



Original Article

Prevalence of Musculoskeletal Pain Among Nursing Interns in Jinnah Hospital Lahore

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ABSTRACT

Musculoskeletal pain seeks high importance due to its occurrence among the people of any profession. **Objectives:** To find the prevalence of musculoskeletal pain and its associated work-related factors among nursing interns in a teaching public hospital of Lahore. **Methods:** Analytical cross-sectional study design was used. Study setting for this research was Jinnah Hospital Lahore. Study population was comprised on all nursing interns working in Jinnah Hospital Lahore. Cluster sampling technique was used to collect the data. **Results:** The study's findings showed majority of nursing interns were between the ages of 20 and 22, accounting for 51% of them. About 125 respondents were married with percentage of 68.5%. More Half of the population (57.4%) is experiencing pain in the neck and shoulder regions. About two third populations of interest is experiencing pain or discomfort in lower back. Approximately half of the population (48.9%) is experiencing ankle and feet pain symptoms. **Conclusion:** The study concluded that musculoskeletal discomfort is highly common among nursing interns. Several additional body parts are frequently impacted in addition to the lower back.

INTRODUCTION

Musculoskeletal pain is a significant health care issue. It is most common type of pain affecting ligaments, tendons, joints, nerves, and muscles. The most commonly affected parts are hands, forearms, shoulders, upper back, lower back and lower extremities [1]. Among occupational health problems, it is the most affecting health issue in the working atmosphere [2]. Nursing interns are integral part of public hospital as they are working in full capacity of nursing interns staff under supervision [3]. In a population of Asian nurses, studies have shown a higher annual prevalence of musculoskeletal disorders (MSDs) in at least one human body part and/or region that ranged between 40 and 95%; in Western populations, the low back, neck, and shoulders are the most severely affected body parts, with prevalence rates of 29-64%, 34-63%, and 17-75%,

respectively. [4, 5]. On the other hand, a narrative literature review on MSDs over the previous 12 months among female nurse staff revealed that the knee and ankle/foot regions were most affected by MSDs. The prevalence of MSDs varied between 7.2 and 77% in the knees and between 3.2 and 100% in the ankles. Between 8.5 and 10.5% of people had MSDs in their lower legs (the shins), and between 11 and 100% of people had them in their thighs and hips [6]. In Pakistan a study conducted by Abdul Rehman reported 95(85%) neck pain, 89(81%) wrist/hand pain, 86 (79%) lower back pain and 78(70%) shoulder pain among surgeons [7]. International Association for the Study of Pain (IASP) has explained the pain stating that it is "a terrible physical and nervous discomfort related with real or possible tissue harm, or depicted concerning such harm" [8]. Thus, pain is

that experience we relate to real or potential tissue harm [9]. Musculoskeletal pain affects muscles, tendons, bones, ligaments, joints etc. For example, the outcome of fracture is unbearable pain [10]. Musculoskeletal pain (MSP) in the nursing interns professional considered as prevailing health issue and the prevalence of these disorders is becoming higher in the last few years [11]. Development of musculoskeletal pain in nursing interns' professionals is probably higher as compared to others. It is extensively seen in frontline health care professionals especially nurses [12]. The most typical symptoms are pain, exhaustion, and a disruption in regular sleep patterns, with many describing it as their whole body is in pain or their muscles feeling pulled or overworked. This pain can be confined to a body area or widespread [13]. There are some tasks that are physically demanding e.g. patient handling and moving them under inimical situations [14]. Patient condition is also a great contributor e.g. patient body weight, poor cognition, disabilities or dependency, are such challenges that every nurses has to encounter every day [15]. It has been shown that among the helping professions, nursing interns have a high risk and demanding job by nature [16], and a number of stresses have detrimental effects on their health and ability to handle job demands. There are multiple risk factors involved in the development of MSPs in hospitals [17]. Duty hours and prolonged shifts predispose the nurses to develop WRMSP in the hospital. Inadequate staffing and long working hours is also a contributor to developing these pains [18]. Shifting the patient is considered an important step in the hospital care provided to the patient for any ongoing assessment, diagnosis purpose, any procedure, or treatment purpose [19]. Health professionals frequently get injuries while transporting patients from one bed to another or from one bed to a wheelchair to another [20]. Nurses in the health care area considered as backbone of the health profession performing broad range tasks. This research is carried out to explore the prevalence of MSP among nursing interns which will be definitely fruit-full for further researchers, and also best for policy makers for make to make new protocols for better health of interneers who are very important part of nursing interns task force. His study find the prevalence of musculoskeletal pain and its associated work-related factors among nursing interns in Jinnah Hospital Lahore.

