Low Back Pain and its Effect in Daily Activities among Staff Nurses

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Abstract

Introduction: Low Back Pain (LBP) is one of the occupational musculoskeletal diseases that occurs most commonly in nurses among all health professionals. LBP ranks the second as a reason for work-force loss and health expenses following cancer pain and it is a common occupational health problem that results in serious physical, cognitive, sensory, emotional and developmental obstacles for nurses. The literature review reveals that the frequency of LBP in nurses ranges between 40% and 97.9% and occurs more frequently in nurses when compared with other individuals insociety. There are various physical and psychosocial risk factors that cause LBP in nurses. The practices that require heavy lifting such as transferring and carrying the patients as a part of nursing care are among the main factors that cause LBP in nurses. Preventing LBPs in nurses is important in order for nurses to exercise their fundamental right to work under healthy and safe conditions and to provide better support for the patients. Necessary individual and institutional precautions should be taken in order to prevent LBP in nurses. *Aim:* To assess effect low back pain in daily activities among staff nurses working in clinical services. *Objectives:* Assess low back pain and assess the risk status in regard with activites of daily living among nurses working in All India Institute of Medical Sciences, Rishikesh and assess the risk status of nurses with low back pain. *Methodology:* A cross sectional survey method with a purposive sampling method will be used to collect data among nurses. *Conclusion:* Study had reported incidence of low back pain were 59.3% staff nurses and only 41% nurses who did not have it. The reason for low back pain may be handling and mobilizing between 1–5 patients. Younger nurses age group between 24–27 years (60%) had the highest low back pain while older nurses aged 32–35 years (8%) had least low back pain. Institutions must take interest in nurses to be allocate their work according to their efficient, skill, specialty training. Nurses to be rotated in caring the patient such as with a scheduled time interval and can assign caring of patient according to full dependent, partial dependent and independent patients group.

Keywords: Low back pain; Nursing care; Daily activities; Oswestry scale; Role of organization.

Introduction

The nurses who work for protection, development and improvement of health in cases of health problems for individuals and families spend more time with the patients when compared with other health professionals and provide direct care for the patients. Therefore, it is known that the frequency of LBP is higher in nurses when compared with other health professionals and rest of the society. LBP may distort the nurses' performance regarding their daily life activities and hinder their interpersonal relations, result in various psychological problems and affect the quality of life

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adversely. Moreover, LBP also affects the economy of the countries adversely due to labour loss of nurses, reduction in work efficiency and other financial costs. Nurses may be forced to quit their jobs or change their work places because of LBP.

Research Methodology

Research Design: A cross sectional Survey Method.

Study Settings: The study setting will be AIIMS, Rishikesh.

Population: The staff nurses working in AIIMS, Rishikesh. Uttarakhand.

Sampling Technique: A purposive sampling method will be used to collect data.

Inclusive criteria

- The staff nurse male and females.
- The staff nurse who are working in AIIMS, Rishikesh.

Exclusive criteria

- Those who are not willing to participate.

Tool

The study tool consists of demographic schedule, self-structured questionnaire on low back pain, and low back pain disability preform.

Data Analysis

The data will be analysed by descriptive and inferential statistics.

Results

Most of nurses were in age group of 24–27 as 60% (80/133), 56% were females (74/133) from participated nurses. Only 36% (48/133) were married and out of it 23% were having one child, 15% were having two children, 60% were having no any child till now.

In regard of professional experience most of them 51% having 4–6 years of clinical nurses as taking care of patients in various units.

In regard of physical characteristics most then 53% were between 158–167 cm of height and 35% were from 51–60 kg of body weight and only 23%

of from 61–70 kg of body weight. According to physical built most of them were standard height and weight 51–60 kg which corresponds their standard physical built up. On account of low back pain most among nurses 39% were having mild pain, 15% had moderate pain and only 5% were having severe pain.

Regarding their precious health status, 11% were having precious problem leading to pain, 7% only underwent precious surgery and 65% were having no previous serious infections. Only 12% were suffering from urinary treat infections. In non-pharmacological strategies for pain management most of them 38% were take rest in bed, 20% were undergoing physio therapy method and 22% were using relaxation techniques whereas in pharmacological strategies 20% were regularly using analgesics.

