

PREVALENCE OF FOOT AND ANKLE MUSCULO-SKELETAL DISORDERS IN NURSES OF LAHORE.

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Abstract: Introduction: Musculoskeletal disorders are one of main leading problems in nurses. Musculoskeletal disorders (MSDs) are referred to define the conditions, in which muscles, ligaments, and tendons, joints, cartilage and spinal discs that support the human structure are harmed. It is mainly important to understand the causes of musculoskeletal disorders among nurses. In nurses foot/ankle disorders are very common and ankle is the most common part to sustain injuries. Settings: Data was collected from Carian Hospital, Jinnah Hospital, Ganga Ram Hospital, Children Hospital and Services Hospital. Material and Methods: 369 nurses participated in the survey. All participants were females and their minimum age was 20 year, maximum age was 57 year and their mean SD age was 31.72±9.31. The duration of the study was six months. Nordic Musculoskeletal Questionnaire (NMQ) was used to collect the data from hospitals of Lahore. Results: Prevalence of foot and ankle pain was 47.4%, 35.5% in last 12 months and 78% in last 7 days. Conclusion: Foot and ankle musculoskeletal disorders were common problem among nurses. We recommended nurses be provided with important education regarding self-care strategies and treatment plan. There is also a need to take a break during working time.

Key words: Prevalence, Musculoskeletal disorders, Pain, Nurses, Foot, Ankle.

INTRODUCTION

Musculoskeletal disorders (MSDs) are one of leading problems in nurses.¹ MSDs are

referred to define the conditions in which muscles, ligaments, tendons, joints, cartilage and spinal discs that support the human structure are harmed.² MSDs are one of the main reasons of occupational harm and disability in healthcare profession.³ Common MSDs include tendinopathy, ligament sprain, tension neck syndrome, thoracic outlet syndrome, rotator cuff tendonitis, epicondylitis, digital neuritis, trigger thumb, degenerative disc disease, ruptured disc, mechanical back syndrome and many more⁴. MSDs affect the movement, function and musculoskeletal system of body.⁵ Musculoskeletal problems are most common in nurses because of their professional demand. They are required to do continuous physical activity to provide continuous care to the patients. Hence, it is one of the common problems worldwide in nursing population.⁶

Common symptoms occur when patients have musculoskeletal disorder, that include localized or deep pain which may become worse with movement, sleep disturbance of patient, quickly fatigue, feels like muscle pulling, deep aching, burning of the muscles, stiffness of the body, and many more which may differ from each patient⁷. There are so

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many reported musculoskeletal disorders. Such problems can reduce the quality of life, duration of work is minimized, behavior of individual is changed, and patients become impatient⁸.

Main causes of musculoskeletal disorders are repetitive movements of body, fractures, fall, heavy lifting, dislocation, sprain, strain, poor balance, and overuse of muscle, poor posture and immobilization. But there are three primary risk factors which are repetitive movements, poor posture and high force levels.¹⁰ Studies reported high prevalence rate of musculoskeletal disorder in low back pain ranging from 32% (5, 11) to 90% (12, 13) but it is also common in the other regions of body like knees 7% (11) to 68% (14), neck 12% (11) to 52% (15) shoulder 17% (11) to 48% (14) and foot/ankle 3.7 to 40%.^{11,12} It is mainly important to understand the causes and musculoskeletal injuries among nurses to prevent them.¹² In nurses foot/ankle disorders are commonly seen and ankle is the most common part to be injured.⁵ According to some researchers job demand is directly related to the musculoskeletal disorders among health professional especially nurses.⁸ A study was conducted in different cities of Pakistan to determine the ratio of MSDs prevailing in the country among nurses. The result showed that the 78.5% of nurses were having disorders and were suffering from pain of some kind.¹⁶

There are number of studies which reviewed from 1990, investigating the prevalence of musculoskeletal disorders in nurses and reported that foot/ankle problem ranged from 3.7 to 40 % (11, 12). A small number of studies since then reported the prevalence of foot/ankle musculoskeletal problems ranging from 18% (2, 5) to 74 % (1,11).

Rationale of this study was to find out the prevalence of foot and ankle musculoskeletal disorders in nurses. This type of study has not been conducted previously in Pakistan. Most reports on musculoskeletal disorders were from other countries. Considering the reason this study was conducted in Lahore.

MATERIAL AND METHODS

It was a cross-sectional study. Sample size was 369. Nordic Musculoskeletal Questionnaire (NMQ)¹⁸ was used to collect the data from five government hospitals including Carian hospital, Jinnah hospital, Service hospital, Children hospital and Ganga ram hospital of Lahore, Pakistan. Data analysis was done by statistical package for social science (SPSS) 21. Qualitative variables were displayed through bar charts and tables.

Inclusion criteria

- Female nurses of age between 20 to 60 years.
- Nurses who are in practice.
- Who work minimum 5 hours a day and 4 days a week.
- Work experience of at least 3 months.