METHODS

An Analytical cross-sectional study design was used to conduct the study. The study setting for this research was Jinnah hospital Lahore. Study population was comprised on all nursing interns working in Jinnah hospitals Lahore. It was completed in nine months. Convenient sampling

technique was used to collect the data. The sample size of 190 cases is calculated with a 95% confidence interval, a 7% margin of error, and 10% Attrition rate. Nursing Interns have more than two month's internship experience. Participants aged between 20 to 35 years and those who has not received any certification regarding musculoskeletal pain were included in the study. Interns with mental disorder, pregnancy and those who has Known history of musculoskeletal disorders are excluded from study. Data was collected from all major departments including emergency, medical, surgical, operating rooms and Intensive care units of Jinnah Hospital Lahore. All the interns of these departments were selected to collect the data. Firstly written informed consent to participate in the study was taken from the participants. One week time was given to the participants to complete the Performa. Seventy percent of the participants returned filled Performa and 20% did not returned the questionnaire. They were given more time to complete the Performa and they returned it after one week. The questionnaire consists of three sections including, socio demographic characteristics of the participants, Nordic musculoskeletal pain questionnaire and Visual Analogue Scale. The musculoskeletal pain was assessed using the Nordic musculoskeletal pain questionnaire and Visual Analogue Scale. Visual Analogue Scale was used to analyze mild, moderate, and severe pain. Mild Pain intensity was scored on 1 to 3 scale, Moderate Pain intensity was scored on 4 to 6 scale, and Severe Pain intensity was scored on 7 to 10 scale. SPSS version 25.0 was used to analyses the data. Calculated descriptive statistics included frequency and percentages.

RESULTS

The study of the respondents' demographic data revealed some important details about their age, marital status, and number of children, current shift, and department. The majority of nursing interns, for instance, were between the ages of 20 and 22, accounting for 51% of them. Also, 81 nursing interns were between the ages of 23 and 24, making up 42.6% of them, while 12 were between the ages of 25 and 26, accounting for 6.3%. About 125 respondents were married with percentage of 68.5% whereas 65(34.2%) were single. No divorce or widow was found. To know the internship period of nursing interns, three categories were made. 52 (27.4%) were having 4-6 months of duration. 100(52.6%) were having 7-10 months of internship period and 38 nursing interns with 10-12 months of internship period. Data was mostly gathered during the morning and evening shifts. Nursing interns made up 81 (42.6%) of the morning shift and 81 (42.6%) of the evening shift. There were just 28 interns reported to be working nights. Five

categories were used to group departments. The operating room, intensive care unit, medical and surgical wards, and emergency room. 22 (11.6%) nursing interns were discovered in medical wards, 60 (31.6%) in surgical, 45 (23.7%) in the operating room, and 35 (19.5%) in the emergency room. There were 26(13.7% from ICU/CCU).

Demographic characteristics		N (%)
Age	20-22	97(51.1%)
	23-24	81(42.6%)
	25-26	12 (6.3%)
Marital Status of respondents	Unmarried	125(68.5%)
	Married	65(34.2%)
No of children	No children	162(85.3%)
	1-2 children	28(14.7%)
Internship period	4-6 months	52(27.4%)
	7-9 months	100(52.6%)
	10-12 months	38(20.0%)
Current shift of duty	Morning	81(42.6%)
	Evening	81(42.6%)
	Night	28(14.7%)
Department	Medical	22(11.6%)
	Surgical	60(31.6%)
	Operation theater	45(23.7%)
	Emergency	37(19.5%)
	ICU/CCU	26(13.7%)

Table 1: Demographic characteristics of respondents

Table 2 lists the various work-related issues that nursing interns had to deal with. It has been determined that nursing interns displayed more musculoskeletal discomfort at work. The shifting of large goods, machinery, and patient transfers were seen when 155(81.6%) percent of the workforce was carrying big loads, such as those weighing more than 20 kg. 171(90%) of the nursing interns were hunched over while working. Similarly, 182 95.8% of nursing interns were seen working with bent posture for extended periods of time, as well as bent and twisted position. Due to long shifts and continuous standing, for example in OT, 161 nursing interns complained of mental tiredness. 131(68.9%) of them said that the lack of doctors, nursing interns, or other paramedic professionals made their jobs harder. 125 (66.8%) of the nursing interns were overseen by other employees. They had 94 (49.8%) part-time jobs as a result of certain financial difficulties. There were 21(11.7%) interns who missed more than six weeks of class because of an injury connected to WRMSDs. 131 people (68.9%) were dissatisfied with the standard break period, which was only 30 minutes, and they did not feel content or relaxed after the break. 104 interns complained that their working conditions were interfering with their personal lives. 95.3 percent of the 181 nursing interns were manually managing patients.