In regard of causes of pain to nurses most of them 62% told this due to work activity and 38% told unknown reasons for pain.

In regard of location of pain in back 62% had given history of lumbar region pain and 42% had history of pain since 2–6 year and 43% had one year history of pain and 9% had more than six years history. Most of them 81% reported back pain nature was gradual onset.

In regard of time of the worse back pain most of them reported 34% at night and majority 31% reported occasionally type of pain. While assessing aggravating pain, most of them 35% reported standing, 27% reported sitting, 22% reported walking and 16% reported physical effort.

Level of pain for nurses, 39% were mild pain, 15% were moderate pain and only 5% were in worst pain.

Out of 79 staff nurses who are having pain, their daily activity were studied, 30% among them were having no pain at the moment, on regarding personal care 30% of them have painful when look after self and which needs careful activity 22% head some help but manage most of personal care and need help early in most aspect of self-care. In lifting of objects 32% can lift heavy weights but extra pain, 23% have pain which prevents them from lifting object from floor, but can do, 10% had manage to lift light weight from floor and 19% card lift only very light weight objects only.

Regarding walking 27% told pain presents from walking more than 1.6 km and 28% told pain from walking more their half kilometre 3% told while walking using stick. 32% reported pain prevents them in sitting position more than one hour. 47%

reported they can stand as long as they want but it gives them extra pain. 44% staff nurses reported that their sleep were occasionally disturbed by pain. 41% staff nurses pain has no significant effect on their social life apart from limiting their activity in term of more energetic activity like sport and 39% staff nurses reported that they can travel anywhere but gives them extra pain.

Table 1: Demographic Profile of Nurses   N=133

Sr. No.	Demographic variables	Frequency (% age)
1.	*Age:*	
	1. 20–23	15 (11)
	2. 24–27	80 (60)
	3. 28–31	27 (21)
	4. 32–35	11 (8)
2.	*Gender:*	
	1. Male	59 (44)
	2. Female	74 (56)
3.	*Marital status:*	
	1. Married	48 (36)
	2. Single	85 (64)
	If married then number of children: (48)	
	1. One child	11 (23)
	2. Two children	7 (15)
	3. Three children	1 (2)
	4. No child	29 (60)
4.	*Years of experience:*	
	1. 1–3 years	53 (40)
	2. 4–6 years	68 (51)
	3. 7–9 years	8 (6)
	4. 10-12 years	4 (3)
5.	*Height:*	
	1. 148–157 cm	23 (17)
	2. 158–167 cm	71 (53)
	3. 168–177 cm	28 (22)
	4. 178–187 cm	8 (6)
	5. 188–197 cm	3 (2)
6.	*Weight:*	
	1. 41–50 Kg	27 (20)
	2. 51–60 Kg	46 (35)
	3. 61–70 Kg	31 (23)
	4. 71–80 Kg	19 (14)
	5. 81–90 Kg	10 (8)
7.	*Level of pain:*	
	1. No pain	54 (41)
	2. Mild pain	52 (39)
	3. Moderate pain	20 (15)
	4. Severe pain	7 (5)
8.	*Any previous problem leading to pain*	
	1. Yes	15 (11)
	2. No	118 (89)
9.	*Previous surgery*	
	1. Yes	9 (7)
	2. No	124 (93)
10.	*Previous Infections*	
	1. No	86 (65)
	2. Fever	21 (16)
	3. Urinary tract infections	16 (12)
	4. Any injuries	10 (7)

