

Work Related Musculoskeletal Disorders among Nurses in hospitals and Clinics at selected cities of Gujarat state.

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Abstract: Work-related musculoskeletal disorders (WRMSDs) are the most common occupational health problems in developing countries. The nursing profession is also one of the occupations of musculoskeletal Disorders (MSDs). It is the most physically demanding jobs, involving excessive manual handling of patients. The present study was conducted with an aim to study prevalence and cause of WRMSDs in nurses. Total 30 nursing staff respondents from hospitals and clinics were included in the study and were asked to answer the self- structured questionnaire so as to obtain their postural habits and other demographic information. The most vulnerable parts of the body were found to be the shoulder pain, back pain, knee joint pain. It is needed to educate WRMSDs to the respondents. The hospitals can make combine efforts to aware about the MSDs in the work environment to suit the working condition of nurses.

Index Terms - Work-related Musculoskeletal Disorders (WRMSDs), Nurses, Hospitals, Clinics.

I. INTRODUCTION

Nurses are one of the occupational groups that have been found internationally to experience relatively high prevalence of musculoskeletal disorder (Davis and kotowski, 2015). The nurses who work in hospital environments in particular have been identified as a group at increased risk of developing musculoskeletal disorders (MSDs) (Carugno et al., 2012). Musculoskeletal Disorders are injuries and disorders that affect the human body's movement or musculoskeletal system (i.e. muscles, tendons, ligaments, nerves, discs, blood vessels, etc.).

Musculoskeletal disorders in nurses are generally caused by patient related activities such as lifting associated with patient transport. Many jobs in healthcare involve a very wide range of physical action from position and could place workers at risk for accident and injuries. The common jobs in it comprises of pushing, pulling, reaching, bending, stretching, lifting, lowering, sitting, standing, lifting, lowering, sitting, standing, walking and carrying.

Musculoskeletal disorders in hospitals - Work-related musculoskeletal disorders (MSDs) are a serious problem among hospital personnel, and in particular the nursing staff. Of primary concern are back injuries and shoulder strains which can both be severely debilitating. The nursing profession has been shown to be one of the most risky occupations for low back pain. The primary cause for MSDs in nursing is patient handling tasks such as lifting, transferring, and repositioning of patients. Musculoskeletal disorders can have a huge impact on the lives of nurses where they suffer chronic pain and disability with considerable cost (Tinubu et al., 2010).

Actual and potential losses due to musculoskeletal disorders cause enormous problems globally. The results of the study will add to existing knowledge about the impact of musculoskeletal disorders on nurses and can serve as a reference material for further research, the results will also significant by addressing the health and safety of the employees and preventive measure can be taken. Finally the results of the study will provide the policy maker with evidence to improve strategies of integrating proper education of MSDs in the practice of nursing.

General Objective of the study: To survey on occupational health hazards among nurses in hospitals and clinics.

Specific Objective:

- To observe different postures adopted by the nursing staff at hospitals and clinics during work.
- To find out the musculoskeletal disorders of the respondents at hospitals and clinics.

II. REVIEW OF LITERATURE

B.L. AJIBADE, ALAO, M. T (2013) study aimed at finding out the prevalence of musculoskeletal disorders among nurses in two teaching hospitals in Osun State of Nigeria. A self- designed questionnaire was used to collect information from one hundred and thirty eight (138) respondents .Musculoskeletal disorders was found to be prevalent in male nurses (100%) than female nurses (92.2%) while it was observed that musculoskeletal disorders was more prevalent in nurses working in theatre (100%) and medical wards (100%), Accident and Emergency Unit 91.7%. It was concluded that more nurses should be allowed to run a shift so that they could assist each other.

Sharan D., (2014), a systematic review was conducted to study the current literature related to work related musculoskeletal disorders in nurses. A review was done using MEDLINE by the keywords “nurses”, “risk factors”, and “musculoskeletal

disorders". All the articles were reviewed by three reviewers based on the EPOC criteria and studies which were not adequate and inappropriate were excluded. Study design, type of data collection, assessment tools and outcomes obtained in the respective study were noted. Nurses were often required to lift heavy loads, work in awkward postures and transfer patients which were identified as the possible causes for acquiring WRMSDs.

Narwane S., Sharma P., (2017) conducted a study with an aim to study prevalence and cause of musculoskeletal disorders in nurses. It was a cross sectional study. 103 nurses were included in the study and were asked to answer a well-equipped questionnaire so as to obtain information about their postural habits and other daily activities. Among the nurses, 86% were found to be suffering from MSDs, low back pain and leg pain being the commonest problems. 30% of the nurses took medications for the pain. 52% required work related weight lifting activity. Out of those requiring weight lifting activity, only 48% of the nurses acquired proper posture (squatting without bending forward) while lifting weight. Mere 26% of the nurses acquired proper erect posture while sitting. Only 20% of them supported the lower back while sitting. 66% of the nurses did not perform any physical activity during the break. However, no association was found between the postural habits of nurses and prevalence of musculoskeletal disorders. In view of high prevalence and insufficient knowledge and practice of ergonomics, it is the need of the hour to educate the nurses about the ergonomically correct postural habits and further complications.

