LOW BACK PAIN AND THEIR RISK FACTORS AMONG HEALTHCARE PROFESSIONALS IN RAJSHAHI CITY CORPORATION, BANGLADESH

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ABSTRACT

Low back pain (LBP) is a nonspecific condition of acute or chronic pain in or near the lumbosacral spines that can be caused by inflammatory, degenerative, neoplastic, gynecologic, traumatic, metabolic, or other disorders. LBP is a universal health problem. It is a common experience in the life of almost every human being, as well as a growing cause of direct and indirect costs for the social systems in many industrialized countries. The aim of the study was to find out the characteristics and risk factors of low back pain among the healthcare providers working in Rajshahi City Corporation. This study was based on a quantitative and analytical cross-sectional design. This design was chosen because it is useful and less expensive and enables the researchers to meet the study objectives in a short period of time. In the present study, risk factors like age, sex, knowledge, body weight, BMI and dietary habits were not found to be related to low back pain of the respondent. Rather history of lifting heavy weights, sedentary lifestyle, occupational hazards, defective posture, unhealthy sitting habits and lack of initiative in maintaining healthy lifestyle practices and Non-compliance towards preventive measures were identified as risk factors for their low back pain. Active pain was absent among about 50% study population. Among most of the respondent there was no radiation of pain to the thigh or leg. The posture aggravating pain was sitting. Walking also intensified their pain. As healthcare provider, the respondent are well aware about the risk factors of low back pain. But, like Non-medical professionals they are also reluctant to take preventive measures and in accepting proper management of the health problem from qualified medical personnel. Lifestyle of modern society itself act as a precipitating factor in causing low back pain.Educational programs and counseling on prevention and coping strategies for musculoskeletal disorders be made mandatory for healthcare professionals in order to reduce the rate of occupational musculoskeletal disorders. Practice of short time physical training of light exercises may improve the situation.

KEYWORDS

Low Back Pain; Risk factors; Healthcare Professionals; Rajshahi

1 Introduction

Low back pain (LBP) is yet the persistent public health challenges around the globe. It substantially affects quality of life and poses disability, particularly to the global working population. The profound losses in productivity and compensation premiums due to the condition have also been a challenge to contemporary occupational health. As such, it no doubt demands informed management and due response. Low back pain

(LBP) is a persistent public health issue of people around the globe. The health burden relating to the quality of life, disability, and economic impacts due to healthcare costs necessitate continuous public health response (Clark S, 2018; Yitayeh A, 2013; Tosunoz IK, 2017). Previous investigation has explored that low back pain is the cause for an estimate of 83 million disability-adjusted life years (DALYs) in 2010 (Hoy D, March L, 2014). Low back pain is the most common type of musculoskeletal disorder usually related to work and working conditions (Al-samawi MAG, 2015; Health and Safety Executive, 2017). It is one of the contemporary occupational health ailments that seizes attention due to

the substantial lost productive time and employee absenteeism it often incurs (Qareeballa AA, 2018; Alem D, 2015). For example, according to the Health and Safety Executive (HSE), about 1.8 million working days were lost in 2016/17 because of back pain disorders (Health and Safety Executive, 2017).

2 Literature Review

Lower back pain (LBP) is one of the most common musculoskeletal complaints. Many studies showed that LBP has higher prevalence among medical practitioners than any other musculoskeletal symptoms (Daraiseh NM, 2010; Rugelj D, 2003; Hengel KM, 2011). In 1998, the direct health care cost of back pain, in the United Kingdom, was ₤1632 million. Moreover, the cost of informal care and related production losses was ₤10668 million (Maniadakis N, 2000).

One study was conducted in Tunisia showed that the lifetime prevalence of LBP was 57% and the annual prevalence was 50% among all the hospital staff (Bejia I, 2005). One meta-analysis of 13 articles studied the annual prevalence of LBP in physicians, and there was discrepancy in prevalence between the articles: 44%, 63%, and 67% (Hengel KM, 2011). In a study done in Shijiazhuang in China, the prevalence of LBP in physicians was found to be 44% (Smith DR, 2006). Among nurses, 71% reported LBP in a study conducted in Kurume in Japan (Smith DR, Mihashi M, 2006). In Ljubljana in Slovenia, 73% of physiotherapists had experienced back pain at least once (Rugelj D, 2003). In another study conducted in the United Kingdom, 19% of ear, nose, and throat consultants had back pain (Babar-Craig H, 2003). Surgeons had a prevalence of 68% in a study done in China (Szeto GP, 2009).

LBP is associated with many potential risk factors. Age is one of the factors. The prevalence and disability

increase with increasing age. Furthermore, the recovery time increases in with increasing age (Snook SH. 2004). Physical activity has also shown to be a risk factor along with abnormal posture, bending, twisting, gardening, and lack of exercise (Snook SH. 2004; Campbell C, 2005). Psychosocial factors such as high mental pressure, too much overtime, and inadequate work support could contribute to LBP (Smith DR, 2006; Smith DR, Mihashi M, 2006; Snook SH. 2004). High body mass index (BMI), smoking, alcohol drinking, and female gender could also be associated with LBP (Smith DR, 2006; Snook SH, 2004; Campbell C, 2005). Increasing rates of breastfeeding initiation, exclusivity, and duration are recognized and promoted in Canada and globally as an important population health initiative to increase positive health outcomes for mothers and infants (Breastfeeding Committee for Canada [BCC], 2009; Health Canada [HC], 2002, 2013; Millar & Maclean, 2005; WHO, 2002). In Canada, young mothers aged 15-24 years initiate breastfeeding at comparable rates to other groups, but have the lowest exclusivity and duration rates of any group (Chalmers & Royle, 2009; HC, 2012a). Young mothers and their infants are vulnerable to negative long term health outcomes due to extenuating social and economic circumstances (Best Start, 2007; UNICEF, 2001). For example, young mothers are more likely to experience challenges to breastfeeding their infants including social stigma and lack of supports (Condon, Rhodes, Warren, Withall, & Tapp, 2012; Noble-Carr & Bell, 2012). In particular, young mothers who access maternity shelters are at increased risk for low breastfeeding rates due to the challenges of being a youth compounded by complex multifaceted economic and social issues, including homelessness and addictions (Dilworth, 2006; Nolte & Allen, 2006). While the breastfeeding experiences and factors influencing the breastfeeding practices of young mothers are represented in the literature, no studies have addressed the factors unique to young mothers living or who have lived within the context of a maternity shelter. This study adds to the canon of research on young mothers and their breastfeeding experiences by exploring the influences affecting the breastfeeding practices of young mothers who live or have lived in a maternity shelter, and it provides recommendations to improve nursing practice as it relates to breastfeeding promotion and supports for this unique population.

