

# 1 Prevalence of Foot and Ankle Musculoskeletal Disorders in 2 Nurses of Lahore, Pakistan

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## 6 **Abstract**

7 Introduction: Musculoskeletal disorders are one of main leading problems in nurses. It is  
8 mainly important to understand the causes of musculoskeletal disorders among nurses. In  
9 nurses Foot/ankle disorders are very common and ankle is the most common part to sustain  
10 injuries. The current study found out rate and prevalence of foot or ankle musculoskeletal  
11 disorders in nurses. It was a cross-sectional survey study. Settings: Data was collected from  
12 Carian Hospital, Jinnah Hospital, Ganga Ram Hospital, Children Hospital and Services  
13 Hospital. Methods: 369 nurses participated in the survey. All participants were females and  
14 their minimum age was ?20 year, maximum age was ?57 year and their mean age was ?31  
15 years. The duration of the study takes six months to complete. Nordic Musculoskeletal  
16 questionnaire (NMQ) was use to collect the data from hospitals of Lahore. Results:  
17 Prevalence of foot and ankle pain was 47.4

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19 **Index terms**— prevalence, musculoskeletal disorders, pain, nurses, foot.

## 20 **1 Introduction**

21 Musculoskeletal disorders are one of main leading problems in nurses 1 . Musculoskeletal disorders (MSD) are  
22 refer to define the conditions, in which muscles, ligaments, and tendons, joints, cartilage and spinal discs can  
23 are support the human structure 2 . Musculoskeletal disorders (MSDs) are one of the most essential reasons of  
24 occupational harm and disability in healthcare profession 3 . Common MSD include tendinopathy, Ligament  
25 sprain, Tension neck syndrome, Thoracic outlet compression, Rotator cuff tendonitis, Epicondylitis, Digital  
26 Neuritis, Trigger thumb, Degenerative disc disease, Ruptured disc, Mechanical back syndrome and many more 4  
27 . Musculoskeletal disorders affect the human body movement, function and system 5 . Musculoskeletal problem  
28 are the common problem in nurses because it provides continuous care of the patient. It is one of the common  
29 problem worldwide in nursing population 6 .

30 Common symptoms are occurring when patients have musculoskeletal disorder, in which include Author ?:  
31 e-mail: sofiatariq32@gmail.com Localized or Deep pain that can worse with movement, Sleep disturbance of  
32 patient, quickly fatigue, feels like muscle pulling, deep aching pain, burning of the muscles, stiffness of the body,  
33 and many more which may differ from each patient 7 . There are so many musculoskeletal disorders which are  
34 reported. Such problems can reduce the quality of life, duration of work is minimized, behavior of individual is  
35 changed, and patients become impatient 8 .

36 Main causes of musculoskeletal disorders are due to repetitive movements, fractures, fall, heavy lifting,  
37 dislocation, sprain, strain, poor balance, and overuse of muscle, poor posture and immobilization 9 . But there  
38 are three primary risk factors repetitive movements, poor posture and high force levels which are main leading  
39 cause of musculoskeletal disorders 10 . Studies reported high prevalence rate is low back pain ranging from 32%  
40 5,11 to 90% 12,13 but it is also common in the other body areas like knee(7% 11 to 68% 14 ), neck (12% 11  
41 to 52% 15 ) shoulder(17% 11 to 48% 14 ) and foot/ankle. It is mainly important to understand the causes and  
42 musculoskeletal injuries among nurses 12 . In nurses Foot/ankle disorders are very common and ankle is the most  
43 common part to injured 5 . Job demand is directly related to the problem of musculoskeletal disorders among  
44 health professional especially nurses 8 . A study was conducted in different cities of Pakistan to understand

## 6 CONCLUSION

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45 the ratio of MSDs prevailing in the country among nurses. The result showed that the 78.5% of nurses are  
46 having disorders and are suffering from pain of some kind. 16 There are number of studies which reviewed from  
47 1990, investigating the prevalence of musculoskeletal disorders in nurses and reported that foot/ankle problem  
48 ranged from 3.7 to 40% 11,12 . A small number of studies since then reported the prevalence of foot/ankle  
49 musculoskeletal problems were ranging from 1.8 2, 5 to 74% 1,11 .

50 The rational of this study is to find out the prevalence of foot and ankle musculoskeletal disorders in nurses.  
51 This type of study has not been studied previously in Pakistan. Most reports on musculoskeletal disorders are  
52 from other countries. That's why this study was conducted in Lahore.

## 53 2 II.

## 54 3 Methodology

55 It was a cross-sectional survey study. Sample size 369 was calculated using the online epi-tools

## 56 4 Results

57 In table no 1 study results showed total patients were 369 out of these 174(47.2%) complain about pain or  
58 discomfort and 195(52.8%) respondents not complained about any pain or discomfort. In table no 2study results  
59 showed that from the total sample space 238 (64.5%) women have no pain, 37(10.0%) women have pain in  
60 the right foot/ankle, 72(19.5%) women have pain in left foot/ankle and 72 (19.5%) women have pain in both  
61 foot/ankle in last 12 months. IV.

## 62 5 Discussion

63 The current study has been concluded to determine the prevalence of foot and ankle musculoskeletal disorders in  
64 nurses. Total 369 nurses were selected from sampling process. Nordic Musculoskeletal questionnaire was used to  
65 determine the discomfort and pain in foot and ankle. This study of 369 nurses showed that nearly 35.5% nurses  
66 reported some form of musculoskeletal discomfort, trouble, pain during the last 12 months and more than 78%  
67 during last 7 days in survey which is conducted in hospitals of Lahore, Pakistan.