III. RESEARCH METHODOLOGY

Study design

The aim of the study was to analyze musculoskeletal disorders amongst nurses at various hospitals of Vadodara, Anand and Ahmedabad of Gujarat state. Information on risk factors causing musculoskeletal disorders, the prevalence of the disorders and characteristics of the musculoskeletal disorders was gathered.

Target population

The study on analysis of musculoskeletal disorders among nurses was conducted at hospitals and clinics of Vadodara, Anand and Ahmedabad cities of Gujarat state.

Sampling technique

A purposive and snowball sampling was employed to draw the respondents from each city.

Sample size

Hospitals and clinics of Vadodara, Anand and Ahmedabad cities were chosen for the study where nurses (30) were interviewed.

Data collection instrument

A structured questionnaire which comprised of different section (personal information, perceived exertion factors leading to musculoskeletal disorders and prevalence of musculoskeletal disorders) was used in the current study to acquire data in order to address the stated objectives.

Data collection

Methods used to collect data were interviewing, observation of the work procedure and photography. Random visits were made in the wards and lobby areas and documented by photography when the different activities were being performed. The photographs were taken wherever it was permitted.

Data analysis

The collected data was coded and tabulated. The photography taken from selected areas were analyzed for ergonomics risk factors. In order to identify the risk factors nurses were asked what they perceived as risk factors, at their work place. The results were determined in terms of frequencies and percentages.

IV. RESULTS AND DISCUSSION

Table: 1 showing background information of the respondents (N=30)

Age group	Nursing staff	Percentage (%)
20-31	22	74
32-43	05	16
44 & above	03	10
Total	30	100
Gender	Nursing staff	Percentage (%)
Male	07	23
FemIale	23	74
Total	30	100
Marital status	Nursing staff	Percentage (%)
Unmarried	13	43
Married	17	57
Total	30	100
Work experience	Nursing staff	Percentage (%)
2-8	27	90
9-15	02	07
16 & above	01	03

Total	30	100
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The demographic characteristics that considered were age, gender, marital status, education qualification and work experience. A large percentage of respondent nurses (74%) were less than 32 years of age. Women were over presented at 74% (nursing staff). Out of this population, the percentage of unmarried and married were completed as 43% and 57% respectively. None of the informants found to be neither widow nor divorcee. (Marital status were not represented separately but included within the information on total number of respondents). It was observed that a large number of respondents of nursing staff (40%) were of certificate course holders. Most (90%) of the nursing staff had a current job work experience of 2-8 years. Ninety percent of the respondents had been working in their current job for more than two years.

Objective 1-To find out the musculoskeletal disorders of the respondents at hospitals and clinics

Table: 2 showing respondents regular body pain

(N = 30)

Regular body pain	Nursing staff	Percentage (%)
Yes	08	27
No	22	73
Total	30	100

Present study shows that 27% percent of nursing staff had regular body pain at work and 73 percent of respondents had no complain of regular body pain.

Table: 3 showing details of the musculoskeletal disorders of respondents (N=30)

Notice the symptoms	Nursing staff (n=8)	Percentage (%)
During work	02	25
After work	04	50
During resting period	02	25
Total	08	100

During work 25 percent of nurses notice the symptoms of pain the most, after work fifty percent (50%) respondents notice the symptoms of the same and 25 percent of the respondents notice symptoms during resting period.

Table: 4 showing duration and cause of pain of the respondents (N= 30)

Duration pain	Nursing staff (n=8)	Percentage (%)
Since last 6 month	02	25
Last 1 year	02	25
More than a one	02	25
Any other	02	25
Total	08	100
Cause of pain	Nursing staff (n=8)	Percentage (%)
Repetitive task	02	25
Bending of body	05	62
Stretching of body	03	38
Twisting of body	02	25
Weight lifting	02	25

*(Total exceed due to multiple answers)

Twenty five percent (25%) of the nursing staff experienced pain since last 6 months from the period of the study. Whereas twenty five percent (25%) of respondents experienced pain since last one year and 25 percent of respondents experienced pain more than a year. Nursing staff was questioned on the causes of their muscle pain. The most common was front shoulder (mild – 3%, n=5) upper and lower back (mild – 7%, n=5), buttocks (moderate – 3%, n=1) and lower back and knee (severe – 3%, n=2) other responses included repetitive task (25%), bending body (62%), stretch body (38%), twist body (25%) and weight lifting (25%).

Table: 5 showing musculoskeletal disorders while performing work. (N=30)

Type of work	Nursing staff (n=8)	Percentage (%)
OT service	03	37
During lifting of the patient in room	03	37
Sitting at a nursing station	04	50
IPD handling	04	50
OPD	03	37

*(Total exceed due to multiple answers)

Table 5 depicts that thirty seven percent (37%) of nursing staff duty was of operation theatre (OT) service. Thirty seven percent (37%) respondents performed patient lifting in room. Fifty percent (50%) of the respondents sits at a nursing station. Fifty percent (50%) of the respondents handling IPD and thirty seven percent (37%) performs OPD handling.

Objective 2 -To observe different postures adopted by the nursing staff at hospitals and clinics at work



Plate: 1 Different postures adopted by the respondents at work.

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