

Original Article

Prevalence and Risk Factors of Low Back Pain among Medical Professionals Working In Selected Tertiary Hospitals in Dhaka City

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Conflict of interest: There is no conflict of interest relevant to this paper to disclose.

Funding Agency : Ministry of Science & Technology, Govt. of the Peoples' Republic of Bangladesh

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Received: 07- Sep-2019

Accepted: 26 September 2019

Abstract:

Background: Health care workers are most frequently suffering from lower back pain.

Objective: The purpose of the present study was to determine the prevalence and the effects of low back pain among health care providers working in Dhaka city.

Methodology: This descriptive cross-sectional study was conducted in Department of Neurosurgery at National Institute of Neurosciences & Hospital, Dhaka, Bangladesh from July 2012 to June 2013 for a period of one (1) year. The physicians and nurses who were working in the public hospital at any age group of both male and female were selected as study population. The details of the history of the physicians and nurses regarding their life style, hour of practising, and the mode of work and so on were asked in face to face interview. A survey was carried out to 174 conveniently selected participants to be filled and completed. Both descriptive and inferential tests were reported.

Result: A total number of 117 medical professionals were recruited from 5 hospitals in Dhaka city. Majority medical professionals were from BSMMU (48.0%). The majority study subjects were mentioned that they had spent 6 to 12 hours every day for work which was 92 (53.8%). Most of the respondents mentioned that the working environment was very good to fair. The prevalence of low back pain was found in almost every respondent which was 113 (66.1) subjects. Interestingly most of the respondents were clearly stated that the LBP was occurred after joining in the work. In this study majority of the respondents were given the history of localized low back pain which was 86 (76.1%) subjects. Moderate intensity of pain was reported by most of the respondents which was 67 (59.3%) subjects. Intermittent nature of pain was mostly recorded which was 70 (61.9%) subjects. There were several individual and profession risks factors were retrieved from the respondents. Many study subjects were given the answer about lifting objects or patients from bed to bed or wheel chair which was 55 (48.7%) subjects. About 91 (80.5%) respondents had said that pain was due to bad body posture.

Conclusion: In conclusion most of the medical professionals are suffering from moderate intensity lower back pain after joining of their job.

Keyword: Prevalence; Lower Back Pain; Physicians; Nurses.

Bang. J Neurosurgery 2020; 9(2): 135-141

Introduction:

Low back pain (LBP) is a very frequently occurring phenomenon. Among adults in the general population,

70–85% was believed to experience at least one episode of low back pain at some time during their lives¹. The direct and indirect costs of LBP in terms

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of quality of life, productivity, and employee absenteeism are enormous, making this common condition the single largest contributor to musculoskeletal disability worldwide². LBP is an important public health problem in all industrialized nations. It is associated with major costs, in terms of health resource usage and worker disability and absenteeism (1) and is one of the most common causes of sick leave in the Western world^{3,4}. LBP is associated with multiple risk factors, including gender, age, lifestyle, psychosocial profile, physical demands of the workplace, social support, and pain perception.

Hospital workers seem to have higher rates of LBP compared to the general population due to physical and emotional factors involved in their occupation, such as stress⁵. Many studies have explored LBP in relation to specific occupational groups and have identified the health services sector as a workplace with a high risk for LBP⁶⁻¹². This is reflected in the Health and Safety Authority (Ireland) annual report, 2003¹³ which indicates that back injuries accounted for 32% of all non-fatal work injuries within the health and social services sector, whereas the mean proportion for all work sectors is 26%. Research regarding LBP prevalence, risk factors and consequences among health service workers has, however, tended to focus on single occupational groups only and studies have largely concentrated on the nursing profession¹⁴⁻¹⁹. Some studies compare nursing with the general population²⁰, while others group all health service workers together for comparison with non-health sector workers²¹. Few studies compare groups of health service workers.

