Pharmacophore

ISSN-2229-5402

Journal home page: http://www.pharmacophorejournal.com

PREVALENCE AND RISK FACTORS ASSOCIATED WITH LOW BACK PAIN AMONG SAUDI ARABIAN ADULTS: A CROSS-SECTIONAL STUDY

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ARTICLE INFO

Received:
28 Sep 2023
Accepted:
06 Dec 2023

Keywords: Prevalence, Risk factors, Low back pain, Saudi Arabia, Adult, Cross-sectional study

ABSTRACT

Low back pain (LBP) is a prevalent musculoskeletal condition that negatively influences one's general health and interferes with the ability to perform daily life activities and occupational tasks. The study aims to determine the prevalence and risk factors associated with low back pain. This cross-sectional study involved collecting data from a sample of Saudi Arabian adults to determine the prevalence and risk factors associated with low back pain, using a structured questionnaire. The Microsoft Excel program created for Windows (2017) was used to input the acquired data into a computer. Then, to do statistical analysis, the data was transmitted to the Statistical Package for Social Science (SPSS) software, specifically version 20. The study included 1040 participants, 68.1% of whom were females. 58.4% of participants fall in the 18-30 years old age group. Approximately 49.7% of individuals are currently experiencing low back pain, while 50.3% are not. In the last six months, around 67.5% of respondents reported having low back pain, whereas 32.5% did not. Furthermore, within the last twelve months, 70.0% of individuals experienced low back pain, while 30.0% did not. Gender shows a significant relationship with LBP occurrence in the short term, none of the other parameters analyzed exhibit a significant relationship. The findings emphasize the importance of targeted interventions, preventive strategies, and public health initiatives to address the risk factors associated with LBP and improve the overall management of this condition in Saudi Arabia.

To Cite This Article: AlBaker ABA, Shaheen RS, Shawli FSJ, AlShoshan LA, Zamkah MM, AlHarbi MH, et al. Prevalence and Risk Factors Associated with Low Back Pain Among Saudi Arabian Adults: A Cross-Sectional Study. Pharmacophore. 2023; 14(S1): e-723-8780

Introduction

Low back pain (LBP) is a highly prevalent complaint that often drives patients to seek primary healthcare [1]. Musculoskeletal disorders, especially LBP, are one of the leading causes of morbidity and disability worldwide [2]. LBP negatively impacts individuals' overall health and adds to their socioeconomic burden [3-6].

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Work productivity and absenteeism are negatively impacted by back pain, which is one of the most common causes of disability among working populations [7]. However, there is an adverse effect on the quality of life of children, adolescents, and adults when they suffer from back pain at any age [7, 8]. It was found to be the most common disability among 291 conditions examined and was ranked third in Eastern Sub-Saharan Africa in terms of years lived with disability [9]. Worldwide, the prevalence of back pain in the population varies between 15 and 45 percent, and in Saudi Arabia, the prevalence of back pain is 18.8 percent of the population [10]. Over the next several decades, the number of people suffering from back pain is expected to increase significantly [7].

Low back pain (LBP) has been linked to a variety of factors, including social, economic, psychological, and demographic ones [4-6]. Only sitting at work was found to be positively related to LBP in one high-quality cohort research in a systematic review that comprised 10 cohort studies and 5 case-control studies. Although the study found a robust correlation (OR 6.2), the 95% confidence interval (CI) was large (2.2-17.3), suggesting a high level of ambiguity regarding the association's strength; all other studies found no significant associations. Therefore, there is minimal evidence that being sedentary increases the likelihood of experiencing low back pain [11]. Moreover, another systematic review reveals that the most frequent prognostic factors for the chronicity of LBP include higher pain severity, higher body mass index, excessive workloads, and depression. Also, maladaptive behavior, stress, functional restrictions, tobacco use, and physical labor contribute to chronicity. On the other hand, the protective factors are exercise and higher blood pressure [12]. Several studies have been undertaken throughout the globe to investigate the association between psychosocial factors and back pain, yielding valuable evidence that inadequate social support in work environments and poor career satisfaction contribute to back pain [13]. Along similar lines, some studies aimed at healthcare professionals such as nurses and surgeons [10, 14-16]. While others are aimed at students and teaching staff [9, 17].

