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Community Medicine

PREVALENCE AND RISK FACTORS OF BACK PAIN AMONG WORKERS IN RIYADH PROVINCES

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ABSTRACT

Background Back pain is indeed a common issue among both adults and adolescents. Worldwide adult up to 23% suffer from chronic LBP (LBP). Saudi Arabia stats showed the same prevalence of LBP trends among general population was estimated to be 18.8% which is the board line of severity of the disease per annum. In order to find out the Prevalence and risk factors of back pain among workers of Saudi Arabia, this study determined the age group with high prevalence of back pain in workers in Riyadh provinces. In addition, the most common risk factor of back pain in workers in Riyadh provinces was also be targeted to find out. **Method** This cross-sectional study was conducted at College of Medicine, Dawadmi (Shaqra University) in Riyadh Provinces of Saudi Arabia over the period of 2 months i.e. Sep to Oct 2022. All the Street Cleaner Workers were targeted randomly on volunteer basis as a study subject. Further, the screen time was selected on the availability at the street during their working time from 5 am to 9 am. **Result** Out of 150 respondents, 60.7% patient were married with the highest group of age 25-30 years. Mean height of the respondents were 168.53 cm with range of 195 cm to 144 cm, mean weight were 67.11 Kg with range of 90 Kg to 50 Kg, and mean Body Mass Index was 23.657 with range of 33.9 to 18.2. The study of the relationship between smoking and back pain was revealed that there is no such contribution of habit of smoking of street cleaners with the back pain. **Conclusion** Age, Marital status, More than 8 Working Hrs. and BMI factors contribute to the high prevalence of BP in the Saudi community living in Riyadh. it underscores the importance of public health efforts to address LBP and its associated risk factors.

KEYWORDS : Lower Back Pain (LBP), World Health Organization (WHO)

INTRODUCTION

Globally Occupational back pain is one of the common health problem which has associated with the major consequences in respect of frequent absence and disability [1]. Back pain is indeed a common issue among both adults and adolescents. Worldwide adult up to 23% suffer from chronic Lower Back Pain (LBP) [2]. The one-year recurrence rate for chronic LBP in this population ranges from 24% to 80% [3]. Literature suggest that more than 84% of adults at some point in their lives will experience LBP [4]. An extensive systematic review found from 11.8% to 33% annual rate of adolescents experiencing LBP [5] Likewise Saudi Arabia stats showed the same prevalence of LBP trends among general population was estimated to be 18.8% which is the board line of severity of the disease per annum [6] LBP is not limited to a specific age group and can affect individuals across the age spectrum. Several risk factors contribute to the development and exacerbation of low back pain. These include sedentary occupations, smoking, obesity, and low socioeconomic status. These risk factors can compound the prevalence and severity of back pain [7]. The statistic in 2018 revealed people lived with disability due to LBP have increased by more than 50% since 1990. This increase in disability burden to a need for more effective prevention and management strategies, especially in low and middle-income countries [8].

Back pain significantly impairs overall perceptions of general health for the majority of patients which hinders daily activities to a considerable extent, potentially leading to a decreased quality of life. According to the World Health Organization (WHO)-sponsored Global Burden of Disease study, LBP is a major contributor to years lived with disability (YLD). It accounts for a significant portion of all YLD, making up 10.7% of the total burden. Moreover, LBP is responsible for a staggering 83 million disability-adjusted life years [9]. While a substantial portion of the population will experience LBP at some point in their lives, only around half of those affected seek healthcare for their condition. Previous study reveals 25% of patients with acute low-back pain, defined as pain lasting for less than 12 weeks, were referred for imaging during their initial visit to a family physician. According to the UK National Institute for Health and Care Excellence (NICE) and the other from the American College of Physicians guidelines, published in 2016 and 2017 respectively, encourage a shift in the approach to managing LBP in primary care settings. These guidelines likely recommend a more conservative and patient-centered approach to managing low back pain, including the use of non-pharmacological interventions such as physical therapy, exercise, and education. They may also emphasize the importance of addressing psychosocial factors and promoting self-management strategies for individuals with LBP [10]. In order to find out the Prevalence and risk factors of back pain among workers of Saudi Arabia, this study determined the age group with high prevalence of back pain in workers in Riyadh provinces. In addition, the most common risk factor of back pain in workers in Riyadh provinces was also be targeted to find out.