Thus, it is difficult to identify whether certain health sector occupations are actually associated with a higher risk of LBP or any greater levels of LBP-related sick leave²². These rates are not well established in Bangladesh. Hence, the purpose of this study is to estimate the prevalence of LBP among hospital workers in selected hospitals, to examine its consequences and to identify the risk factors associated with the LBP in this population. In particular, this study aims to identify whether specific health service occupations have any greater levels of LBP or related absenteeism.

Methodology:

This descriptive cross sectional study was conducted in Department of Neurosurgery at National Institute of Neurosciences & Hospital, Dhaka, Bangladesh from

July 2012 to June 2013 for a period of one (1) years. The physicians who were working in the private and public hospital at any age group of both male and female were selected as study population. This study subjects were collected from different departments of four hospitals in Dhaka city which were Bangabandhu Sheikh Mujib Medical University, Dhaka, Dhaka Medical College Hospital, Dhaka, Shaheed Suhrawardy Medical College Hospital, Dhaka and BIRDEM Hospital, Dhaka. There were the largest hospital in Bangladesh. A large number of patients were attended or admitted in these hospitals. All doctors and nurses of these four hospitals were considered as sample of the study. Doctors and nurses those who were working in the above mentioned hospital at least 1year, were included as study population. The demographical variables were collected like age, gender, occupation, educational status, religion, marital status and monthly Income. The perceptions and consequences of LBP were recorded like type of work, working hour, working condition, develop LBP before or after working, characteristic of LBP, frequency of LBP, effect of LBP on work, effect of LBP on personal life, medical care seeking, sick leave, treatment for LBP, types of treatment, diagnosis from health care professionals, receive any spine surgery, recovery of LBP and modified job due to LBP. The individual risk factors LBP sufferers were noted like smoking, exercise, gender and age groups. The professional risk factors associated with LBP were also recorded which were professional category, direct patient contact, perform lifting or objects, number of lift/transfer, bad body posture and stressful working experience. The protective factors like knowledge and awareness, training, job satisfaction, workplace support, family support and modification of lifestyle were recorded. Data were collected by pre-tested semi-structured questionnaire. Self-administered questionnaire was supplied to the study population and filled up questionnaire was collected during the study period. All data were recorded systematically and was expressed as mean and standard deviation and as frequency distribution and percentage. Statistical analyses was performed by using SPSS for windows version 18.0.

Result:

A total number of 117 medical professional were recruited from 5 hospital in Dhaka city. Majority of

medical professionals were from BSMMU which was 82(48.0%) cases followed by ShSMC, NINS and BIRDEM which were 38(22.2%) respondents, 36(21.1%) respondents and 11(6.4%) respondents respectively. Only 4 (2.3%) respondents were recruited from DMCH for this study (Table 1).

Table -I

Distribution of Study Population according to Study Places (n=117)

Institution	Frequency	Percent
ShSMC	38	22.2
NINS	36	21.1
BIRDEM	11	6.4
BSMMU	82	48.0
DMCH	4	2.3
Total	171	100.0

ShSMC= Shaheed Suhrawardy Medical College Hospital; NINS= National Institution of Neurosciences; BIRDEM=Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders; BSMMU=Bangabandhu Sheikh Mujib Medical University; DMCH=Dhaka Medical College Hospital

Table-II

Socio-Demographic Characteristics of the Study Respondents

Variables	Frequency	Percent
Respondent Age		
Less than 30 Years	73	42.7
31 to 40 Years	64	37.4
41 to 50 Years	28	16.4
More Than 50 Years	6	3.5
Gender		
Male	64	37.4
Female	107	62.6
Occupation		
Physician	69	40.4
Dental Surgeon	1	0.6
Nurse	101	59.1
Doctor education (69)		
Graduate	44	63.8
Masters	25	36.2
Nurse education (n=101)		
Diploma	83	82.2
Graduate	11	10.9
Post Graduate/ Masters	7	6.9

