated good practice. A significant positive relationship was found between knowledge and practice ($p = 0.01$). The findings emphasize the importance of adequate knowledge among nursing students regarding the early management of musculoskeletal injuries and support the need for structured educational programmes to strengthen their preparedness for Musculoskeletal injury Management.

5. Recommendations

- 1) Similar study can be carried out on larger sample for broader generalization.
- 2) A comparative study can be performed about assessing knowledge among general nursing students and BSc nursing students.
- 3) A similar study can be conducted by adopting true experimental design.

6. Limitations

The limitations of the present study were,

- 1) The study is limited to students in a selected nursing school at Mysuru.
- 2) The sample size is only limited to the 60 students hence this limits the generalization of study findings.

7. Conclusion

The main aim of the study has focused to determine the effectiveness of structured teaching programme on management of Musculoskeletal injuries among nursing students in a selected nursing school in Mysuru.

Structured teaching programme was carried out in two phases. In first phase, 60 nursing students were selected using non probability purposive Sampling technique and pre-test was conducted to experimental group. On the same day they are given health teaching on management of Musculoskeletal injuries using flashcards & ppt. In the second phase under the supervision of the researcher knowledge regarding management of musculoskeletal injuries was assessed using structured knowledge questionnaire. Post test was conducted to experimental group on the 7th day by administering the same structured knowledge questionnaire.

Data revealed that in post-test Majority 33% of them had good knowledge and 67% of them had average knowledge no one had poor knowledge. Statistically significant association between the level of knowledge and their selected personal variables of nursing students viz age in years, place of staying, have you attended any educational programme previously. This indicates that there was an increase in mean knowledge scores of nursing students after the structured teaching programme. Thus, it was concluded that, the student teaching programme was effective in enhancing knowledge regarding management of musculoskeletal injuries among nursing students. Therefore, the study reinforces the need to organize health campaigns and teaching programs which sensitize the nursing students to enhance the knowledge regarding management of musculoskeletal injuries among nursing Students.

References

- [1] Jugal Kishore. prevalence of musculoskeletal injuries among adult population of india. 2019 epidemiology international 04(03) :22-26.
- [2] Ahmad shaby alsheikhly. Mazinsubhy alsheikhly. Musculoskeletal injuries types and management protocols for emergency care reviewed 10 October

2018. November 2018.

- [3] V Bihari, C Kesavachandran. B spangteey. Ak Srivastava. N mathava. Musculoskeletal pain and its associated risk factors in residential of national capital Region. Indian journal of Occupational Environmental Medicine. 2011.Aug.15(2) :59-63.
- [4] Zi-Ruwang gou-xinvi time to put cold therapy in. rehabilitation of soft tissue injuries to posture. Cases. 2021.june16 9(17) 4116-4122, published online 2021 June 16.
- [5] Zahari MF. Knowledge and practice on first aid of RICE method among undergraduate nursing students in Universiti Sains Malaysia. Universiti Sains Malaysia; 2025 [cited 2026 Sep 12]. Available from: Universiti Sains Malaysia Repository.