In the context of Millennium Development Goal 4, scientific evidences have highlighted initiation of breastfeeding immediately after birth without squeezing out colostrum and exclusive breastfeeding for the first six months as the key to tackle infant nutrition and also survival of infants (WHO and UNICEF, 2003). Studies on accelerating child survival published in the Breastfeeding Promotion Network of India (BPN) Lancet clearly established that universalization of early initiation of breastfeeding within half an hour after birth has tremendous potential in reducing 31% of neonatal deaths which is about 10% of total child deaths (Gupta, 2007). WHO (2001) warned that early introduction of supplementary feeding usually has a negative effect on the return to exclusive breastfeeding. Piwoz et al (1994) observed that supplements may not be given daily but they are unlikely to be withdrawn once they are introduced. According to Wilmoth and Elder (1995), supplemental feeding exposes infants to foreign contaminants and infection at a very vulnerable stage of life. Brown, Dewey and Allen (1998) added that this may likely explain the higher infant mortality rate of partially bottle-fed infants compared with exclusively breastfed infants. Researchers have shown that exclusive breastfeeding is associated with increased weight gain among babies of normal birth weight (Scarlett et al, 1996). Despite this observed benefit, studies have also shown that early introduction of infant formula and other foods have remained a problem among postnatal mothers (Almroth and Latham, 1982). Hence this study intends to determine the breastfeeding patterns of postnatal mothers with regard to exclusivity, duration and the frequency of breastfeeding.

Children and adolescents who were breastfed as babies are less likely to be overweight or obese. Additionally, they perform better on intelligence tests and have higher school attendance. Breastfeeding is associated with higher income in adult life. Improving child development and reducing health costs results in economic gains for individual families as well as at the national level.

The rate at which young mothers initiate breastfeeding in Canada does not significantly differ from the initiation rates of older mothers. Millar and Maclean (2005) found that 81% of young mothers (24 years of age and under) initiating breastfeeding, compared to 85% of mothers 25 years of age and older. The primary difference is found in the breastfeeding duration rates (Millar & Maclean, 2005). At 6 months postpartum 15-21% of mothers over 25 continued to breastfeed, compared to 8% of mothers

under 25 (Millar & Maclean, 2005). It has been noted that breastfeeding initiation rates fall as family income levels, maternal educational attainment, and maternal age decrease (HC, 2010, 2012a; Millar & Maclean, 2005; UNICEF, 2005). The young mothers accessing maternity shelters generally have limited incomes, have low levels of educational attainment, and are amongst the youngest of maternal age groupings being under 25 years of age (Dilworth, 2006; Nolte & Allen, 2006).

Mortality among newborns accounts for almost half of child deaths in the world. However, previous studies have shown that placing a newborn to the mother's breast shortly after delivery help reduce mortality to a very large extent (UNICEF 2015, WHO 2016). Breastfeeding promotes the health of mothers as well. At current breastfeeding rates, WHO, in 2016, had reported that "close to 20,000 breast cancer deaths can be prevented and an additional 20,000 will be saved if breastfeeding conditions are improved". It reduces the risk of post-partum hemorrhage, protects mothers against the risks of ovarian and breast cancer and increases the bond between a mother and child (NHMRC 2012).

Society play a communal role of ensuring that a new mother continually breastfeed her baby since breast milk is perceived as the main food for an infant. Due to this reason, social supports especially from close relatives are usually provided to a lactating mother in a form of assistance with domestic chores to make way for an adequate breastfeeding time (Ayawine & Ae-Ngibise 2015).

In reference to the response given by mothers, it was acknowledged that antenatal and postnatal hospital visits are great avenues where the right feeding knowledge is impacted into mothers (Mogre et al 2016). This shows that healthcare providers play a key role in the dissemination of information about breastfeeding and other health practices.

Among all chronic pain problems and spinal pain conditions, LBP is the most common and important clinical, social, economic, and public health problem affecting the population indiscriminately across the world (Manchikanti L, 2009). LBP is known to be of multi-factorial causes (Nagi SZ, 1973; Kosiak M, 1968; Cohen SP, 2008). Employment and workplace factors, both physical and psychological, such as heavy lifting, pushing, pulling, vehicle driving, and prolonged walking or standing were found to be predictors of LBP and there are similar associations with stressful and monotonous work and dissatisfaction with work. Body mass index has been found to be linked to LBP in obese people (Leboeuf-Yde C, 2000). Associations between LBP and social class, low levels of educational and low income have been reported. Persons with greater education are more likely to be in professional, managerial, or other skilled occupations where there is more flexibility to eliminate pain-provoking job situations and physical demand (Reisbord LS, 1985; Haber LD, 1973).