The study is needed to fill the knowledge gap regarding the prevalence and risk factors of low back pain specifically in the Saudi Arabian adult population. Previous studies have explored the prevalence and risk factors of low back pain in specific populations such as young Brazilians [18], healthcare workers [19-21], medical students [22], and Japanese adults [23], yet there is a dearth of research focusing on the Saudi Arabian adult population.

This research is relevant as it can contribute to a better understanding of the prevalence and risk factors of low back pain in this specific population. Subsequently, targeted interventions and prevention strategies can be implemented. Despite the evidence of associations between low back pain and factors such as sex, physical activity, sedentary behavior, sleep, body mass index [20], perceived stress [20], age, anthropometric variables, spinal curvatures, hamstring extensibility, physical activity, and health-related quality of life [24], it is unclear whether these associations apply to the Saudi Arabian adult population. Therefore, conducting this research will provide valuable insights into the epidemiology of low back pain in Saudi Arabia.

This study aims to assess the prevalence and risk factors associated with low back pain among adults in Saudi Arabia.

Objectives

1. To establish a relationship between lifestyle factors (such as physical activity, smoking, alcohol consumption, stress, and dietary habits) and back pain.
2. To determine which lifestyle factors play a significant role in the occurrence of back pain.
3. To examine how age, gender, occupation, and body mass index (BMI) influence the link between lifestyle factors and back pain.
4. To compare the prevalence and factors associated with back pain among people with and without a history of prior back pain.

Materials and Methods

Study Design

This study was conducted as a cross-sectional survey among adult residents (aged 18 years or above) in Saudi Arabia. Data was collected through a structured questionnaire administered online.

Study Setting: Participants, Recruitment, and Sampling Procedure

The survey was conducted during 2023. Participants were recruited through a convenient sampling method, where those willing to participate were recruited based on their availability and willingness to do so. This was done through the use of social media, local newspaper advertisements, and personal invitations. All potential participants were briefed on the study objectives, risks, and benefits, and a signed informed consent was obtained.

Inclusion and Exclusion Criteria

Adult males and females from 18 to 60 years of age who live in Saudi Arabia and can provide informed consent were included in the study. Males and females younger than 18 or older than 60 years, or anyone who doesn’t live in Saudi Arabia were excluded.

Sample Size

Using the Qualtrics calculator, a sample size of 384 was estimated with a 95% confidence level.
The sample size was estimated using the formula:
n = P(1-P) * Zα 2 / d 2 with a 95% confidence level.
n: Calculated sample size.
Z: The z-value for the selected level of confidence (1- a) = 1.96.
P: An estimated prevalence of knowledge.
Q: (1 – 0.50) = 50%, i.e., 0.50.
D: The maximum acceptable error = 0.05.
Therefore, the calculated minimum sample size was: n = (1.96)2 X 0.50 X 0.50/(0.05) 2 = 384.

Method for Data Collection and Instrument (Data Collection Technique and Tools)