METHOD

This cross-sectional study was conducted at College of Medicine, Dawadmi (Shaqra University) in Riyadh Provinces of Saudi Arabia over the period of 2 months i.e. Sep to Oct 2022. All the Street Cleaner Workers were targeted randomly on volunteer basis as a study subject. Further, the screen time

was selected on the availability at the street during their working time from 5 am to 9 am. Convenience sampling was taken to record the data collection. A predesigned proforma was used which included administrated questionnaire including multiple choice and closed ended questions (yes & no). Varity of parameters were investigated to understand the level and the proposed cause of the back pain such as relation of age, height, weight, marital status, number of working hours, smoking, carrying heavy things, Beaten on the back, Fallen out on back. Body Mass Index was calculated if the patient were not found obese. Since Saudi Arab facilitating various ethnicity and nations by giving them the opportunity to work here therefore we had difficulty to interact with the workers who do not speak Arabic or English. To resolve this matter an interpreter/translator accompanied with the data collector/researcher. All the data was statistically analyzed by using "SPSS version 21. (IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp). Beside MS Office 365- Excel was used to draw the tables/figures. Adhering closely to inclusion and exclusion criteria to ensure that the study sample is relevant to the research question. Moreover, Confounding factors were strictly managed so that a true relationship between the variables of interest in a study would be measured. 95% confidence interval was taken with 5% chance of error and 0.05 p-value is considered significance.

RESULT

Out of 150 respondents, 60.7% patient were married with the highest group of age 25-30 years. Mean height of the respondents were 168.53 cm with range of 195 cm to 144 cm, mean weight were 67.11 Kg with range of 90 Kg to 50 Kg, and mean Body Mass Index was 23.657 with range of 33.9 to 18.2. As per the data collection, the ratio of smoker and non-smoker were equally observed. 84.7% respondents had working hour was more than 08 hours. Although 54.7% patients complaints about the back pain, but only 20% and 38.7% respondents complaints of beaten on the back and fallen on the back respectively. 78.7% respondents mentioned of carrying the heavy weight while reporting during the data collection procedure [[Table 01]

The results of the relationship between height and lower back pain revealed that the subjects with more than 169.00 cm height are at high risk for lower back pain. On the other hand, the subjects with weight more than 67 kg are found at high risk for back pain. It was also observed that the marital status as married and the more load of working hour is one of the major risk factors for back pain. The study of the relationship between smoking and back pain was revealed that there is no such contribution of habit of smoking of street cleaners with the back pain. Carrying heavy weights on the back was observed as the major risk factor for the back pain in street cleaners. The parameters like hitting injury at the back and fallen at back were not observed as one of the major risk factors [Table 01]

Table 1: Stratification of Back Pain association with the risk factor among the 150 street worker of Riyadh Province.

	N=150	Back Pain		
	Frequency (Percentage)	Present	Absent	P-Value
Age group (years)				
20-25	19 (12.66%)	P=0.016*		
25-30	48 (32%)			
30-35	31(20.6%)			
35-40	23 (15.33%)			
40-45	15 (10%)			
45-50	09 (6%)			
50-55	02 (1.33%)			
55-60	02 (1.33%)			

