



# "A STUDY TO ASSESS MUSCULOSKELETAL PROBLEMS AMONG STAFF NURSES AT SELECTED HOSPITAL IN CHHATRAPATI SAMBAJINAGAR CITY."

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## ABSTRACT:

### OBJECTIVES:

- 1) TO ASSESS MUSCULOSKELETAL PROBLEMS AMONG STAFF NURSES AT SELECTED HOSPITAL IN CITY.
- 2) TO FIND OUT AN ASSOCIATION BETWEEN MUSCULOSKELETAL PROBLEMS AND DEMOGRAPHIC VARIABLES AMONG STAFF NURSES AT SELECTED HOSPITAL IN CITY.

### RESEARCH METHODOLOGY:

**RESEARCH APPROACH:** A quantitative research approach.

**RESEARCH DESIGN:** Descriptive research design. **POPULATION:** The present study population was nursing staff. **SAMPLE:** Staff nurses

**SAMPLE SIZE:** 100 Staff nurses.

### CRITERIA FOR SAMPLE SELECTION:

#### INCLUSIVE CRITERIA:

1. Staff nurses of selected hospital of Chhatrapati Sambhajinagar city.
2. Those who are able to understand English /Hindi /Marathi language.
3. Those who are available during data collection.

**EXCLUSIVE CRITERIA**

1. Nurses diagnosed with particular musculoskeletal disease.
2. Those who don't will to participate.

**FINDINGS:**

Majority of the sample 37(37%) were having mild trouble in neck, 33(33%) had no any neck pain, 19(19%) were having moderate neck trouble and 11(11%) were severe neck trouble.

With regard to shoulder trouble majority 39 (39%) had mild trouble, 33 (33%) had moderate trouble, 17 (17%) had no any trouble & 11 (11%) had severe shoulder trouble.

With regard to elbows, majority 44 (44%) had no any trouble, 32 (32%) had mild trouble, 17 (17%) had moderate trouble & 7 (7%) had severe elbow trouble.

With regard to hands/wrist, majority 49 (49%) had no any trouble, 35 (35%) had mild trouble, 12 (12%) had moderate trouble & 4 (4%) had severe trouble.

With regards to upper back, majority 37 (37%) had mild trouble, 33 (33%) had moderate trouble, 19 (19%) had severe & 11 (11%) had no any trouble in upper back.

With regard to lower back, majority 46 (46%) had moderate trouble, 34 (34%) had mild trouble, 11 (11%) had severe trouble & 9 (9%) had no any lower back trouble.

With regard to hips/thighs majority 41 (41%) had mild trouble, 34 (34%) had moderate trouble, 15 (15%) had no any trouble & 10 (10%) had severe hips/thigh trouble.

With regard to knees, majority 49 (49%) had moderate trouble, 27 (27%) had mild trouble, 15 (15%) had severe trouble & 9 (9%) had no any knee pain.

With regard to ankles/ feet, majority 44 (44%) had moderate trouble, 37 (37%) had mild trouble, 12 (12%) had severe trouble & 8 (8%) had no any knee pain.

**CONCLUSION:**

The present study is regarding assess the prevalence of musculoskeletal problems among the staff nurses was conducted on 100 samples of selected hospital of city. The findings of the study have shown that staff nurses had 79.6% prevalence of musculoskeletal problems. The study also proved that prevalence was higher in staff nurses.

**INTRODUCTION:**

"Musculoskeletal Problems "include a wide range of Inflammatory and degenerative conditions affecting muscle, tendon, ligaments, joint, peripheral nerve and supporting blood vessels. They are common among health care workers. The nursing population, that Constitutes about 33% of the hospital work force accounts for 60% these musculoskeletal problems. The job requirements of nursing personnel associated with providing medication to patient, maintaining hygiene of patient, looking after dietary need, and so forth predisposes then to a very high risk of development of musculoskeletal problems. The most commonly reported

biomechanical risk for musculoskeletal problems include excessive repetition, awkward posture and heavy lifting.

Musculoskeletal problems comprise diverse conditions affecting bones, joints, muscles, and connective tissues. These problems may result in pain and loss of function and are among the most disabling and costly conditions in the United States (USBJI, 2014a). The Social Security Administration (SSA) defines problems of the musculoskeletal system as conditions that might result from hereditary, congenital, or acquired pathologic processes. Impairments may result from infectious, inflammatory, or degenerative processes; traumatic or developmental events; or neoplastic, vascular, or toxic/metabolic diseases (SSA, 2008).

### **1.1 NEED FOR STUDY:**

Musculoskeletal problems have been reported to be very common among nurses working in hospitals. They are assumed to be a result of physical strain or pain. They are most prone health care workers to have musculoskeletal system related problems since they are in contact with the patients for more time than any other health care worker.

The need to conduct a research study for assessment of musculoskeletal problems among nurses is to identify those problems to understand its prevalence among them and to know how much they are healthy for their musculoskeletal system in order to provide an effective nursing care for patients. Musculoskeletal problems among nurses if remained ignored, can lead to bad influence in the work that they do. Therefore, it is necessary to identify & control those musculoskeletal problems among them to promote their health and to promote patient care.