Compared with a lower or a higher frequency of exercise, a moderate frequency of exercise from one to five times a week was associated with a lower LBP risk level (Reisbord LS, 1985). LBP has been reported consistently in a higher proportion of females than males (Nagi SZ, 1973; Reisbord LS, 1985; Bailey A, 2009; Leveille SG, 2001; Svensson HO, 1982; Takahashi N, 2006). Our synthetic analysis further confirmed this phenomenon. Gender prevalence ratios also revealed a higher prevalence of pain in females for headache, migraine, temporomandibular pain, burning mouth pain, neck pain, shoulder pain, back pain, knee pain, abdominal pain, and fibromyalgia (8). Women have shown to have a lower threshold of perception of pain and in reaction to it (Hall KRL, 1954; Kennard MA, 1952). Several authors have observed that although females are more likely to report symptoms, physician verified abnormalities are approximately equal to those of males (Cunningham LS, 1984; Brodman K, 1953). However, occupational LBP is seen in higher proportions in men (Unruh AM, 1996; Heliövaara M, 1989).

3 Method

3.1 Study design

The study was observational and descriptive type of cross sectional.

3.2 Study place

Different healthcare providing centers of Rajshahi City Corporation in Bangladesh (Government, Private and NGO based).

3.3 Study period

The study was conducted from May 2019 to July 2019.

3.4 Target population

Target population in this study were healthcare providers of different categories (Doctors, Nurses, Medical Assistants, and Technologists).

3.5 Sampling method

Random sampling was done.

3.6 Sample size calculation

Calculation of sample size:

$$n = \frac{Z^2 pq}{e^2}$$

Where:

- $Z = 1.96$
- p is the (estimated) proportion of the population which has the attribute in question,
- q is $1 - p$.
- e is the desired level of precision (i.e. the margin of error),

Exact proportion of healthcare providers suffering from low back pain is not known. Therefore, accepting 50% as proportion,

p = 0.5 Now let's say we want 95% confidence and at least 5 percent—plus or minus—precision. A 95 % confidence level gives us Z values of 1.96 per the normal tables, so we get,

$$n = \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2} = 384$$

So a random sample of 390 households in our target population should be enough to give us the confidence levels we need.

4 Findings

A cross sectional study was conducted among 250 healthcare providers residing in Rajshahi city corporation, Bangladesh. The study aimed to know the prevalence of low back pain prevailing among the healthcare providers working and living in Rajshahi City Corporation, Bangladesh.

Table 1 show statistics of some parameters of the respondent. Mean age of the respondent is 36.5±2.7 years with minimum and maximum values of 30 and 45

years respectively. Their mean body weight is 59.1±3.1

Table 1: Statistics on age, body weight, body height, BMI and age of the respondent

Statistics	Age (years)	Body weight (Kg)	Body height (m)	BMI	Age when LBP started (years)
Mean±SD	36.5±2.7	59.1±3.1	1.61±0.04	22.3±0.95	31.2±2.0
Range	15	14	0.10	4.0	7
Minimum	30	55	1.57	20.0	28
Maximum	45	69	1.67	24.0	35

kg with minimum and maximum values of 55 and 69 kg respectively. Their mean BMI is 22.3±0.95 with minimum and maximum values of 20 and 24 respectively. BMI of all the respondent are within normal range. Age at which the LBP stated has a mean value of 31.2±2.0 years with a minimum and maximum values of 20 and 24 respectively.

Table 2 shows some socio-demographic characteristics of the respondents. One third of the populations each are Higher Secondary, Graduation and Masters qualified and 12% have the qualification of technical education. None were such that who never went to school. Also none were found with Primary, Higher Secondary or with Technical education. By profession, 33.2% of the respondent were Medical Assistants, 25.6% were technologists, 28.0% were nurses and 13.2% were doctors. Monthly income of 82% respondents are between 5000 BDT to 15000 BDT, whereas rest 18% have a monthly income of more than 15000 BDT. The area of residence of 51.6% respondent are urban and rest 48.4% respondents were from Sub-urban area. None were found to live in Sub-urban area. All of the respondent were married and all of them were Muslims by religion.

Table 2: Some socio-demographic characteristics of the respondents

Characteristics	Respondents (n = 250)		
	Frequency	Percentage	Cumulative Percentage
Educational status:			
Higher Secondary	77	30.8	30.8

Graduate	73	29.2	60.0
Masters	70	28.0	88.0
Technical education	30	12.0	100.0
Professional designation:			
Technologist	64	25.6	25.6
Medical Assistant	83	33.2	58.8
Nurse	70	28.0	86.8
Doctor	33	13.2	100.0
Monthly income:			
<5000 BDT	00	00.0	00.0
5000 - 15000 BDT	205	82.0	82.0
>15000 BDT	45	18.0	100.0
Area of residence:			
Urban	129	51.6	51.6
Sub-urban	121	48.4	100.0
Rural	00	00.0	100.0
Religion:			
Muslim	200	100.0	100.0
Marital status:			
Married	200	100.0	100.0

Table 3 shows some physical characteristics of the respondents.

Age group 36 – 40 years included 46.8% respondent, age group 30 – 35 years included 42.0% respondent and age group 41 – 45 years included 11.2% respondent. Considering body weight, 74.0% were in 55 – 60 kg body weight group, 24.8% were in 61 – 65 kg body weight group and only 1.2% were in 66 – 70 kg body weight group.

Regarding BMI, 66.8% respondents have a BMI value between 21 and 22.9, 30.8% have a value between 23 and 24.9 and 2.4% have a value between 18.5 and 20.9.