Our data collection process involved a modified self-administered online survey based on prior study [25], in both Arabic and English languages that gained the participants informatics through a series of questions divided into two main groups the first group of questions focused on the socioeconomic and demographics data (age, gender, hight and weight), the educational level, lifestyle factors where we asked about the amount of exercise per week (more than 7 times per week, 5-7 times per week, 2-4 times per week, once in a week, less than 4 times per month, never), the smoking habits (never smoked, ex-smoker, active smoker) total setting time (more than 6 hours, less than 6 hours), postural nature though out daily activities (setting posture, walking or standing , bending, doesn't have a specific position for my daily tasks) chair type (No back support, have a back support), if Chair has adjustable sitting surface (yes, no) the second group of questions was centered around low back pain and its characteristic starting with a simple yes or no questions asking if the participant experienced (current low back pain, any low back pain in the previous 6 months, or any low back pain in the last 12 months) followed by the latter questions, at what stage did the person experienced a major episode of low back pain for the first time(in school life, in college life), the duration of low back pain (1-7 days, 8-30 days, more than 30 days, Everyday), number of low back pain episodes in the last 12 months (1 time, 2-3 times, more than 3 times). The main reason for the low back pain (No diagnosis or nonspecific, Ligament Sprain, Muscle Strain, Neuropathy, Vertebral disc involvement, Degeneration, Back trauma or accident, having had an operation by epidural or spinal block, Fracture of the hip or vertebral column, others), what work activities cause your symptoms to recur? (Twisting or bending, lifting any object, maintaining a position for long periods, Sudden movement, performing repetitive tasks, Non-specific causes), the use of any of the listed treatments (Opioid painkillers, Injections, Exercise therapy, psychological counseling, didn't use any of the previous treatment options)

Analyzes and Entry Method

The Microsoft Excel program created for Windows (2017) was used to input the acquired data into a computer. Then, in order to do statistical analysis, the data was transmitted to the Statistical Package for Social Science (SPSS) software, specifically version 24.

Results and Discussion

The data provided in **Table 1** shows the distribution of respondents based on various parameters. In terms of age, the majority falls within the 18-30 age range, accounting for 58.4% of the total. The gender distribution shows that 68.1% of the respondents are female, while 31.9% are male. In terms of BMI, the majority falls within the normal range, comprising 47% of the total. When it comes to education level, the highest percentage of respondents have a university education, accounting for 76.7%. In terms of smoking habits, the majority are nonsmokers, making up 83.8% of the total. Lastly, when it comes to exercise, the most common frequency is exercising 2 to 4 times a week, accounting for 20.8% of the total.

Table 1. Sociodemographic characteristics of participants (n=1040)

Parameter		No.	Percent
Age	18 -30	607	58.4
	31 -40	139	13.4
	41 -50	149	14.3
	51 -60	118	11.3
	more than 60	27	2.6
Gender	Male	332	31.9
	Female	708	68.1
BMI	underweight	23	2.2
	normal	489	47.0
	overweight	291	28.0
	obese	237	22.8

Education Level	Elementary school level	7	.7
	Intermediate educational level	9	.9
	Secondary	146	14.0
	Higher education	80	7.7
	University	798	76.7
Smoking habit	smoker	121	11.6
	nonsmoker	872	83.8
	ex-smoker	47	4.5
Exercise	once a week	164	15.8
	From 2 to 4 times a week	216	20.8
	from 5 to 7 times a week	96	9.2
	More than 7 times a week	16	1.5
	less than 4 times per month	153	14.7
	never	395	38.0

Based on the data provided in **Table 2**, it is evident that a significant percentage of individuals spend more than 6 hours sitting in a day, with 73.6% falling into this category. Bending is the most common activity performed in a day, accounting for 4.2%, followed closely by sitting at 36.1%. Additionally, 26.3% of individuals reported that their most frequent activity involves standing or walking, while 33.5% stated that they do not have to perform any task in a specific position for an extended period. In terms of rest time, the majority of respondents, 72.5%, indicated that they have enough rest time. However, 27.5% reported not having sufficient rest time. When it comes to chair types, 43.7% of individuals have chairs with back support, while 54.4% do not. A small percentage, 1.9%, were unsure about the presence of back support in their chairs. Furthermore, only 34.9% of respondents have chairs with adjustable sitting surfaces, while 65.1% do not.