### **1.2 POPULATION AND SAMPLE:**

Population refers to total category of person that meet the criteria for study establish by the researcher, for the present study population was nursing staff.

#### **TARGET POPULATION:**

Study population consists of nursing staff in selected hospital.

#### **ACCESSIBLE POPULATION:**

Accessible population was the staff nurses of MMRI'S Kamalnayan Bajaj Hospital.

### **1.2 DATA AND SOURCES OF DATA:**

Data collection was done. Prior to the data collection, permission was obtained from the concerned authority. The samples were selected on the basis of inclusion criteria. The participants were informed about the purpose of the study and consent was taken from the participants. After obtaining the consent, the offline survey conducted by using questionnaire. Approximately 15 minutes were given to participants to answer the questions.

### 1.3 RESEARCH METHODOLOGY:

#### RESEARCH APPROACH:

The research approach indicates the basic procedure for conducting research. The choice of and appropriate approaches depends on the purpose of study. in present study used quantitative research approach.

#### RESEARCH DESIGN:

The research design was Descriptive research Design the plan, structure and strategy of investigate of answering the research question is the overall plan or blue print the researcher selected to carry out their study.

#### SETTING OF THE STUDY:

The present study was conducted in MMRI'S Kamalnayan Bajaj Hospital, Chhatrapati sambhajinagar. The setup of staff nurses was unit wise nurses who are present in MMRI'S Kamalnayan Bajaj Hospital.

#### POPULATION:

Population refers to total category of person that meet the criteria for study establish by the researcher, for the present study population was nursing staff.

#### TARGET POPULATION:

Study population consists of nursing staff in selected hospital.

#### ACCESSIBLE POPULATION:

Accessible population was the staff nurses of MMRI'S Kamalnayan Bajaj Hospital.

#### SAMPLE:

In the present study samples were the staff nurses of MMRI'S Kamalnayan Bajaj Hospital.

#### SAMPLING TECHNIQUE:

Sampling is the process of selection a portion of population to represent the entire population so that inference about the population can be made for this present study Non probability convenience sampling technique was used.

#### SAMPLE SIZE:

The sample size was selected for the present study was 100 staff nurses of MMRI'S Kamalnayan Bajaj Hospital, Chhatrapati Sambhajinagar.

## **CRITERIA FOR SAMPLE SELECTION:**

### **A. INCLUSIVE CRITERIA:**

1. Staff nurses of MMRI'S Kamalnayan Bajaj Hospital, Chhatrapati Sambhajnagar city.
2. Those who are able to understand English /Hindi /Marathi language.
3. Those who are available during data collection.

### **B. EXCLUSIVE CRITERIA:**

1. Nurses diagnosed with particular musculoskeletal disease.
2. Those who don't will to participate.

## **METHODS OF DEVELOPING TOOL:**

A structured self-administered questionnaire was developed for assessing the musculoskeletal problems among staff nurses. Demographic data was developed to obtain baseline characteristics of nursing staff. The tool was based on the objectives of study with the use of various resources, literatures and opinion from subject experts to ascertain effectiveness and bring out the correct item of questionnaire. Offline study was conducted by using a questionnaire. The musculoskeletal problem questionnaire tool contained 6 questions.

## **DESCRIPTION OF TOOL:**

**SECTION A** - Demographic Data were Age, Gender, Educational status, Area of experience, prolonged standing duration and Total length of time of having trouble during last 12 months.

**SECTION B**- It consists of assessment regarding musculoskeletal problems; structured questionnaire consists of 6 questions. Scoring criteria will be (0) is considered as no pain, (1- 3) is mild score, (4-6) is moderate score and (7-10) is severe score.

## **LEVEL OF PAIN:**

1. No pain – 0 score
2. Mild pain – 1-3 score
3. Moderate pain – 4-6 score
4. Severe pain – 7-10 score

## **VALIDATION OF THE TOOL:**

Validation of the tool content was done by obtaining the suggestions from experts' faculty of departments of MMRI'S Kamalnayan Bajaj Nursing College. These experts were requested to give their opinions and suggestions regarding the relevance and appropriateness of the tool. Based on their suggestions, the tool was modified to make the questions more appropriate for an intended purpose. The validated final tool was used without changing the meaning of the questions by an English language expert.

## RELIABILITY:

Reliability of the tool is a major criterion for assessing the quality and accuracy it is the degree of consistency with it measures the attribute.

Reliability analysis was done for questionnaire by using Cronbach's Alpha method. The tool is said to be reliable if the co-efficient is more than 0.7 The reliability co-efficient (r) of musculoskeletal assessment tool was 0.991 which was more than 0.7 hence the tool was found to be reliable.

## PILOT STUDY:

Pilot study is a small-scale version or trial run design to test the method to be used in larger more rigorous study.

Pilot study is a small-scale version or trial run design to test the method to be used in larger. Pilot study was conducted at Alpine Hospital in Chhatrapati Sambhajanagar, on 11/09/2023. Samples were selected by Non probability convening technique based on the inclusion criteria to assess the feasibility of the study and to decide statistical analysis and practicability of research.

