

POSTURE RELATED MUSCULOSKELETAL DISORDERS AMONG NURSING STAFF IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Background: Work-related musculoskeletal disorders are the most common occupational health problems in developing countries. The present study was conducted with an aim to study prevalence and cause of musculoskeletal disorders in nurses. **Method:** 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. **Results:** 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. 56% of the nurses had not attended any workshop on good postural habits and had no idea about the ergonomically correct postures. However, no association was found between the postural habits of nurses and prevalence of Musculoskeletal disorders. **Conclusion:** 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.

KEY WORDS: Ergonomics, Musculoskeletal disorders, Nursing staff, Posture.

INTRODUCTION

Work-related musculoskeletal disorders (MSDs) are the most common occupational health problems in developing countries. The important causes of these MSDs are poor working conditions and the absence of effective work injury prevention programs [1]. MSDs are prevalent among Nursing population [2,3]. Nursing care involves frequent lifting awkward loads, twisting, bending, and moving heavy objects and poor lifting posture [4,5].

MSDs are common in nurses who get little or no training regarding proper postural habits during care of patients [6]. Use of proper postural habits can prevent development of musculoskeletal disorders in nursing people [7]. Present study was carried out to assess prevalence and causes of posture related musculoskeletal disorders in nurses of rural setup of Maharashtra, India.

MATERIALS AND METHODS

Study design: It was a cross sectional descriptive study

Ethics approval: The study was after approved by ethical committee of our institute and informed consent was obtained from the participants.

Study period: study conducted from February 2015 to June 2015,

Study place: Study population consisted of nurses working in Pravara Rural Hospital, Loni.

Sample size: Purposive sampling was used with minimum of 100 nurses as per the inclusion and exclusion criteria.

Inclusion criteria: All nurses of Pravara Rural Hospital (PRH), both sexes, age 18 and above, willing to participate in the study were included.

Exclusion criteria: Nurses having pathological arthritis e.g. gouty arthritis, rheumatoid arthritis, psoriatic arthritis, operated for joint surgeries or operated for prosthesis, suffering from neurological abnormalities or congenital musculoskeletal abnormalities were excluded from the study.

Methodology: The participants were subjected to a self designed questionnaire. It was pretested and validated by pilot study questionnaire which gathered information about their postural habits and other daily habits which may lead to musculoskeletal abnormalities



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and injuries.

The questionnaire included 11 questions with the following components

- Demography (age and sex)
- History of MSDs
- Medication history
- Postural habits
- Attendance to any workshop on good postural habits

Statistical analysis: The information obtained from the questionnaire was tabulated and studied for the prevalence of musculoskeletal disorders and also their relation to the postural practices. The data was assessed using Microsoft excel 2007. Chi Square Test was used to test association between the postural habits of nurses and prevalence of Musculoskeletal disorders.

RESULTS

The study was conducted in 103 nurses of Pravara Rural Hospital, Loni. There were 28 males and 75 female nurses in the study. The average age of the nurses was 27.6 years with standard deviation of 5.87. The data obtained from the questionnaires the observations were as follows:

Among the participants, 86% of the nurses were found to be suffering from MSDs. Out of those suffering from MSDs, low back pain(36) and leg pain(35) were reported as the commonest problems. Out of those suffering from pain, only 30% of the nurses took medications for the pain.

Out of 103 nurses, 58% had continuous sitting activity for less than 2 hours while 22 % had continuous sitting activity for less than 2-4 hours. Among the nurses, 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.

Just 26% of the nurses acquired proper erect posture while sitting. Only 20% of them supported the lower back while sitting. On enquiring regarding the stress relieving activity at workplace, it was found that almost 66% of the nurses did not perform any physical activity during the break. Regarding attendance at workshop, 56% of the nurses had not attended any workshop on good postural habits and had no idea about the ergonomically correct postures. On applying the Chi Square Test (P=0.47); no association was found between the postural habits of nurses and prevalence of Musculoskeletal disorders.

Table 1. Summary of answers to questionnaire by nurses.

| Question | Number of participants answering "Yes" (%) | Number of participants answering "No" (%) |
|---|--|---|
| Whether suffering from WMSD? | 89 (86.4) | 14 (13.59) |
| Whether taking medication? | 31(30.09) | 72 (69.90) |
| Is weight lifting required during work? | 53 (51.14) | 50 (48.54) |
| Proper posture acquired while sitting | 27 (26.21) | 76 (73.78) |
| Lower back supported during sitting | 20 (19.41) | 83 (80.58) |
| Physical activity performed during break | 68 (66.01) | 35 (33.98) |
| Attended any workshop on good postural habits | 57 (55.33) | 46 (44.66) |

