

**Original Article****Prevalence of Low Back Pain among the Physicians of a Tertiary Level Hospital in Sylhet**Chowdhury Mohammad Walid<sup>1</sup>, Md. Hafiz Ehsanul Hoque<sup>2</sup>**Abstract**

**Introduction:** Low Back Pain (LBP) is a common health problem worldwide and it has profound negative effect on the quality of life, productivity and work performances. Hospital employees seem to have higher rates of LBP compared to general population. This study was aimed to identify the prevalence of LBP among the physicians of Sylhet Women's Medical College Hospital.

**Methods:** This descriptive cross-sectional study was conducted among the physicians of Sylhet Women's Medical College Hospital with a self-administered questionnaire during January of 2020. Along with demographic, lifestyle and working hour information the Oswestry Disability Index was used to measure the disability. Data was analyzed by SPSS v17.0. Questionnaire was anonymous. Participation in the study was voluntary.

**Results:** The response rate was 81.1 percent. Among the 161 respondents, mean age of the respondent was 34.7 years and more than half (52.8%) was female. About three fourths (72.0%) had experienced low back pain ever in life. Prevalence of low back pain in the last year was 60.2 percent. Most of the physicians were married (77.6%). Monthly income was fifty thousand taka or below among two thirds (62.7%) of the respondents. Half of the physicians (50.3%) were either overweight or obese. Only one third of the physicians (32.9%) have had the habit of regular physical exercise. The socio-demographic variables, working hours of the physicians and BMI was not significantly related with LBP. Among the physicians who had suffered from LBP in the last year (97), most of them (91.8%) suffered from minimal disability, 6.2 percent suffered from moderate disability and 2.1 percent from severe disability.

**Conclusion:** About two third physicians suffered from LBP and most of them had minimal or none disability.

**Recommendation:** Risk factors of the low back pain among the physicians should be identified with larger study.

**Keywords:** Low back pain, physician, disability, Sylhet

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**Introduction**

Low Back Pain (LBP) is a common health problem worldwide. The health and economic burden of LBP is enormous. Among adults in the general population, 70-85% was believed to experience LBP at least once in lifetime<sup>1</sup>. The

burden has profound negative effect on the quality of life, productivity and work performances<sup>2-4</sup>. There are multiple risk factors that affect LBP, such as age, gender, lifestyle, psychological profile, physical demands of the workplace and pain perception<sup>5</sup>. Workplace factors comprised increased muscular sprains and strains due to increase work activity; prolonged standing, sitting, lifting of heavy objects and stress<sup>6-8</sup>. Hospital employees seem to have higher rates of LBP compared to general population<sup>9,10</sup>. A study in Sweden among health care workers (HCWs) showed higher prevalence of LBP (77%)

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compared to many other occupational groups<sup>11</sup>. In a study in Taiwan, 72% of the HCWs found to have LBP<sup>12</sup>. LBP might result in limitation of activity and sick leave for greater than 50% of HCWs<sup>13</sup>. LBP was found 46 percent among the school teachers in Dhaka<sup>14</sup>. This study was aimed to identify the prevalence of LBP among the physicians of Sylhet Women's Medical College Hospital.

### Methods

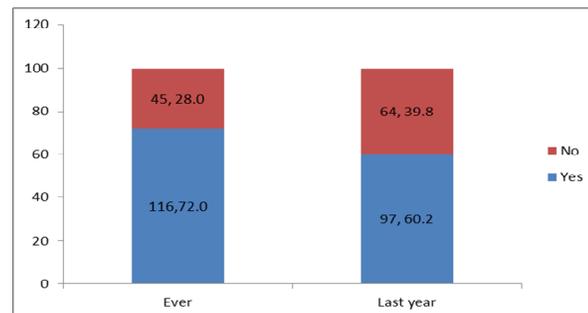
This was a descriptive cross-sectional study. Study was conducted at Sylhet Womens Medical College & Hospital (SWMCH) during the period from October, 2019 to January 2020. A self-administered questionnaire was developed for data collection. Demographic data, lifestyle and working hour information were included in the questionnaire. The Oswestry Disability Index<sup>15</sup> was used to measure the disability. The Index has ten sections with each section has six statements with possible score of 0 to 5. Total score of the ten sections would be 0 to 50. The total score then converted to percentage and categorized as Minimal (Score 20% or less), Moderate (Score 21%-40%), Severe (41%-60%), Crippled (61%-80%) and Bed bound (81%-100%). Questionnaire was distributed to the physicians (201) working in the SWMCH during January, 2020 with a request to participate in the study.

Data entry was performed in Microsoft Excel. SPSS v22.0 was used for analyzing data. Percentage, mean and standard deviation were measured for description. Chi square and Independent sample T test was used for inferential tests. P value less than 0.05 was considered significant. Questionnaire was anonymous. Participation in the study was voluntary.