Religion		
Islam	130	76.0
Hinduism	36	21.1
Christian	3	2.3
Buddhism	1	0.6
Marital Status		
Single	45	26.3
Married	126	73.7
Duration of working experience		
0 to 5 Years	84	49.1
5 to 10 Years	33	19.3
10 to 15 Years	25	14.6
15 to 20 Years	11	6.4
>20 Years	18	10.5
Average monthly income		
10000 to 20000	100	58.5
20000 to 50000	54	31.6
>50000	17	9.9
Name of the department		
Medicine	41	24.0
Surgery	64	37.4
Gynaecology	4	2.3
Others	62	36.3

The majority study subjects mentioned that they had spent 6 to 12 hours every day for work which was 92(53.8%). Most of the respondents mentioned that the working environment was good. The prevalence of low back pain was found in almost every respondents which was 113(66.1) subjects. Interestingly majority of the respondents clearly stated that the LBP was occurred after joining in the work (Table 3).

Table-III

Perception and Consequences of Low Back Pain (LBP)

Questions	Frequency	Percent
How many hours you work every day?		
6 hours	54	31.6
6 to 12 hours	92	53.8
>12 hours	25	14.6
How is your working condition?		
Very good	24	14.0
Good	88	51.5
Fair	55	32.2
Bad	2	1.2
Very bad	2	1.2
Have you ever had Low Back Pain?		
Yes	113	66.1
No	58	33.9
Does LBP develop before or after joining in the service?		
Before joining service	24	21.2
After joining service	89	78.8

In this study majority of the respondents gave the history of localized low back pain which was 86(76.1%) subjects. Moderate intensity of pain was reported by most of the respondents which was 67(59.3%) subjects. Intermittent nature of pain was mostly recorded which was 70(61.9%) subjects (Table 4).

Table -IV
Perception and Consequences of Low Back Pain
(n=113)

Variables	Frequency	Percent
Characteristic of Low Back Pain		
Localized	86	76.1
Numbness/pain in leg/buttocks	27	23.9
How is the intensity of pain?		
Mild	33	29.2
Moderate	67	59.3
Severe	13	11.6
Nature of Low Back Pain		
Continuous	13	11.5
Intermittent	70	61.9
Occasional	30	26.5
Duration of Low Back Pain		
<6 Months	94	83.2
≥6 months	19	16.8
Does Low Back Pain affect your work?		
Don't hamper	47	41.6
Hamper	5	4.4
Occasionally	61	54.0
Did you change your job due to LBP?		
Yes	13	11.5
No	100	88.5
Does Low Back Pain (LBP) affect your daily activities of life?		
No affect	34	30.1
Little effect	55	48.7
Moderate effect	21	18.6
Severe effect	3	2.7
Since then, have you taken any sick leave due to LBP?		
Yes	22	19.5
No	91	80.5
If yes, how long you took leave due to LBP in last time? (n=22)		
≤5 days	11	50.0
>5 days	11	50.0
Did you take any treatment for LBP?		
Yes	72	63.7
No	41	36.3
What type of treatment did you receive? (n=72)		
Modern	59	81.9
Traditional	6	8.3

Both	3	4.2
Other	4	5.6
If modern treatment, was the diagnosis from health care professionals? (n=59)		
Yes	40	67.8
No	19	32.2
Did you recover from Low Back Pain(n=72)		
Yes	59	81.9
No	13	18.1
Recovery of Low Back Pain (n=59)		
<3 weeks	48	81.4
3-6 weeks	7	11.9
6-12 weeks	2	3.4
>12weeks	2	3.4
Did you receive any spine surgery(n=113)		
Yes	1	0.9
No	112	99.1
How was the recovery of LBP after spine surgery? (n=1)		
Improved	0	00.0
Not improved	0	00.0
So so	1	100.0

There were several individual and profession risks factors were retrieved from the respondents. Majority were non-smoker which was 105(92.9%) subjects. Most of the respondents gave negative statements about regular exercise which was 52(61.2%) out of 85 subjects. Many study subjects gave the answer about lifting objects or patients from bed to bed or wheel chair which was 55(48.7%) subjects. About 91(80.5%) respondents had said that pain was due to bad body posture (Table 5).