Table 3: Some physical characteristics of the respondents

Characteristics	**Respondents (n = 250)**		
	Frequency	**Percentage**	**Cumulative Percentage**
Age of the respondents:			
30 - 35	105	42.0	42.0
36 - 40	117	46.8	88.8
41 - 45	28	11.2	100.0
Body weight of the respondents:			
55 - 60	185	74.0	74.0
61 - 65	62	24.8	98.8
66 - 70	3	1.2	100.0
BMI of the respondents:			
18.5 - 20.9	6	2.4	2.4
21 - 22.9	167	66.8	69.2
23 - 24.9	77	30.8	100.0

Figure 1 shows gender distribution of the respondent. Forty three percent of them are males, where as 57% are females.

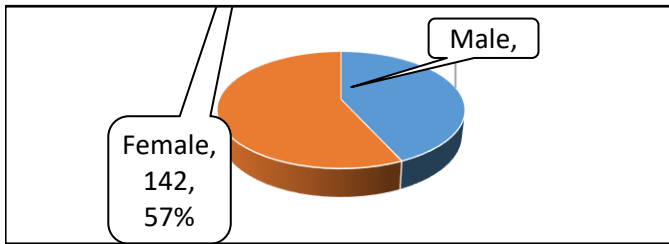*Figure 1: Distribution of the respondents by gender*

Figure 2 shows how many of them are currently suffering from pain. Findings show 50% of them are currently suffering from pain and 50% are not.

Figure 2: Distribution of the respondents by number of respondents currently suffering or not, from pain
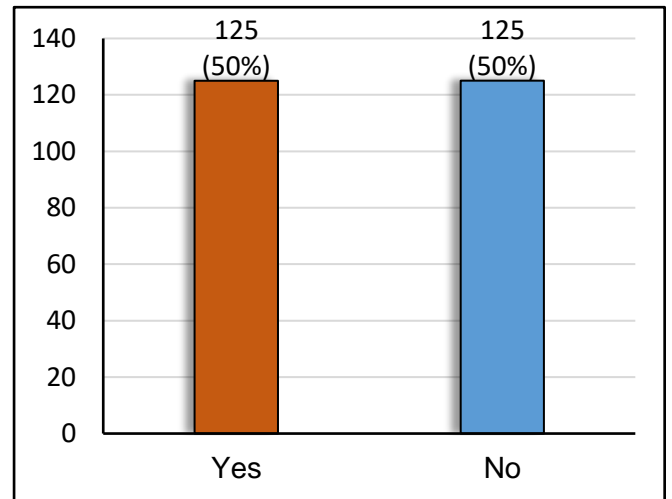

Table 4 reveals duration of LBP, the respondent are suffering from. Most of them (83.6%) have been suffering for a duration of 1 month to 1 year, 12.8% have been suffering from a duration of more than I week but less than a month and 3.6% have been suffering for a period greater than one year.

Table 4: Distribution of the respondents by their duration for which they are suffering from LBP

Severity of pain	Frequency	Percentage	Cumulative Percentage
Mild	00	00.0	00.0
Moderate	247	98.8	98.8
Severe	3	1.2	100.0
Total	250	100.0	

Table 5 shows severity of pain in their back (LBP) where all are suffering from moderate to severe pain. Of them, 98.8% complained of moderate pain and only 1.2% of severe pain.

Table 5: Distribution of the respondents by their severity LBP

Severity of pain	Frequency	Percentage	Cumulative Percentage
Mild	00	00.0	00.0
Moderate	247	98.8	98.8
Severe	3	1.2	100.0
Total	250	100.0	

Table 6 shows the event or fact that initiated their LBP. About 75.2% respondent informed that their pain initiated when they were lifting a heavy weight bending forward, among 12.4% the pain initiated after a long journey on rough roads, while 12.4% cannot remember any such event.

Table 6: Distribution of the respondents by past event that initiated pain in low back

Event inducing pain	Frequency	Percentage	Cumulative Percentage
While lifting a heavy weight bending forward	188	75.2	75.2

While lifting a light weight bending forward	00	00.0	75.2
While twisting the body	00	00.0	75.2
After a long journey on rough roads	31	12.4	87.6
Others	00	00.0	87.6
Can't remember	31	12.4	100.0
Total	250	100.0	

Figure 3 reveals whether they have any family history of low back pain. Of them, 95.2% did not have any family history of low back pain, while 4.8% have such family history.

Figure 3: Distribution of the respondents by whether they have family history of LBP
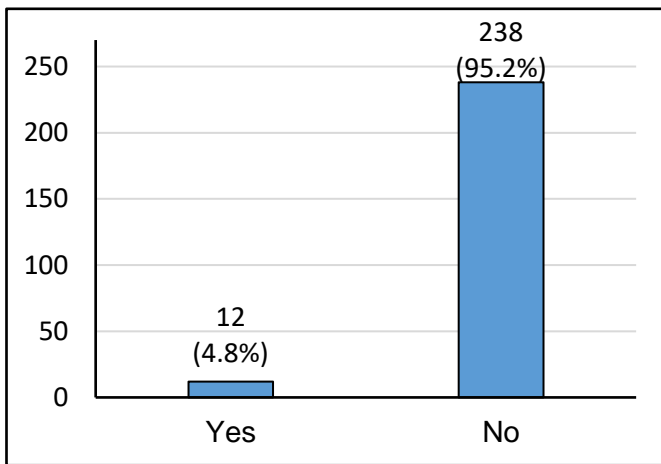

Table 7 shows exact location and radiation (if any) of their low back pain. About 59.6% have pain just above the buttocks without radiation to thigh/legs, 12.4% have pain on the buttocks without radiation to thigh/legs and 28.0% have pain just above the buttocks with radiation to thigh/legs.