Table 2: Clinical Variables of Staff nurse suffering from pain

N=79

Sr. No.	Clinical variables	Frequency (%age)
1.	*Strategic of non-pharmacological management*	
	Rest in bed	30 (38)
	Binder	1 (1)
	Physiotherapy	16 (20)
	Hot compresses	10 (13)
	Relaxation	17 (22)
	Distraction	5 (6)
2.	*Pharmacological strategies*	
	Analgesics	16 (20)
	Anti-inflammatory	9 (11)
	None	54 (69)
3.	*Causes of pain*	
	Know due to work activity	49 (62)
	Unknown	30 (38)
4.	*Location of pain*	
	Cervical	18 (23)
	Lumbar	49 (62)
	Cervical and lumber	12 (15)
5.	*Persistent of pain since*	
	One year ago	34 (43)
	2-6 year	33 (42)
	>5 years	12 (15)
6.	*Quality of back pain*	
	Throbbing	24 (30)
	Shooting	21 (27)
	Knife life pain	20 (25)
	Hot burning	14 (18)
7.	*Onset of back pain*	
	Sudden	15 (19)
	Gradually	64 (81)
8.	*Time of the worse back pain*	
	In the morning	15 (19)
	In the afternoon	16 (20)
	In the evening	21 (27)
	Late at night	27 (34)
9.	*Intensity of back pain defer with time*	
	Constantly	18 (23)
	Nearly constantly	14 (18)
	Intermittently	22 (28)
	Occasionally	25 (31)
10.	*Factors aggregating pain*	
	Standing	28 (35)
	Sitting	21 (27)
	Walking	17 (22)
	Physical effort	13 (16)

Table 3: Daily Activities of Nurses who are having pain

N=79

Sr. No.	Variables	Frequency (% age)
1.	*Pain Intensity*	
	I have no pain at the moment	24 (30)
	Pain is very mild at moment	22 (28)
	Pain is moderate at moment	17 (22)
	Pain is fairly severe at moment	13 (16)
	Pain is very severe at moment	1 (1)
	Pain is the worst imaginable at moment	2 (3)

2. *Personal care (washing, dressing etc.)*

I can look after myself normally without causing extra pain. 10 (13)

I can look after myself morally but causes extra pain. 16 (20)

It is painful to look after myself and I am slow and careful. 24 (30)

I need some help but manage most of my personal care. 17 (22)

I need help every day in most aspects of self-care. 12 (15)

I do not get dressed, I wash with 1difficulty and stay in bed. 0 (0)

3. *Lifting:*

I can lift heavy weights without extra pain. 10 (12)

I can lift heavy weights but it gives extra pain. 25 (32)

Pain prevents me from lifting heavy weights off the floor, but I can manage if they are conveniently placed e.g. On a table. 18 (23)

Pain prevents me from lifting heavy weights, but I can manage light to medium weights if they are conveniently positioned. 8 (10)

I can lift very light weights. 15 (19)

I cannot lift or carry anything at all. 3 (4)

4. *Walking:*

Pain does not prevent me walking any distance. 28 (34)

Pain prevents me from walking more than 1 mile. 21 (27)

Pain prevents me from walking more than ½mile. 22 (28)

Pain prevents me from walking more than 100 yards. 6 (8)

I can only walk using a stick or crutches. 2 (3)

I am in bed most of the time. 0 (0)

5. *Sitting:*

I can sit in any chair as long as l like. 24 (30)

I can only sit in my favourite chair as long as I like. 18 (23)

Pain prevents me sitting more than one hour. 25 (32)

Pain prevents me from sitting more than 30 minutes. 8 (10)

Pain prevent me from sitting more than 10 minutes. 3 (4)

Pain prevents me from sitting at all. 1 (1)

6. *Standing:*

I can stand as long as I want without extra pain. 17 (22)

I can stand as long as I want but it gives me extra pain. 37 (47)

Pain prevents me from standing from more than 1 hour. 15 (19)

Pain prevents me from standing from more than 30 minutes. 5 (6)

Pain prevents me from standing from more than 10 minutes. 3 (4)

Pain prevents me from standing at all. 2 (2)

7. *Sleeping:*

My sleep is never disturbed by pain. 6 (8)

My sleep is occasionally disturbed by pain. 35 (44)

Because of pain I have less than 6 hours sleep. 10 (13)

Because of pain ha have less than 4 hours sleep. 16 (20)

Because of pain ha have less than 2 hours sleep 12 (15)

Pain prevents me from sleeping at all. 0 (0)

8. *Social life:*

My social life normal and gives me no extra pain. 9 (11)

My social life is normal but increases the degree of pain. 17 (22)

Pain has no significant effect on my social life apart from limiting my more energetic interests e.g. sport. 32 (41)