### Results

Self-administered questionnaire were distributed among the 201 physicians and 161 physicians completed the questionnaire. Overall response rate was 81.1 percent. Among the 161 respondents, more than half (85, 52.8%) was female. Mean age of the respondent was 34.7

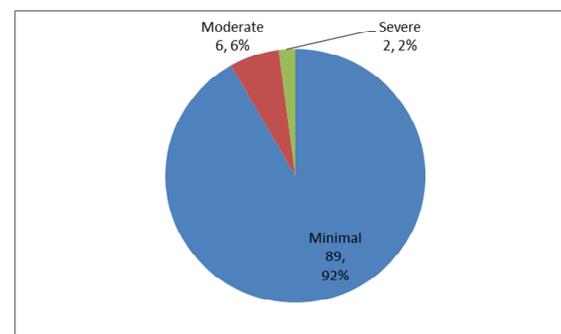
years (SD 8.3 years). More than three fourths of the respondents (76.4%) were of below 40 years of age. Regarding experiencing low back pain, about three fourths (72.0%) had experienced low back pain ever in life and three fifths (60.2%) experienced low back pain in the last year.



**Figure 1. Bar chart showing the physicians experienced LBP ever and in the last year**

Most of the physicians were married (77.6%). About one third (31.3%) of the physicians were working in preclinical departments, more than one quarter (28.6%) in the medicine or allied departments and two fifth (39.8%) were in the surgery or allied departments.

About two thirds (62.7%) of the respondents monthly income was fifty thousand taka or below and monthly income of a quarter of the respondents were between fifty thousands to one lac taka. In terms of BMI, about half of the physicians (50.3%) were either overweight or obese. Only one third of the physicians (32.9%) have had the habit of regular physical exercise.



**Figure 2: Pie chart showing different types of disability among the physicians who had LBP in last year**

**Table 1. Distribution of the physicians socio-demographic and other variables with LBP in the last year**

Variable	Category	Back pain in last year		Chi square	p value
		Yes (%)	No (%)		
<b>Gender</b>	Male (76, 47.2)	56.6	43.4	0.81	0.37
	Female (85, 52.8)	63.5	36.5		
<b>Age in category</b>	< 30 (50, 31.1)	60.0	40.0	2.9	0.57
	30 - 39 (73, 45.3)	56.2	43.8		
	40 - 49 (23, 14.3)	65.2	34.8		
	50 - 59 (12, 7.6)	66.7	33.3		
	≥60 (3, 1.9)	100	0.0		
<b>Department n=160</b>	Preclinical (50, 31.3)	64.0	36.0	0.35	0.84
	Medicine & Allied (46, 28.6)	58.7	41.3		
	Surgery & Allied (64, 39.8)	59.4	40.6		
<b>Marital status</b>	Married (124, 77.0)	60.5	39.5		
	Unmarried (36, 22.4)	61.1	38.9		
	Divorced/Separated (1, 0.6)	0.0	100.0		
<b>Monthly income in Taka (n=150)</b>	Upto 50,000 (94, 62.7)	67.0	33.0	3.6	0.31
	50,001 - 100,000 (34, 22.7)	55.9	44.1		
	1,00,001 - 2,00,000 (14, 9.3)	64.3	35.7		
	More than 2,00,000 (8, 5.3)	37.5	62.5		
<b>BMI (n=157)</b>	Normal (78, 49.7)	59.0	41.0	0.32	0.85
	Overweight (64, 40.8)	60.9	39.1		
	Obese (15,9.5)	66.7	33.3		
<b>Physical Exercise</b>	Yes (53, 32.9)	62.3	37.7	0.13	0.71
	No (108, 67.1)	59.3	40.7		

Table 1 showed the bivariate analysis of some variables with the experience of low back pain in the last year. Though females were more to suffer from LBP (63.5% to 56.6%) in the last year but the difference was not statistically significant. Age category showed increase frequency of LBP with increasing age but there are no significant differences among the age categories. Marital status and monthly income also did not show significant differences with LBP. Though obesity showed higher frequency of LBP but the differences was not differed significantly. Regular

physical exercise also not varied among the physicians who had LBP and who did not.

Table 2 showed that mean duration of working in sitting position among the physicians who had LBP was 5.73 hours compared to 5.64 hours among who had not LBP. Mean duration of working in standing position was also found similar among the physicians who had LBP and who had not (3.52 to 3.38). There were no statistical difference regarding duration of working in sitting or standing with having LBP in the last year.