Table 7: Distribution of the respondents by past event that initiated pain in low back

Location of pain	Frequency	Percentage	Cumulative Percentage
Just above the buttocks without radiation to thigh/legs.	149	59.6	59.6
On the buttocks without radiation to thigh/legs.	31	12.4	72.0
Just above the buttocks with radiation to thigh/legs.	70	28.0	100.0
On the buttocks with radiation to thigh/legs.	00	00.0	100.0
Total	250	100.0	

Figure 4 reveals posture of the respondent which produces maximum pain. Of the postures 42.4% feel pain while in sitting posture, 39.2% during walking, 12.4% while standing, 1.2% while lying and 4.8% have no such specific posture which aggravates pain.

Figure 4: Distribution of the respondents by their posture which produces maximum pain
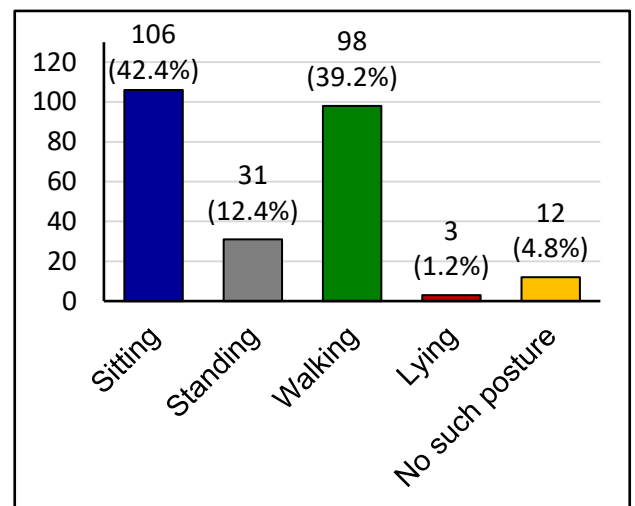
Data were collected whether the respondent are regular motorbike rider. None of them were found to ride motorbike. Table 8 shows that.

Table 8: Distribution of the respondents by whether they are regular motorbike rider

Motorbike rider	Frequency	Percentage	Cumulative Percentage
Yes	00	00.0	00.0

No	250	100.0	100.0
Total	250	100.0	

Table 9 shows practices of some moderate physical activities the respondent with LBP are expected to perform.

Among the activities all of them informed that they practice brisk walking, 98% do not practice leisure cycling with only 2% doing so, 98.8% do not practice leisure swimming though rest 1.2% do so. Regarding light dancing 100% said that they do not practice this dancing.

Table 9: Distribution of the respondents by their practice of either of these moderate intensity activities for 150

Moderate intensity activities	Frequency	Percentage	Cumulative Percentage
Brisk walking			
Yes	250	100.0	100.0
No	00	00.0	100.0
Leisure cycling			
Yes	05	2.0	2.0
No	245	98.0	100.0
Leisure swimming:			
Yes	3	1.2	1.2
No	247	98.8	100.0
Light dancing:			
Yes	00	00.0	00.0
No	250	100.0	100.0

Table 10 shows whether the respondent with LBP practice some of mentioned vigorous intensity activities for 75 minutes weekly which they are expected to perform.

In response, only 2% respondent were found to jog

Table 10: Distribution of the respondents by their practice either of these vigorous intensity activities for 75 minutes

regularly with 98% not doing so, 1.2% used to play amateur football while 98.8% do not do. Regarding rope skipping, 0nly 4.0% practice rope skipping while rest 96.0% do not.

Vigorous intensity activities	Frequency	Percentage	Cumulative Percentage
Practice jogging:			

Yes	05	2.0	0.02
No	245	98.0	100.0
Practice football:			
Yes	3	1.2	1.2
No	247	98.8	100.0
Practice skipping:			
Yes	10	4.0	4.0
No	240	96.0	100.0

Figure 5 shows way of sitting practice of the respondent to describe whether they often maintain a slouched position while sitting. Eighty three percent respondent informed that they maintain a slouched position while sitting while 16.8% denied a slouched position while sitting.

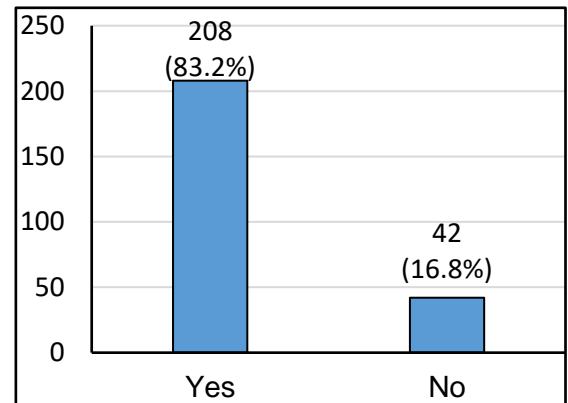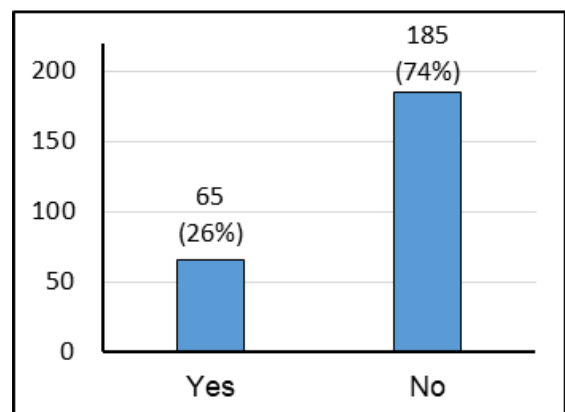*Figure 5: Distribution of the respondents by whether they often maintain a slouched posture*

Figure 6 shows type of office work where the respondent need to do long time desk job. Findings

Figure 6: Distribution of the respondent by whether the respondent need to do long time desk job

reveal 83.2% respondent have the nature of doing long time desk job.