Exclusion criteria

- Nurses with any systemic disease like Diabetes Mellitus, Hypertension, Chronic renal failure, Cardio vascular disorders, Malignancy, Rheumatoid Arthritis.
- Nurses who were not willing to fill the questionnaire.
- Recent trauma and fracture
- Previous medical or surgical history involving ankle

RESULTS

In table no 1 study results showed total patients were 369 out of these 174(47.2%) complain about pain or discomfort. In table

no 2 study results showed that from the total sample space 238 (64.5%) women had no pain, 37 (10.0%) females had pain in the right foot/ankle, 72 (19.5%) had pain in the left foot/ankle and 72 (19.5%) had pain in both foot/ankle in last 12 months.

Pain	Frequency	Percent
No	195	52.8
Yes	174	47.2
Total	369	100.0

Table-I: Frequency distribution of foot/ankle trouble (ache, pain, discomfort)



Fig.1: Have you ever had foot/ankle trouble (ache, pain, discomfort)

Pain last 12 months	Frequency	Percent
No	238	64.5
Yes, in my right foot/ankle	37	10.0
Yes, in my left foot/ankle	22	6.0
Yes, in both foot/ankle	72	19.5
Total	369	100.0

Table-II: Frequency distribution of pain from last 12 months.

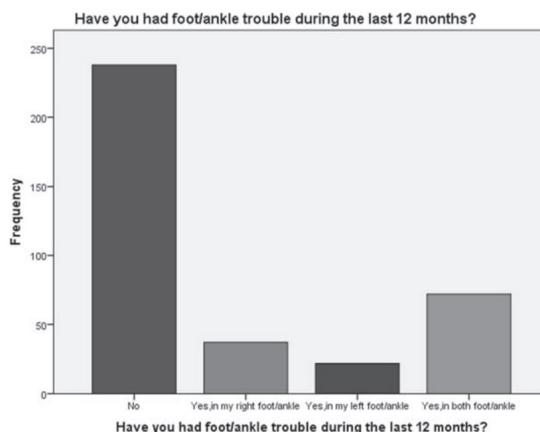


Fig.2: Have you had foot/ankle trouble during last 12 months?

DISCUSSION

The current study of 369 nurses showed that nearly 35.5% nurses reported some form of musculoskeletal discomfort, trouble, pain during the last 12 months and more than 78% during last 7 days in survey which was conducted in hospitals of Lahore, Pakistan.

The recent study which addresses musculoskeletal disorders has not been studied previously in Pakistan. Most reports on musculoskeletal disorders were from other countries. The chosen hospitals are not different from other hospitals of Pakistan. This study results should therefore be representative of this type of work in hospitals of Lahore. All nurses chosen for the research was consented to take an interest therefore were no selection biasness.

A study was conducted in the tertiary care clinic located in Peshawar, Pakistan. The questionnaire was distributed among 300 survey population, out of which 100 were dentists, 100 were surgeons and 100 were physicians. After the evaluation the results were surprising, as the dentists had the highest

percentage of work related musculoskeletal disorders (WMSDs) following them were surgeons and then physicians. The percentage was 89, 87 and 84 respectively.¹⁹ According to a research conducted in pediatric hospital in Brisbane, Australia. 416 nurses were eligible to participate in the study. Nordic musculoskeletal questionnaire was distributed among all participants and it showed 73% prevalence of MSDs in respondents.¹² Daraiseh et al., reviewed various studies and they pointed out that the studies conducted from 1990s. The study concluded that 40% nurses were facing problems related to foot and ankle.²⁰ A cross-sectional survey was conducted in USA, on 274 survey population. The result showed that the 78.5% of nurses were having disorders and were suffering from pain.¹⁵

This result contradicts with this study in which 369 Nordic musculoskeletal questionnaires were distributed in nurses' population and result percentage was 47.2%.

In previous study, 50% nurses reported pain in the last 12 months and 40% nurses had pain in last 7 days.¹² While in this study 35.5% nurses had pain in last 12 months and 78% had pain in last 7 days.

The objective of this study was to determine the prevalence of foot and ankle pain and discomfort in nurses of Lahore, Pakistan. A cross-sectional investigation was started to find out the prevalence among nurses in which 369 nurses participated from different hospitals of Lahore. Only female nurses were included. 174 (47.2%) nurses experienced Foot/ankle discomfort while 195 (52.8%) nurses were free of foot and ankle discomfort and pain. This study

showed that foot and ankle is mainly affected by prolonged standing and weekly working hours spent in hospital.

CONCLUSION

Foot and ankle musculoskeletal disorders were common problem among nurses. It would be recommended that nurses should be provided with important education regarding self-care strategies and treatment plan. There is a need to take some break during working hours to relax themselves in order to avoid MSDs.

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