Marital Status				
Married	91 (60.7%)	57 (62.63%)	34 (37.36%)	0.001*
Single	59 (39.3%)	25 (42.37%)	34 (57.62%)	
Height (cm)	168.53 (144-195)			
Weight (Kg)	67.11 (50-90)			
Body Mass Index	23.657 (18.2-33.9)			
Smoking				
Smoker	75 (50%)	46 (61.33%)	29 (38.66%)	
Non-Smoker	75 (50%)	36 (48%)	39 (52%)	
Working Hours per Day				
From 4 to 5 Hrs	6(4%)	4 (66.66%)	2 (33.33%)	0.014*
From 6 to 7 Hrs	17 (11.3%)	7 (41.17%)	10 (58.82%)	
More than 8 Hrs	127 (84.7%)	71 (55.90%)	56 (44.09%)	
Carry Heavy Things				
Most of the time	118 (78.7%)	73 (61.86%)	45 (38.13%)	0.011*
Not at all	32 (21.3%)	9 (28.12%)	23 (71.87%)	
Beaten on the Back				
Present	30 (20%)	25 (83.33%)	5 (16.66%)	0.014*
Absent	120 (80%)	57 (47.5%)	63 (52.5%)	
Fallen out on Back				
Present	58 (38.7%)	48 (82.75%)	10 (17.24%)	
Absent	92 (61.3%)	34 (36.95%)	58 (63.04)	
Back Pain				
Absent	68(45.3%)	P=0.001*		
Present	82(54.7%)			

DISCUSSION

In our study we found that the most age group suffering from moderate back pain is 25 to 29. There were 24 participants 29.26%, then 30 to 34 there were 15 participants 18.29% and then 35 to 39 there were 14 participants 17.07%. It is true that chronic back pain is more prevalent in females than in males, and there are various factors such as hormonal differences between males and females contribute to this gender difference. Females may have a lower pain threshold and be more sensitive to pain, which could contribute to the higher prevalence of chronic LBP. Psychosocial factors such as stress, depression, and anxiety can influence the perception and experience of pain [11] [12]. A systematic review of 10 cohort studies that investigated the relationship between body mass index (BMI) and the incidence of LBP (LBP) included a total of with a combined sample size of 29,748 subjects. The analysis revealed that an increased BMI was associated with an increased incidence of LBP in both men and women. Male individuals who were Overweight had a 16% higher risk of developing LBP (OR=1.16) while Obese had a 36% higher risk of developing LBP (OR=1.36). Female individuals who were Overweight individuals had a 24% higher risk of developing LBP (OR=1.24) while Obese individuals had a 40% higher risk of developing LBP (OR=1.40). These findings suggest that higher BMI is a consistent risk factor for the development of LBP in both genders [13] [14].

Among males the most common age group affected was 31-40 years of age and among these 38.6% of males were having back pain affected by the back pain. Among females the most common age group affected was 41-50 years of age and 38.1% of females were affected by the back pain which is slightly equal to the male [15]. In a Cross-Sectional Study in 1,355 Young Adults examined various factors in relation to the occurrence of LBP (LBP) in a young Indian population and assessed their impact as potential risk factors. They reported no significant difference in the occurrence of LBP between

individuals who smoke or consume alcohol and those who do not. However, higher BMI is associated with an increased incidence of LBP, but had not find a significant impact of BMI on LBP development. Married participants had an increased incidence of LBP compared to unmarried subjects. Furthermore, family history, the number of study hours, previous history of spine problems, and participation in strenuous exercise, job satisfaction, monotony, and stress were the influencing factor of back pain association observed among the population [16] [17].

A cross-sectional study conducted in Riyadh included a total of 276 participants from the community living in Riyadh and its surrounding areas in Saudi Arabia, focusing on the prevalence and risk factors associated with LBP (LBP). LBP is highly prevalent in the Saudi community adult population living in Riyadh and its surrounding areas. More than a fourth (25%) of the sample reported experiencing back pain, highlighting the significant burden of LBP in this population. Higher BMI was associated with an increased risk of LBP. The level of education was identified as a modifiable risk factor, suggesting that educational attainment may influence LBP risk. Employment status was also associated with LBP, implying that the nature of one's job or occupation may play a role in LBP. Furthermore, an association between marital status and LBP, indicating that being married or single may influence LBP risk. Smoking status was identified as a modifiable risk factor, suggesting a potential link between smoking and LBP.

CONCLUSION
Age, Marital status, More than 8 Working Hrs. and BMI factors contribute to the high prevalence of BP in the Saudi community living in Riyadh. Identifying both modifiable and unmodifiable risk factors can inform targeted interventions and strategies for the prevention and management of BP in this population. Additionally, it underscores the importance of public health efforts to address LBP and its associated risk factors.

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