Variable	N (%)	
Pushing/pulling loads more than 20 kg	Yes	155(81.6%)
	No	35(18.4%)
Often work slightly bent posture	Yes	171(90%)
	No	19(10%)
Often work in heavily bent posture	Yes	154(81.1%)
	No	36(18.9%)
Slightly twisted posture for long	Yes	182(95.8%)
	No	8(4.7%)
Bent and twisted posture	Yes	181(95.3%)
	No	29(15.3%)
Mental exhaustion	Yes	161(84.7%)
	No	30(15.3)
Work hindered by the absence of others	Yes	131(68.9%)
	No	59(31.1%)
Supervision of other	Yes	125(65.8%)
	No	65(34.2%)
Having part time jobs	Yes	94(49.5%)
	No	96(50.5%)
Being absent for more than 6 months	Yes	21(11.1%)
	No	169(88.9%)
Normal breaks sufficient	Yes	59(31.1%)
	No	131(68.9%)
Feeling rested after the breaks	Yes	59(31.1%)
	No	131(68.9%)
Work conditions affect private life	Yes	104(54.7%)
	No	86(45.3%)
Manually handling patients	Yes	181(95.3%)
	No	9(4.7%)

Table 2: Characteristics of respondents' jobs

Table 3 demonstrates that nursing students are feeling discomfort in many parts of their bodies.. More Half of the population (57.4%) is experiencing pain in the neck and shoulder regions for last 12 months and 114(60%) had neck pain for last 7 days. About two third populations of interest is experiencing pain or discomfort in lower back for 12 months and 122(64%) had lower back pain for last 7 days. Approximately half of the population 93(48.9%) is experiencing ankle and feet pain symptoms for 12 months and 102 (53%) participants had ankle and foot pain for 7 days.

Body region involved	Frequencies & Percentage of work-related musculoskeletal pain in the last 12 months	Frequencies & Percentage of work-related musculoskeletal pain in the last 7 days
Neck	109(57.4%)	114 (60%)
Shoulder	107(56.3%)	100 (52%)
Upper back	25(13.2%)	13 (6%)
Elbow	11(5.8%)	16(8%)
Wrist/hands	33(17.4%)	28(14%)
Lower back	126(66.3%)	122 (64%)
Hips/thighs	66(34.7%)	53(27%)
Ankle/foot	93(48.9%)	102 (53%)

Table 3: Prevalence of work-related musculoskeletal pain

DISCUSSION

The present study advances our understanding of the incidence of musculoskeletal discomfort during work among nursing interns at Jinnah Hospital in Lahore. The findings of this study showed that nursing interns experience discomfort in multiple body parts and locations. More than half of the population 109(57.4%) participants reported neck pain while performing their tasks. These findings are similar to a study conducted among nurses in University College Hospital Ibadan, Nigeria where 78.0% respondents reported shoulder pain and 90.7% reported neck pain [21]. A possible explanation is that the double burden of juggling work and family obligations can cause neck and high back pain, which are frequently diagnosed as symptoms of "trapezius myalgia". Similarly Robert Latina's cross-sectional study also revealed that the prevalence of low back pain was 90.2% overall, 80% in the previous year, and 44.5% in the previous week [22]. The present study showed that about two thirds of the nursing interns having lower backs pain or uncomfortable. Tendons, bursas, and joints are frequently impacted by mechanical load in the extremities. Other structures in the back, such the muscles and intervertebral discs, are perhaps more susceptible to injury. Similarly a study conducted in Estonia reported that 57% nurses have Lower back pain [23]. One explanation could be that pain in the extremities frequently results from ongoing wear and tear. In addition, another study done in Brazil found that 79.3% participants had lower back pain [24]. The frequency of low back pain has been the subject of numerous studies. Some previous studies showed that hospital nurses experienced a significant prevalence of lower back pain on a widespread basis [25, 26]. As in mainland Europe, 85.9% nursing workers showed a significant frequency of Lowe Back Pain in Czech [27]. Low back pain was more common in service industries with significant physical demands, just like discomfort in the extremities. Low back pain risk factors include heavy lifting and routine bending and twisting at work. The distinct pathophysiological mechanisms behind limb pain and low back pain could be one explanation for the discrepancy in their epidemiological distribution. Age-related increases in pain in the extremities were more common in women than in men, and they were more prevalent in service industries with high physical demands, such as nursing homes. Pain in the hands or wrists was more common among single people. Two thirds of the nursing population, it was found statistically, had postural problems. Long lengths of time spent working in the same position have been demonstrated to be uncomfortable for them. Many studies into postural problems revealed that having bad posture may result in musculoskeletal pain [28].

CONCLUSIONS

According to the study's findings, musculoskeletal discomfort is highly common among nursing interns. Several additional body parts are frequently impacted in addition to the lower back. The incidence rates change depending on the demographics of the aides, how many hours they work each week, and the type of services they provide.

Conflicts of Interest

The authors declare no conflict of interest.

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