## METHOD OF DATA COLLECTION:

Data collection was done. Prior to the data collection, permission was obtained from the concerned authority. The samples were selected on the basis of inclusion criteria. The participants were informed about the purpose of the study and consent was taken from the participants. After obtaining the consent, the offline survey conducted by using questionnaire. Approximately 15 minutes were given to participants to answer the questions.

**Table 1: PLAN FOR DATA ANALYSIS**

Sr. no	Data analysis	Method	Remark
1.	Descriptive statistics	Frequency, percentage.	Distribution of sample according to demographic characteristics and musculoskeletal problems assessment.

The data collected from the subjects were grouped and analysed with the help of statistical measures in terms of objectives of the study using descriptive statistics, the plan of data analysis was as follows:

- The collection of data was coded and transformed to master sheet for statistical analysis. Frequency, Percentage to explain demographic variables and musculoskeletal problems assessment.

**SUMMARY:**

This chapter which deals with the research approach, research design, variables under study, setting of the study, population, sample, sample size, sample technique, selection and development of the tool, description of the tool, data collection procedure and plan for data analysis.

**MAJOR FINDINGS:****Major findings of the study described in section as follows:Section I**

This section includes description of sample characteristics.

**Section II**

This section includes musculoskeletal problems to find the prevalence among staff nurses.

**Section III**

This section includes the association between socio-demographic variables and musculoskeletal problems.

**Section I**

Findings related to distribution of musculoskeletal problems with selected socio-demographic data by using frequency and percentage.

Regarding age group, out of 100 samples, majority of the samples 38(38%) belongs to 26-30 years age group, 27(27%) belongs to 21-25 years age group, 21(21%) belongs to 31-35 years age group and 14(14%) belongs to 36 and above age group.

With regards to gender, majority of the samples 78(78%) were female and 22(22%) were male.

Regarding educational status, majority of samples 53 (53%) had RGNM, 31 (31%) were graduates, 14 (14%) were ANM & only 2 (2%) are post graduates.

Regarding area of experience, majority 47 (47%) were worked in general ward, 34 (34%) work in different other wards, 14 (14%) were worked in critical care area & 5 (5%) staff of operation theatre.

Regarding prolonged standing duration, majority of samples 66 (66%) stands more than 4 hrs/ Day, 23 (23%) were stands for approx. 3-4 hrs/day & 11 (11%) were stand for 1-2 Hrs/day.

Regarding total length of time that you had trouble during the last 12 months, majority of samples 41 (41%) had everyday trouble, 33 (33%) had more than 30 days trouble, 17 (17%) had 8-30 Days trouble & 9 (9%) had 1-7 days musculoskeletal trouble.

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## Section II

Findings of prevalence of musculoskeletal problems among staff nurse distribution of trouble in musculoskeletal system among staff nurses, and it was found that majority of the sample 37(37%) were having mild trouble in neck, 33(33%) Had no any neck pain, 19(19%) were having moderate neck trouble and 11(11%) were severe neck trouble.

With regard to shoulder trouble majority 39 (39%) had mild trouble, 33 (33%) had moderate trouble, 17 (17%) had no any trouble & 11 (11%) had severe shoulder trouble.

With regard to elbows, majority 44 (44%) had no any trouble, 32 (32%) had mild trouble, 17 (17%) had moderate trouble & 7 (7%) had severe elbow trouble.

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With regard to knees, majority 49 (49%) had moderate trouble, 27 (27%) had mild trouble, 15 (15%) had severe trouble & 9 (9%) had no any knee pain.

With regard to ankles/ feet, majority 44 (44%) had moderate trouble, 37 (37%) had mild trouble, 12 (12%) had severe trouble & 8 (8%) had no any knee pain.

## Section III:

### Association of musculoskeletal problems with selected demographic variable

Association between musculoskeletal problems with selected demographic variables. In order to compute the association chi-square was applied and the value was observed with 5% significance level.

The age chi value was 26.655 with 3 degrees of freedom and Total length of time that you had trouble during the last 12 months Chi value was 9.1164 with 3 degrees of freedom were found significant at 0.05 level.

**Table 2: Frequency, percentage distribution of staff nurses according to their socio demographic characteristics**

N=100

Sr. No	Demographic Variable	Category	Frequency	Percentage
1	Age in Years	21-25 yrs	27	27%
		26-30 yrs	38	38%
		31 -35 yrs	21	21%
		36 yrs & above	14	14%
2	Gender	Male	22	22%
		Female	78	78%
		ANM	14	14%

3	<b>Educational status</b>	RGNM	53	53%
		Graduation	31	31%
		Post-graduation	02	02%
4	<b>Area of experience</b>	General ward	47	47%
		Operation Theatre	5	5%
		Critical care areas	14	14%
		Other	34	34%
5	<b>Prolonged standing duration</b>	Approx. 1-2 Hrs	11	11%
		Approx. 3-4 Hrs	23	23%
		More than 4 Hrs	66	66%
6	<b>Total length of time that you had trouble during the last 12 months</b>	1-7 Days	9	9%
		8-30 Days	17	17%
		More than 30 Days	33	33%
		Everyday	41	41%

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