Pain has restricted my social life and I do not go out as often. 7 (9)

Pain has restricted my social life to my home. 5 (6)

I have no social life because of pain. 9 (11)

9. *Travelling:*

I can travel anywhere without pain. 11 (14)

I can travel anywhere but it gives me extra pain. 31 (39)

Pain is bad but I manage journeys over two hours. 21 (27)

Pain restricts me to journeys of less than one hour. 11 (14)

Pain restricts me to short necessary journeys under 30 minutes. 5 (6)

Pain prevents me from travelling except to receive treatment. 0 (0)

Discussion

LBP is one of the most common occupational health problems in nurses. Low back pain (LBP), perhaps more accurately called lumb ago or lumbosacral pain, occurs below the 12th rib and above the gluteal folds. The literature review reveals that LBP prevalence ranges between 33% and 86% for Italian nurses and the prevalence is annually 73.5% for Nigerian. Nurses reported that low back was the most common painful area in their body. Risk factors for LBP can be categorized under two major groups as individual risk factors and occupational risk factors. Occupational risk factors consist of two subgroups as physical and psychosocial factors. It is stated that the individual risk factors for LBP in nurses such as increase in the age, low economic status and smoking increase the frequency of LBP and exercise protects low back

health and reduces LBPs. Hospitals are places of health services that include risk factors of various degrees for occupational safety and physical, emotional and social wellbeing of nurses. The nurses who spend an important part of their daily life at hospitals may be exposed to various risk areas and occupational responsibilities. It is stated that there is a significant relation between physical factors and musculoskeletal problems and repetitive movements, improper posture and excessive use of force are the three major factors that lead to musculoskeletal problems. These factors lead to excessive use of tendons, ligaments and muscles, static muscle loading and fatigue, thus increase the likelihood of low back traumas. Performing duties related to carrying without getting support or any supportive equipment may also result in LBP. Long working hours, excessive work load, inadequate personnel and equipment, inadequate breaks, standing up for long periods of time, working in wrong posture, disruptions of sleeping cycle and eating habits due to shifts are among the occupational risk factors that may result in LBP for nurses. Various occupational responsibilities such as assisting patients' daily lives, positioning them on the beds, carrying and lifting them or carrying medical devices of various weights and sizes, tidying beds of various heights also increase the risk of a low back trauma for nurses. Also American Nurses Association (ANA) stated that the duties of nurses that require carrying patients are related with LBP. Psychosocial factors may increase muscle tension, work related mechanical tension and perception of symptoms. Pain attacks related to physical injuries at the onset may trigger chronic dysfunction of psychological and physiological central nervous system and may result in chronic pain. In some occupational situations changes in psychosocial expectations may be related with physical characteristics and changes in biomechanical stress. Stress and anxiety are the main psychosocial factors that may cause LBP. Low back pain is a well-recognized cause of morbidity in the industrialized world, where several studies have reported the occurrence of LBP in general population and occupational settings. The complaint of back pain is among the most common medical conditions.

Low back pain incidence among staff nurses were 59.3% and only 41% nurses who did not have it. The reason for low back pain may be handling and mobilizing between 1–5 patients. Younger nurses age group between 24–27 years (60%) had the highest low back pain while older nurses aged 32–35 years (8%) had least low back pain. Studies had shown that nurses between the ages of 20 to 30 years had the highest prevalence of occupational back pain. Junior nurses had higher rate.

Conclusion

A major characteristic of LBP, one of the occupational diseases, is that it can be prevented completely if the necessary precautions are taken. It is stated in the literature that LBP is not related to what duty is done but how it is done. In this context, sitting in a proper and controlled way, lifting legs correctly and well-balanced, exercising to strengthen low back and stomach muscles, applying principles of body mechanics correctly, abstaining from activities that presses low back area, taking breaks during occupational duties that require sitting or bending forward for a long time are important precautions. Maintaining a well balanced emotional and physical life by not gaining excessive weight, not smoking, following healthy diet and exercise habits are also effective in protection of low back health. Multidisciplinary biopsychosocial rehabilitation interventions are more effective than usual care and physical treatments in decreasing pain and disability in people with chronic low back pain.

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