**Table 2: Independent t test between LBP in last year and working hours in sitting or standing position**

Variable	Category	Mean with SD	t	P value
Working hours in sitting	Had LBP (91)	5.73 (2.5)	-0.29	0.29
	No LBP (51)	5.64 (2.4)		
Working hours in standing	Had LBP (93)	3.52 (3.0)	-0.20	0.41
	No LBP (58)	3.38 (2.5)		

**Table 3. Bivariate analysis between types of disability and other variables**

Variable	Category	Disability		
		Minimal (%)	Moderate (%)	Severe (%)
<b>Gender</b>	Male (43, 44.3)	95.3	4.7	0.0
	Female (54, 55.7)	88.9	7.4	3.7
<b>Age in category</b>	< 30 (30, 30.9)	90.0	10.0	0.0
	30 - 39 (41, 42.3)	95.1	2.4	2.4
	40 - 49 (15, 15.5)	93.3	6.7	0.0
	50 - 59 (8, 8.2)	75.0	12.5	12.5
	≥60 (3, 3.1)	100.0	0.0	0.0
<b>Department</b>	Preclinical (32, 33.0)	90.6	6.3	3.1
	Medicine & Allied (27, 27.8)	96.3	3.7	0.0
	Surgery & Allied (38, 39.2)	89.5	7.9	2.6
<b>Marrital status</b>	Married (75, 77.3)	90.7	6.7	2.7
	Unmarried (22, 22.7)	95.5	4.5	0.0
<b>Monthly income in Taka (n= 94)</b>	Upto 50,000 (63, 67.0)	93.7	6.3	0.0
	50,001 - 100,000 (19, 20.2)	84.2	5.3	10.5
	1,00,001 - 2,00,000 (9, 9.6)	88.9	11.1	0.0
	More than 2,00,000 (3, 3.2)	100.0	0.0	0.0
<b>BMI (n=94)</b>	Normal (46, 48.9)	87.0	8.7	4.3
	Overweight (39, 41.5)	94.9	5.1	0.0
	Obese (10, 10.6)	100.0	0.0	0.0
<b>Physical Exercise</b>	Yes (33, 34.0)	90.9	9.1	0.0
	No (64, 66.0)	92.2	4.7	3.1

Among the physicians who had suffered from LBP in the last year (97), most of them (91.8%) suffered from minimal disability, 6.2 percent suffered from moderate disability and 2.1 percent from severe disability.

Table 3 showed distribution of the physicians' characteristics among different types of disabilities. From the table, it is evident that the different types of disability were not differed among gender, marital status, monthly income, departments. BMI and Physical exercise also does not differ with the types of disability. Statistical inference could not be drawn due to fewer values in some cells.

### Discussion

Response rate (81.1%) of the self-administered questionnaire was quite good in this study. The study identified 72 percent of the physicians experienced LBP ever and about three fifth (60.2%) of in the last year. Among them 91.8 percent suffered from minimal disability, 6.2 percent from moderate disability and about 2 percent from severe disability. Almalki et al. demonstrated 87.7 percent of the physicians in Riyadh, KSA<sup>16</sup> had experienced LBP ever which is higher than this study. Among the physicians, 94 percent had minimal disability, 6 percent moderate disability and none had severe disability that is similar to this study. Most of the physicians who had LBP in the last year had minimal or no disability. It means that the participants who had the back pain can do most of the activities of daily living with no difficulty. For the respondents who had minimal disability they usually do not require any treatment except some advice of lifting, sitting and exercise. The moderate disability indicates there are more pain and difficulties with sitting, lifting and standing. Travel and social life are more difficult among them. Personal care and sexual activity are not affected much. Moderate disability required conservative treatment with advice. Severe

disability means daily living is affected and they need more investigation to find out the cause and manage accordingly.

Different studies suggest different risk factors for LBP. Akter J. et al. reported 46 percent of school teachers in Dhaka<sup>14</sup> had LBP in the last year which is lower than our study. Their study could not find relation with gender, age and BMI with LBP that is similar to our study. That study also did not find any relation with sitting time and standing time with LBP is also similar to our study.

Almalki M et al. did not find any differences among gender and BMI with LBP<sup>16</sup> that is similar to our study. Vahdati SS et al. demonstrated 56.8 percent of the physicians had LBP in the last year which is higher than our study. They demonstrated females were more to be affected by LBP and the difference was statistically significant<sup>17</sup>. This study did not find age and BMI as predictor of LBP that is similar to our study<sup>17</sup>. Mekonnen et al. reported 64 percent LBP and they found gender as a risk factor but could not found association with age<sup>18</sup>. Alnaami et al. demonstrates 73.9 percent prevalence of LBP among HCWs in KSA. They found sex, BMI and regular physical exercise associated with LBP<sup>19</sup>. Factors associated with LBP is clearly different in different studies. The reason of the difference might be due to the wide range of the factors that could affect LBP from physical work to mental and social life of a person. Another reason that could affect the predictors is the differences of sample size as it revealed the studies which found association with different factors had higher sample size in their study. Our study, study among school teachers in Dhaka<sup>14</sup> and study in a tertiary care hospital in Riyadh<sup>16</sup> had below two hundred samples and these studies could not demonstrate the associated factors those are commonly mentioned in other literature.

### Conclusion

About two third of the physicians suffered from LBP in the last year and most of them had minimal or none disability.

### Recommendation

Risk factors of the low back pain among the physicians should be identified with larger study for further evaluation and necessary measures.

**Conflict of Interest:** Authors of the article declare that there is no conflict of interest regarding the article.

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