68 Foot and ankle musculoskeletal disorders in this type of study have not been studied previously in Pakistan.  
69 Most reports on musculoskeletal disorders are from other countries. chosen different hospitals that are not different  
70 from other hospitals in Pakistan, carrying out the same type of work. This study results should therefore be  
71 representative of this type of work in hospitals of Lahore. All nurses are chosen for the research consented to  
72 take an interest therefore we have no selection bias.

73 A study was conducted in the tertiary care clinic which was located in the city of Peshawar, Pakistan. The  
74 questionnaire was distributed to among 300 survey population, out of which 100 were dentists, 100 were surgeons  
75 and 100 were physicians. After the evaluation the results were surprising, as the dentists have the highest  
76 percentage of WMSDs, following them were surgeons and then physicians. The percentage was 89, 87 and 84  
77 respectively 19 . A research was conducted in pediatric hospital in Brisbane, Australia. 416 nurses were eligible  
78 to participate in study. Nordic musculoskeletal questionnaire was distributed among nurses population.

79 After the result 73% response rate was achieved 12 . Daraiseh et al., have reviewed various studies and they  
80 pointed out that the studies conducted from 1990s, have resulted that the nurses who were facing the problems  
81 related to foot and ankle their percentage was almost 40% 20 .A cross-sectional survey was conducted in USA,  
82 on 274 survey population, out of which 74 percent have responded. The result showed that the 78.5% of nurses  
83 are having disorders and are suffering from pain 15 .

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

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

88 The objective of my study was to determine the prevalence of foot and ankle pain and discomfort in nurses of  
89 Lahore, Pakistan. A cross-sectional investigation was started to find out the prevalence and in nurses in which  
90 study participants are 369 from Lahore hospitals and only females 369(100%) were included. 174 (47.2%) nurses  
91 experienced Foot/ankle discomfort while 195(52.8%) nurses were free of foot and ankle discomfort and pain. This  
92 study showed that foot and ankle pain are affected by prolonged standing and weekly hours of time work which  
93 is spent in hospital.

94 V.

## 95 6 Conclusion

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Figure 1: 17 .

## 6 CONCLUSION

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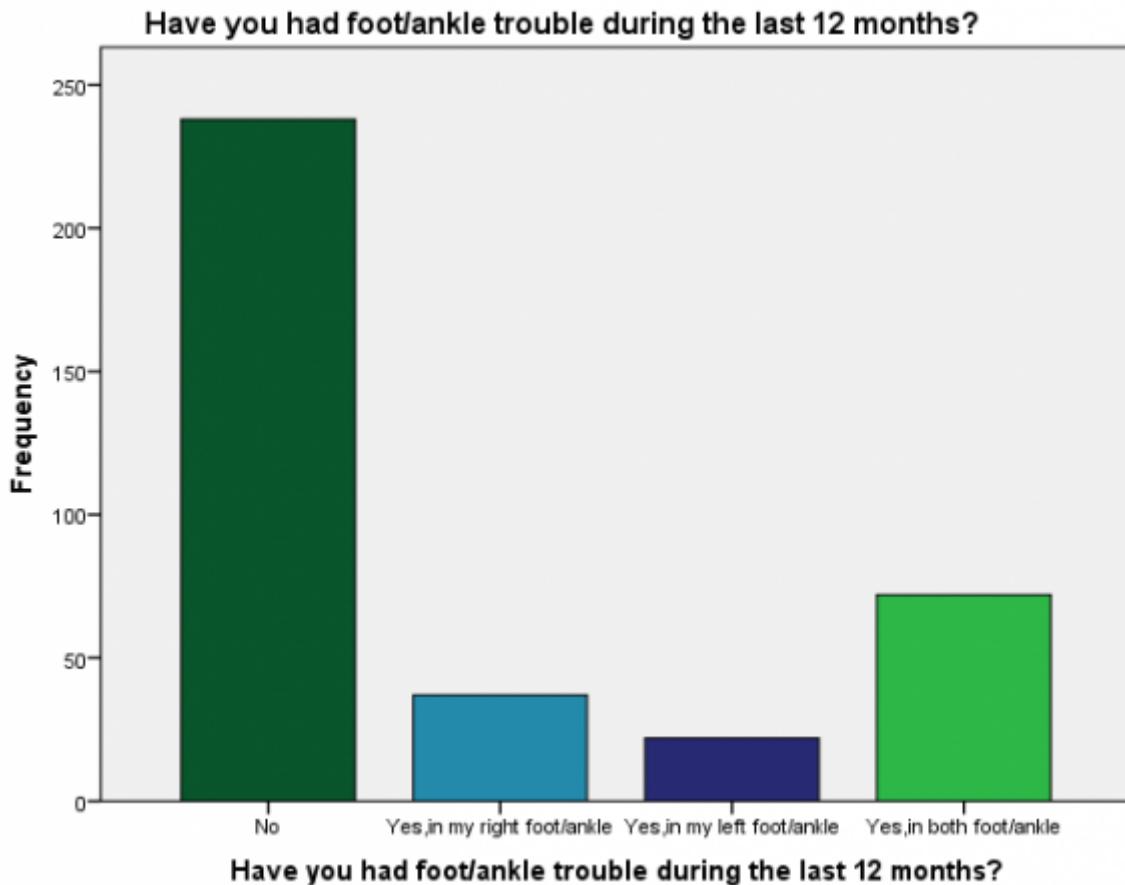


Figure 2: Fig. 2 :

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

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

Figure 3: Table 1 :

2

Valid	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

Figure 4: Table 2 :

97 education regarding self-care strategies and treatment plan and need to some break during working time.

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