Table 2. Risk factors of LBP among study participants (n=1040)

Parameter		**No.**	**Percent**
Total sitting time in a day	less than 6 hours	275	26.4
	more than or equal to 6 hours	765	73.6
Most activity is done in a day by	Bending	44	4.2
	Sitting	375	36.1
	Standing or walking	273	26.3
	I do not have to do any task in a specific position for a long time	348	33.5
Have enough rest time	Yes	754	72.5
	No	286	27.5
Chair type	Have back support	454	43.7
	No back support	566	54.4
	Don’t no	20	1.9
The chair has adjustable sitting surface	Yes	363	34.9
	No	677	65.1

According to the data provided in **Figure 1**, approximately 49.7% of individuals are currently experiencing low back pain, while 50.3% are not. In the last six months, around 67.5% of respondents reported having low back pain, whereas 32.5% did not. Furthermore, within the last twelve months, 70.0% of individuals experienced low back pain, while 30.0% did not. These statistics highlight the prevalence of low back pain among the surveyed population.

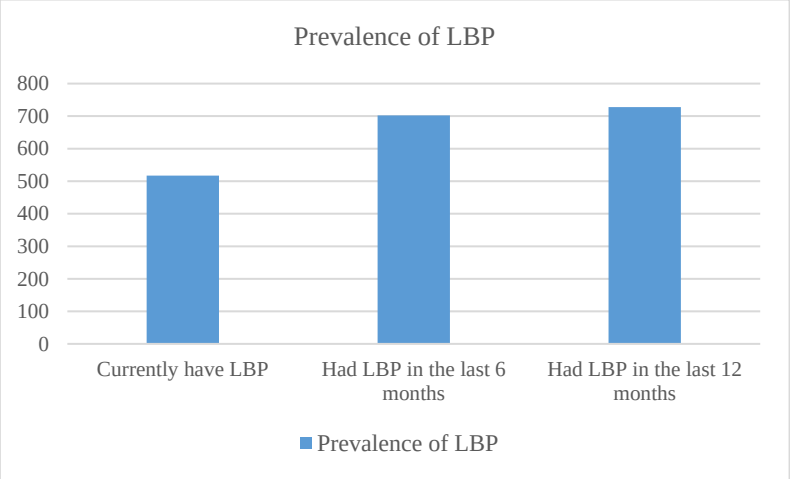

Figure 1. Prevalence of LBP among participants (n=1040)

Table 3 indicates that a significant number of individuals experience a major episode of low back pain for the first time during their school or college years. Among the participants, 25.1% reported experiencing this episode during their school life, while 74.9% reported it during their college life. In terms of the duration of low back pain in the last 12 months, the majority of participants (69.1%) reported experiencing pain for 1 to 7 days. A smaller percentage reported pain for 8 to 30 days (14.8%), and 16.1% reported pain lasting more than 30 days. When asked about the number of low back pain episodes in the last 12 months, 39.4% reported experiencing only 1 episode, while 34.5% reported 2 to 3 episodes, and 26.1% reported more than 3 episodes.

The reasons for low back pain varied among the participants. Muscle strain was the most common reason reported (17.9%), followed by back trauma or accident (3.3%), and having had an operation by epidural or spinal block (3.4%). Other reasons included vertebral disc involvement (8.7%), fracture of the hip or vertebral column (1.2%), ligament sprain (2.8%), degeneration (2.7%), neuropathy (3.1%), no diagnosis or non-specific (52.1%), and other reasons (25.8%). Certain work activities were found to cause low back symptoms to recur. Lifting any object was reported as a cause by 36.5% of participants, followed by bending or twisting (30.7%), sudden movement (14.7%), performing repetitive tasks (12.8%), and maintaining a position for long periods (32.6%). Some participants reported non-specific causes (22.7%). A significant number of participants (25.0%) reported that their lower back pain was associated with leg(s) pain, while 45.1% reported no association, and 29.9% were unsure. Regarding the treatments used for back pain, 19.8% of participants reported using opioid painkillers, 60.9% did not use any of the listed treatment options, 21.0% used exercise therapy, 1.9% received psychological counseling such as cognitive-behavioral therapy, and 4.4% received injections.