Table 11 shows the practice of frequent wearing of high heels. This question was for female respondent. Findings show none of them use to wear high heels.

Table 11: Distribution of the respondents by whether they are to wear high heels (for females)

Whether habituated to wear high heels	Frequency	Percentage	Cumulative Percentage
Yes	00	00.0	00.0
No	142	100.0	100.0
Total	142	100.0	

Table 12 shows the compliance of the respondent of doing back muscle strengthening exercises as advised by doctor or physiotherapist. Data reveals 81.6% respondent avoid practicing back muscle strengthening exercises with only 18.4% doing so.

Table 12: Distribution of the respondents by whether they avoid exercises needed for strong back muscle

Avoid exercises	Frequency	Percentage	Cumulative Percentage
Yes	204	81.6	81.6
No	46	18.4	100.0
Total	250	100.0	

Table 13 reveals whether respondent tried miracle cure like balm, computerized traction devices etc. to get rid of pain. Seventy nine percent respondent tried such miracle cure though 20.8% did not try any such method.

Table 13: Distribution of the respondents by whether they for a miracle cure to get rid of pain

Try miracle cure	Frequency	Percentage	Cumulative Percentage
Yes	198	79.2	79.2
No	52	20.8	100.0
Total	250	100.0	

Table 14 shows occupation type of the respondent whether they often have to lift heavy weights in their occupation. Eighty five percent respondent do not need to lift heavy weights in their profession but 14.8% have to do so.

Table 14: Distribution of the respondents by whether they often lift heavy weights

Lift heavy weights	Frequency	Percentage	Cumulative Percentage
Yes	37	14.8	14.8
No	213	85.2	100.0
Total	250	100.0	

Table 15 reveals lifestyle in respect to frequent bending forward with folding at waist as part of their household or occupational activities. Findings show 93.6% respondent have to bend forward in their daily household or occupational activities, whereas 6.4% do not do so.

Table 15: Distribution of the respondents by whether they often bend forward for daily activities.

Often bend forward	Frequency	Percentage	Cumulative Percentage
Yes	234	93.6	93.6
No	16	6.4	100.0
Total	250	100.0	

Table 16 reveals type of mattress used by the respondent. Findings show 84.0% respondent use Firm or Normal mattress with even surface, 13.6% use Soft or Cushioned mattress and only 2.4% use Firm but wavy surface mattress.

Table 16: Distribution of the respondents by which type of mattress they use on beds

Type of mattress use	Frequency	Percentage	Cumulative Percentage
Soft/Cushioned	34	13.6	13.6
Firm but wavy	6	2.4	16.0
Firm/Normal even	210	84.0	100.0
Wooden/Hard bed	00	00.0	100.0
Total	250	100.0	

Table 17 reveals whether the respondent have any history of fall from height. Findings show 84.4% respondent do not have any history of fall from height but with 15.6% respondent, a history of fall from height was found.

Table 17: Distribution of the respondents by whether they have history of fall from heights

H/O fall from heights	Frequency	Percentage	Cumulative Percentage
Yes	39	15.6	15.6
No	211	84.4	100.0
Total	250	100.0	

Table 18 show whether the respondents discuss their problem associated with LBP with friends, relatives or neighbors. Of them, 74.4% respondent use to discuss those problems with their friends, relatives or neighbors, whereas 25.6% do not.

Table 18: Distribution of the respondents by whether they discuss their problems of low back pain with friends/relatives/neighbors to find remedy

Discuss about LBP	Frequency	Percentage	Cumulative Percentage
Yes	186	74.4	74.4
No	64	25.6	100.0
Total	250	100.0	

Figure 7 shows whether the respondent tried passive treatment like, hot compress, ultrasound etc. for LBP remedy. Findings show 58% respondent tried such remedy but, 42% did not try.

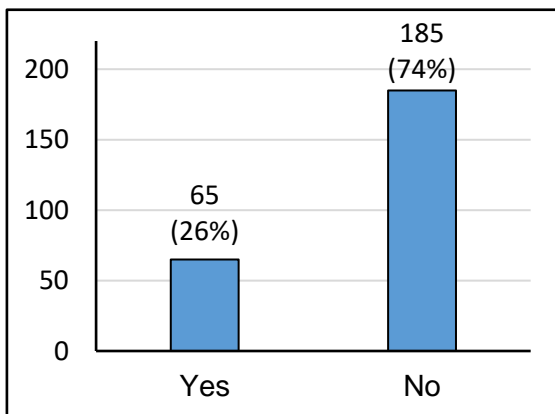*Figure 7: Distribution of the respondent by whether they tried passive treatment for LBP remedy*

Figure 8: Distribution of the respondent by whether they consume excessive meat and oily
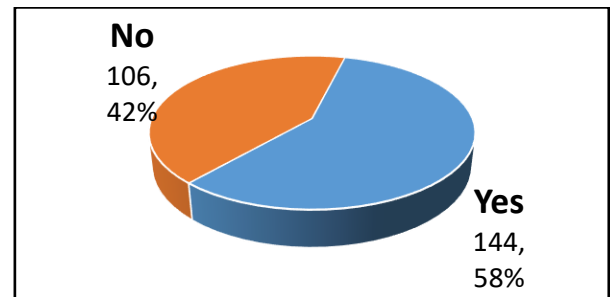

Figure 8 reveal dietary pattern of the respondent, whether they consume excessive meat and oily foods in their diet. Findings are only 2.4% consume such unhealthy diet, whereas 97.6% do not consume so.