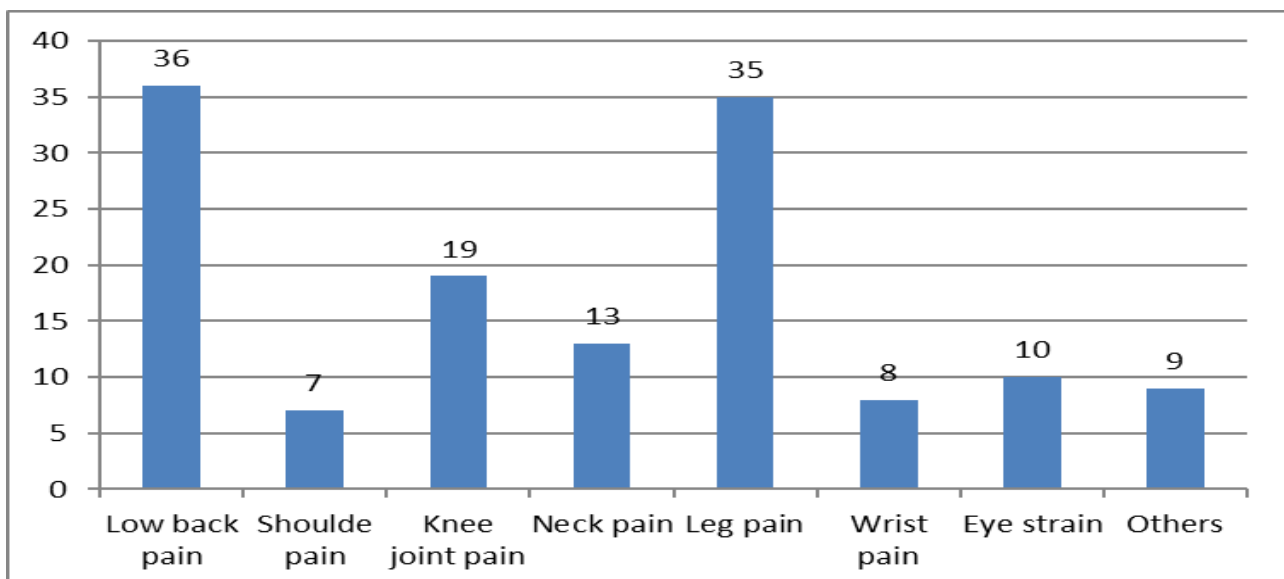


Figure 1. Common musculoskeletal complaints of the nurses.

DISCUSSION

In our study, 86% of the nurses were found to be suffering from MSDs with lower back pain and leg pain being commonest among them. Similar results were found in a study done by Israni et al. in Ahmedabad, with percent of nurses suffering with MSDs was 76% and leg pain being the most common musculoskeletal complaint [8].

In a study by Ellapen TJ et al. in Durban, South Africa the percentage of nurses with MSDs were 71.85% and the most common complaint was pain in lower back, neck and shoulders [9]. A study by Smaranika Goswami et al. in West Bengal, showed that the prevalence of pain was common in low back, followed by shoulder pain, neck pain (54.7%, 42.8% and 31.3% respectively) [10]. Juibari et al. concluded in their study that a significant number of nursing personnel had been suffering from a mild level of occupational injuries and musculoskeletal symptoms [11].

Majority of the nurses did not acquire proper posture while sitting (76%), lifting weight (52%) or perform any physical activity (56%) during break. Also 66% of them were not aware of importance of posture and had not attended any ergonomics related workshop. Among the nurses suffering from MSDs, 30% took medications for pain relief. These findings justify the high prevalence of MSDs among the nurses.

While comparing the prevalence of MSDs with postural habits, there was no association found. In a study by Seyed et al., positive associations was found between work experience and the rate of morbidity to work-related musculoskeletal disorders [12]. The difference in results might be due to the shortcomings of the questionnaire or a smaller sample size.

CONCLUSION

Our study results showed that, 86% of the nurses suffered from MSDs. Most of the nurses had no idea about the proper postural habits. There is an alarming need of interventions at various levels to contain the situation. Such interventions might be education of nurses about the ergonomically correct postural habits to prevent the further occurrence of MSDs, provision of ergonomically prepared work environment.

Recommendation: The participants have a poor awareness about the ergonomically correct postures hence there is an alarming need to create the sense of awareness amongst the nurses regarding the safe postural practices so as to reduce the prevalence of MSDs. We have tried our part by briefing them about the ergonomically correct postures with the help of pamphlets. This can be further achieved with the help of ergonomic workshops and IEC activities. Periodic check up of the staff is also of equal importance to detect the MSDs at early stage and take corrective measures to prevent its

progression.

Limitations: The study design, being cross sectional was limited to the present work force. The results cannot be generalised. The study was carried out over a limited period of time thus giving no indication of the sequence of events.

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