Table 3. Determinants of LBP among study participants (n=1040)

Parameter		No.	%
Stage of experiencing a major episode of low back pain for the first time	In school life	261	25.1
	In college life	779	74.9
Duration of low back pain in the last 12 months	From 1 to 7 days	719	69.1
	From 8 to 30 days	154	14.8
	More than 30 days	167	16.1
low back pain episodes in the last 12 months	1	410	39.4
	2-3	359	34.5
	>3	271	26.1
Reason for low back pain	Muscle Strain	186	17.9
	Back trauma or accident	34	3.3
	Have had an operation by epidural or spinal block	35	3.4
	Vertebral disc involvement	90	8.7
	Fracture of the hip or vertebral column	12	1.2
	Ligament Sprain	29	2.8
	Degeneration	28	2.7
	Neuropathy	32	3.1
	No diagnosis or non-specific	542	52.1

	Other	268	25.8
Work activities cause Low back symptoms to recur	Lifting any object	380	36.5
	Bending or Twisting	319	30.7
	Sudden movement	153	14.7
	Performing repetitive tasks	133	12.8
	Maintaining a position for long periods e.g. standing, sitting, kneeling-	339	32.6
	Non-specific	236	22.7
LBP associated with leg(s) pain	Yes	260	25.0
	No	469	45.1
	Not sure	311	29.9
Used any of the following treatments for your back pain (Bias risk)	Opioid painkillers	206	19.8
	I didn't use any of these treatment option	633	60.9
	Exercise therapy	218	21.0
	Psychological counseling, such as cognitive-behavioral therapy	20	1.9
	Injections	46	4.4

Data presented in **Table 4** provides insights into the relationship between various parameters and the occurrence of LBP. While gender shows a significant relationship with LBP occurrence in the short term, none of the other parameters analyzed exhibit a significant relationship.

Table 4. Association between prevalence of LBP with sociodemographic characteristics of participants (n=1040)

Parameter		**No.**	**Percent**	**P value Current LBP**	**P value IBP in 6 mo.**	**P value LBP in 12 mo.**
Age	18 -30	607	58.4	0.183	0.207	0.680
	31 -40	139	13.4			
	41 -50	149	14.3			
	51 -60	118	11.3			
	more than 60	27	2.6			
Gender	Male	332	31.9	0.001	0.989	0.212
	Female	708	68.1			
BMI	underweight	23	2.2	0.138	0.258	0.453
	normal	489	47.0			
	overweight	291	28.0			
	obese	237	22.8			
Education Level	Elementary school level	7	.7	0.054	0.228	0.520
	Intermediate educational level	9	.9			
	Secondary	146	14.0			
	Higher education	80	7.7			
	University	798	76.7			
Smoking habit	smoker	121	11.6	0.074	0.125	0.185
	nonsmoker	872	83.8			
	ex-smoker	47	4.5			
Exercise	once a week	164	15.8	0.215	0.599	0.344
	From 2 to 4 times a week	216	20.8			
	from 5 to 7 times a week	96	9.2			
	More than 7 times a week	16	1.5			
	less than 4 times per month	153	14.7			
	never	395	38.0			

Table 5 provides insights into the various parameters and their associations with lower back pain. While total sitting time and the most activity done in a day did not show significant associations with LBP, having enough rest time, chair type, and an adjustable sitting surface were found to have significant associations.

Table 5. Association between prevalence of LBP with risk factors of LBP among study participants (n=1040)

Parameter		No.	Percent	P value Current LBP	P value IBP in 6 mo.	P value LBP in 12 mo.
Total sitting time in a day	less than 6 hours	275	26.4	0.643	0.320	0.490
	more than or equal to 6 hours	765	73.6			
Most activity is done in a day by	Bending	44	4.2	0.462	0.869	0.689
	Sitting	375	36.1			
	Standing or walking	273	26.3			
	I do not have to do any task in a specific position for a long time	348	33.5			
Have enough rest time	Yes	754	72.5	0.004	0.001	0.002
	No	286	27.5			
Chair type	Have back support	454	43.7	0.001	0.001	0.075
	No back support	566	54.4			
	Don’t no	20	1.9			
The chair has adjustable sitting surface	Yes	363	34.9	0.032	0.001	0.003
	No	677	65.1			

Low back pain is a common health problem that affects millions of people worldwide, including those living in Saudi Arabia. According to recent studies, the prevalence of low back pain in Saudi Arabia is estimated to be around 30%, which is higher than the global average. This high prevalence of low back pain in Saudi Arabia can be attributed to several risk factors, including lifestyle habits, occupational factors, and genetic predisposition [26].