Table 19 distributes respondent by their smoking habit. Findings are all (100%) the respondent are Non-smokers.

Table 19: Distribution of the respondents by their smoking habit

Smoking habit	Frequency	Percentage	Cumulative Percentage
Smoker	00	00.0	00.0
Non-smoker	250	100.0	100.0
Total	250	100.0	

Table 20 presents the respondent by whether they suffer from other joint problems in addition to low back pain (problem in vertebral column). Findings are, 57.6% suffer from joint problems (pain, restricted mobility etc.) other than low back pain, whereas 42.4% do not have such problem.

Table 20: Distribution of the respondents by whether they are suffering from some other joints as well

Suffering from other joint problems	Frequency	Percentage	Cumulative Percentage
Yes	144	57.6	57.6
No	106	42.4	100.0
Total	250	100.0	

Figure 9 presents the joints involved where respondent suffer from joint problems (pain, restricted mobility etc.) other than low back pain. Such sufferers are 29.2% with hip joint, 26.0% with neck spine and 2.4% with knee joint. Rest 42.4% do not have associated joint problems.

Figure 9: Distribution of the respondents by problems of other joints along with LBP
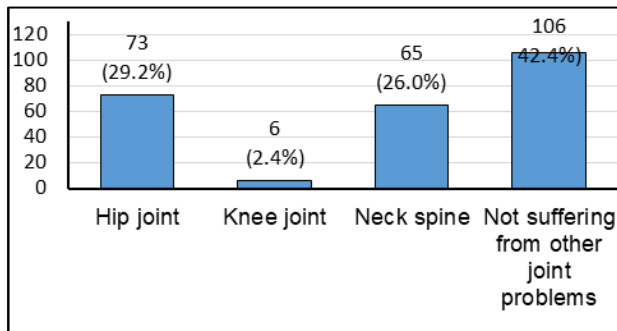

Table 21 presents whether the respondent suffer from anxiety or depression associated with LBP. Findings show 61.2% suffer from anxiety and depression, while 38.8% do not suffer from anxiety/depression associated with LBP.

Table 21: Distribution of the respondents by whether they are suffering from some sorts of anxiety or depression.

Suffering from anxiety or depression	Frequency	Percentage	Cumulative Percentage
Yes	153	61.2	61.2
No	97	38.8	100.0
Total	250	100.0	

Table 22 shows whether the respondent are taking medication for anxiety or depression. Findings are 61.2% take anti-anxiety or anti-depressant drugs.

Table 22: Distribution of the respondents by whether they are taking medication for anxiety or depression.

Taking medication for anxiety/depression	Frequency	Percentage	Cumulative Percentage
Yes	153	61.2	61.2
No	97	38.8	100.0
Total	250	100.0	

5   Discussion

A cross sectional descriptive study was conducted among 250 healthcare providers residing in Rajshahi city corporation, Bangladesh. The study was aimed to know the prevalence and possible risk factors of low back pain prevailing among the healthcare providers working and living in Rajshahi City Corporation.

Low back pain (LBP) is usually defined as pain, muscle tension, or stiffness localized below the costal margin and above the inferior gluteal folds with or without leg pain (sciatica). LBP occurs in about 60–80% of people at some points in their lives, and can begin in childhood (Manek NJ, 2005; Martin BI, 2008; Nagi SZ, 1973; Reisbord LS, 1985; Burton AK, 1996; Leboeuf-Yde C, 1998; Calvo-Muñoz I, 2013).

Age range of the respondent were 30 to 45 years. Most of the responding healthcare providers were 30 to 40 years old. Findings of this study show that low back pain is a disease of middle age.

Body weight of the respondent, which is one important factor for low back pain, was 55 to 69 kg. When mean weight (59.1±3.1 kgs) was compared to mean height (1.61±0.04 meters), body weight of all the respondent was found within normal limit. Most of the respondent have body weights between 55 to 60 kgs. BMI is also an important risk factor (High BMI) for low back pain. All the respondent in our study have a BMI range of 20 to 24 with a mean value of 22.3±0.95. This shows that all the study subjects have a normal BMI. Most of the respondent have BMI from 21 to 24.9.

Mean age when the pain of LBP was first felt was 31.2±2.0 years with a minimum and maximum value of 28 and 35 years. This shows that the symptoms of LBP starts in early thirties.

By gender females were slightly more than males in this study. Though random sampling have to predict gender susceptibility, studies show that females suffer from LBP more than their male counterparts (Nagi SZ, 1973; Reisbord LS, 1985).

The study subjects were healthcare providers by profession. Among them were Doctors, Nurses, Medical Assistants and Medical Technologists. All are educated and the Doctors and some Nurses are highly educated. Higher educational and economic status gives the occupation where desk job is more common and predisposes these professionals to develop low back pain.

Most low back pain is acute, or short term, and lasts a few days to a few weeks. It tends to resolve on its own with self-care and there is no residual loss of function. The majority of acute low back pain is mechanical in

nature, meaning that there is a disruption in the way the components of the back (the spine, muscle, intervertebral discs, and nerves) fit together and move.

When presence of current active pain was sought, half of them were found to have active pain and among the rest pain was found subsided. Most of the respondents were found to suffer from LBP for one to twelve months.

Pain, in this category of degenerative disease, can range in intensity from a dull, constant ache to a sudden, sharp sensation that leaves the person incapacitated. In my study all the participants were found to suffer from moderate to severe pain, but most of them have been suffering from moderate pain.