Table-V
Individual and Professional risk factors associated with LBP

Question	Frequency	Percent
Do you smoke?(n=113)		
Yes	8	7.1
No	105	92.9
Do you participate in exercise?(n=85)		
Yes	33	38.8
No	52	61.2
Do you lift objects/patients from bed to bed or wheel chair? (n=113)		
Yes	55	48.7
No	58	51.3
Number of lift/ Transfer of objects/patients(n=55)		
0 to 1/ day	24	43.6

table continued

2 to 4/ day	29	52.7
5 or more times/day	2	3.6
Do you think that you have pain due to bad body posture?(n=113)		
Yes	91	80.5
No	22	19.5
Are you satisfied with the type of work you are doing currently?(n=113)		
Poor	21	18.6
Neutral	84	74.3
High	8	7.1
Do you have any stressful working experience you had in last month?(n=113)		
Yes	26	23.0
No	87	77.0

In an open answer question the respondents were requested to give the work experience in last month about stressful work. Some professionals were mentioned that physical and mental as well as others things were the stress. Family pressure, heavy work load and lot of journey were also contributing factors of stressful work. Long-time standing in operation theatre, prolonged time in the library, operation theatre and ward were the reasons of stress in the body causing the low back pain.

Discussion

Bangladesh is one of the developing countries. Health facilities in this country are not fully well developed. Low back pain is a highly prevalent discomfort that leads to labor force losses in all societies. It ranks fifth among reasons of consulting a physician. In the general population there is a lifetime prevalence of unspecified low back pain of between 59 to 80%, a one-year prevalence of between 15 to 40% and a point prevalence of between 4 to 33%³⁰. It is estimated that about 80% of the United States and Canadian population will experience LBP during adulthood³¹. Treatment of low back pain was not thoroughly studied in our country and the exact statistics of prevalence and its risk factors in our country is not available but it is the common opinion that the number of such kind of problem is increasing day by day. This study will enrich our knowledge about the prevalence and its risk factors among the health professional of our country.

Low back pain (LBP) is one of the most common health problems all over the world. The lifetime prevalence of low back pain is reported to be over 70% in European

countries and the peak prevalence occurred between ages 35 and 55 in the working population²³. Despite its benign nature, LBP is the leading cause of disability and the highest cost for workers' compensation in industrialized countries²⁴⁻²⁸.

Most epidemiological data concerning low back pain are related to developed and industrialized countries with high income, and there is little information about low back pain in the general or working population in developing countries. This lack of research leaves a profound gap in what is known about low back pain in a large part of the world, where the bulk of the world's working population resides²⁹.

The main focus of the study is to identify the most common preventable risk factors for low back pain among health professionals who are an important population of productive age and to create a clear picture of the magnitude of the problem in terms of low back pain. This kind of knowledge is important for different levels from health professionals in occupational and clinical settings and finally for policy making process in Bangladesh.

The direct and indirect costs of LBP in terms of quality of life, productivity, and employee absenteeism are enormous, making this common condition the single largest contributor to musculoskeletal disability worldwide³². Back pain also leads to high costs for the individual, the work place and society, because it is a frequent reason for medical care seeking, with an estimated 6 to 7% of the adult population annually consulting a general practitioner for their complaints^{33,34}.

Conclusion

Hospital workers seem to have higher rates of LBP due to physical and emotional factors involved in their occupation. The length of employment, work shift, and lack of health and safety trainings considerably affected LBP conditions. Therefore, work-related factors are a major issue facing employees and employers depending to the type of work. It is recommended to conduct further researches to study the burden of this problem in different aspects, such as psychological, social and other factors.

Financial support and sponsorship: Ministry of Science and Technology, Government of the People's Republic of Bangladesh

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