The prevalence of low back pain in Saudi Arabia is influenced by various factors, including lifestyle habits, occupational demands, and cultural practices. Sedentary lifestyles and lack of physical activity have been identified as significant contributors to the development of low back pain. In a society where technology and modern conveniences have made physical exertion less necessary, the prevalence of low back pain is expected to rise. Additionally, certain occupations, such as those involving heavy lifting, repetitive movements, and prolonged sitting, are associated with a higher risk of developing low back pain [27].

Cultural practices, such as the wearing of traditional clothing, may also contribute to the prevalence of low back pain in Saudi Arabia. The abaya, a loose-fitting cloak worn by women, can lead to poor posture and increased stress on the lower back. Similarly, the thobe, a traditional men's garment, may restrict movement and affect spinal alignment. These cultural factors need to be considered when addressing the prevalence of low back pain in Saudi Arabia [28].

Several studies have been conducted to determine the prevalence of low back pain in Saudi Arabia. These studies have utilized various methodologies, such as surveys, questionnaires, and clinical assessments, to gather data on the occurrence and severity of low back pain among different age groups and populations. The findings of these studies have shed light on the magnitude of the problem and its associated factors [26]. This study aims to assess the prevalence and risk factors associated with low back pain among adults in Saudi Arabia

According to our study results, approximately 49.7% of participants currently have LBP, 67.5% had it in the last six months, whereas 70.0% of individuals experienced low back pain in the last 12 months. Gender shows a significant relationship with LBP occurrence in the short term, none of the other parameters analyzed exhibit a significant relationship One study conducted in Riyadh, the capital city of Saudi Arabia, reported a prevalence rate of low back pain of 31.8% among the general population. The study included individuals from different age groups and occupations, highlighting the widespread nature of this condition. Another study focusing on healthcare professionals in Saudi Arabia found that 64.7% of nurses and 47.6% of physicians reported experiencing low back pain. This high prevalence among healthcare workers is alarming, given their crucial role in providing care and the potential impact on the quality of healthcare services [20]. One study conducted by Al-Arfaj *et al*. [29] aimed to determine the prevalence of LBP among the Saudi population. The study involved a large sample size of 10,000 individuals from different regions of Saudi Arabia. The results indicated that the overall prevalence of LBP in Saudi Arabia was 22.2%, with a higher prevalence among females (24.1%) compared to males (20.2%). The study also revealed that the prevalence of LBP increased with age, with the highest prevalence observed among individuals aged 50 years and above. These findings suggest that LBP is a common health issue in Saudi Arabia, particularly among older females [29]. Another study conducted by Alhowimel *et al*. (2018) aimed to investigate the prevalence and risk factors of LBP among healthcare workers in Saudi Arabia. The study included a sample of 500 healthcare workers from different hospitals and healthcare centers. The results showed that the overall prevalence of LBP among healthcare workers was 53.6%. The study also identified