The vast majority of low back pain is mechanical in nature. In many cases, low back pain is associated with spondylosis, a term that refers to the general degeneration of the spine associated with normal wear and tear that occurs in the joints, discs, and bones of the spine as people get older. Some examples of mechanical causes of low back pain include: Sprains and strains, intervertebral disc degeneration, Herniated or ruptured discs, Radiculopathy (a condition caused by compression, inflammation and/or injury to a spinal nerve root), Sciatica (a form of radiculopathy caused by compression of the sciatic nerve), Spondylolisthesis, traumatic injury, Spinal stenosis and skeletal irregularities.

Serious causes of low back pain, requiring medical emergency, are: Infections, tumors, Cauda equina syndrome, abdominal aortic aneurysms and Kidney stones. Other underlying conditions that predispose people to low back pain include: Inflammatory diseases of the joints, osteoporosis and Fibromyalgia.

Pain can begin abruptly as a result of an accident or by lifting something heavy, or it can develop over time due to age-related changes of the spine. Sedentary lifestyles also can set the stage for low back pain, especially when a weekday routine of getting too little exercise is punctuated by strenuous weekend workout. In my study, for most of the respondent pain initiated when they were lifting a heavy weight bending forward or after a long journey on rough roads. Some of them cannot remember any such background event which initiated the pain.

Offspring with chronic spinal pain are less likely to recover if they have parents with chronic spinal pain compared with offspring without parental chronic spinal pain. This association is stronger when the offspring present pain that interferes with their usual work and leisure activities (Anita B Amorim et al, 2018). In my study, 95.2% respondent did not have any family history of low back pain, while 4.8% have such family history.

Regarding location of pain two third of the population presented with pain above or on the buttocks but without any radiation (of pain) to thigh, leg or foot, whereas one third of them have pain just above the buttock with radiation of pain to thigh/legs.

Specific posture which intensifies pain was found among almost the respondent. The postures were sitting, walking, standing and lying. Most common such postures were sitting and walking. These may be due to compression of spinal nerve roots by forward bending (sitting) of vertebral column and compression (walking) due to gravity.

Prescribed exercises improve the problems associated with low back pain. My respondent, like many other LBP patients were reluctant about practicing the advised exercises. Almost all of them do not practice moderate exercises like leisure cycling, leisure swimming or light dancing, though all of them practice brisk walking.

Regarding vigorous intensity activities for 75 minutes weekly, almost none practice jogging, playing football or rope skipping.

Like the prescribed exercises mentioned above, most of the respondent are not compliant with practicing back muscle strengthening exercises.

Bangladeshi population are not well aware and always try easy (less tiring) and cheaper ways to get relieved from health problems. In my study I found, three-fourth respondent tried miracle cure like balm, computerized traction devices etc. to get rid of pain.

Lifting heavy weight regularly, is an aggravating factor for low back pain. Among my study respondent with low back pain, only one fifth have to lift heavy weight in their occupation. Rest of the respondent do not perform these activity.

Frequent bending forward of posture with folding forward at the waist are aggravating factors for low back pain. Most of my respondent were found to have the habit of frequent bending forward with folding at waist as part of their household or occupational activities.

Type of mattress is another factor for LBP. Most of the respondent in my study were found to lie on good quality mattress with the exception of few who use Soft Cushioned mattress or Firm but wavy surface mattresses. Fall from height may lead to compressed fracture of the body of the vertebrae leading to LBP. But in my study,

most of the respondent were not found to have a history of fall from height except few.

Bangladeshi population are more habituated to discuss health related problems with family members, friends or neighbors with the view of getting information how got rid of similar type of complaints. Thus these patients try to follow those medical management as received by their relatives, without going to a doctor. Three-fourths of my study population were found to discuss their problem of low back pain with intention. They were also found to have the habit of self-medication, use of hot compress, vibrators etc.

Consumption of excessive meat and oily foods may lead to obesity and obesity is a risk factor for LBP. But, only very few respondent of my study used to consume such unhealthy diet, whereas 97.6% do not consume so.

All of our study population were non-smokers.

Skeletal causes of low back pain are mostly related to joints of vertebral column and intervertebral discs. So, problems of osteoarthritis is expected to be associated with problems of other joints also. In my study, half of the study population were found to have joint problems other than problems with joints of vertebral column or in addition to low back pain. The involved other joints were hip joint, neck spine and knee joint.

Psychosocial factors are important risk factors for persistent LBP in urban Japanese workers. It may be necessary to take psychosocial factors into account, along with physical work demands, to reduce LBP related disability (Ko Matsudaira, 2014). In my study, 61.2% study population were found to suffer from anxiety and depression, while 38.8% do not suffer from anxiety/depression associated with LBP and all them used to take anti-anxiety or anti-depressant drugs.

6 Conclusion

Low back pain is still a health problem among caregivers with heavy professional and social impact. Prevention of LBP based on the improvement of working conditions and multidisciplinary management with collaboration between rehabilitation and occupational physician may ensure the reduction of the prevalence and the impact of this disabling disease. Low back pain is associated with aging, genetics, occupational hazards, sedentary lifestyle, excess body weight, defective posture etc. In my study, respondent were of middle age, roughly well earned, middle to highly educated, married and living in either urban or sub-urban area. All of them have normal

body weight and normal BMI. Females were slightly more than males. For most of the respondent their pain initiated while lifting a heavy weight. Pain for most of them is aggravated in sitting posture and while walking and are not radiating in nature. Also most of the time they remain in slouched position while sitting. None of them were motorbike rider and none are smoker as well. Most of them do not practice moderate to severe exercise. Most of them avoid back muscle strengthening exercises, though advised by doctors or physiotherapists. Most of them have the history of bending forward during daily household or professional activities.

So, risk factors for back pain, present among my study population are sedentary lifestyle, occupational hazards, defective posture, unhealthy sitting habits, lack of awareness and Non-compliance towards preventive measures and a tendency of self-medication or self-management.

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