several risk factors associated with LBP, including age, gender, body mass index, and job-related factors such as prolonged sitting and heavy lifting. These findings highlight the need for targeted interventions and preventive strategies to reduce the burden of LBP among healthcare workers in Saudi Arabia [30]. Furthermore, a study by Alghadir *et al*. (2015) focused on the prevalence and impact of LBP among university students in Saudi Arabia. The study included a sample of 500 university students from different faculties. The results indicated that the overall prevalence of LBP among university students was 42.4%. The study also revealed that the prevalence of LBP was significantly higher among female students (49.6%) compared to male students (34.8%). Additionally, the study found a significant association between LBP and sedentary lifestyle, lack of physical activity, and poor ergonomic practices. These findings emphasize the importance of promoting healthy lifestyle behaviors and ergonomics among university students to prevent and manage LBP [31]. The results of these studies collectively indicate that LBP is a prevalent health issue in Saudi Arabia, affecting various segments of the population. The higher prevalence among females, older individuals, healthcare workers, and university students suggests the need for targeted interventions and preventive strategies to address the specific risk factors associated with LBP in these groups. Healthcare professionals should be aware of the high prevalence of LBP in Saudi Arabia and incorporate evidence-based management strategies in their practice. Policymakers should also consider implementing public health initiatives aimed at promoting physical activity, ergonomic practices, and healthy lifestyle behaviors to reduce the burden of LBP in the country.

Over the years, numerous studies have been conducted to investigate the risk factors associated with low back pain in the Saudi Arabian population. In our study, 26.4% of individuals reported sitting for less than 6 hours in a day, while 73.6% reported sitting for 6 hours or more. The most common activity performed in a day was sitting, with 36.1% of respondents indicating this, followed by standing or walking at 26.3%. Additionally, 33.5% of individuals stated that they did not have to perform any tasks in a specific position for a long time. In terms of rest time, 72.5% of respondents reported having enough rest time, while 27.5% indicated otherwise. When it comes to chair types, 43.7% of individuals reported having chairs with back support, while 54.4% did not. Lastly, 34.9% of respondents reported having chairs with adjustable sitting surfaces, while 65.1% did not. This was comparable to the results of one important study conducted in Saudi Arabia that focused on the association between physical activity and low back pain. The results of this study revealed that individuals who engaged in regular physical activity had a significantly lower risk of developing low back pain compared to those who led sedentary lifestyles. This finding emphasizes the importance of promoting physical activity as a preventive measure for low back pain in Saudi Arabia [32]. Furthermore, a study focused on occupational risk factors for low back pain among Saudi Arabian workers. The research revealed that individuals working in jobs requiring heavy physical labor or prolonged sitting were more likely to experience low back pain. Additionally, poor ergonomic conditions at the workplace were found to be associated with an increased risk of low back pain. These findings emphasize the importance of implementing ergonomic interventions and occupational health programs to prevent and manage low back pain in the workplace [26].

One of the most significant risk factors for low back pain in Saudi Arabia is a sedentary lifestyle. Many people in Saudi Arabia lead a sedentary lifestyle due to the extreme weather conditions, cultural norms, and lack of outdoor recreational facilities. A sedentary lifestyle can lead to weak muscles, poor posture, and a lack of flexibility, which can increase the risk of low back pain [4].

Occupational factors also play a significant role in the prevalence of low back pain in Saudi Arabia. Many jobs in Saudi Arabia involve long hours of sitting or standing, repetitive motions, and heavy lifting, all of which can lead to lower back pain. Additionally, many workers in Saudi Arabia do not have access to ergonomic workstations or proper training on how to prevent lower back pain [20]. Another risk factor for low back pain in Saudi Arabia is genetic predisposition. Studies have shown that certain genetic factors can increase the risk of developing low back pain. These genetic factors are more prevalent in certain populations, including those in Saudi Arabia [9, 23].

The impact of low back pain extends beyond the individual level, affecting the healthcare system and the economy as a whole. The direct costs associated with the treatment of low back pain, including medical consultations, diagnostic tests, and medications, can be substantial. Indirect costs, such as loss of productivity and work absenteeism, further add to the economic burden. Addressing the prevalence of low back pain in Saudi Arabia requires a comprehensive approach that includes preventive strategies, early intervention, and effective management [28].

Preventive measures should focus on promoting a healthy lifestyle, including regular physical activity, maintaining a healthy weight, and adopting proper body mechanics. Education and awareness campaigns can play a crucial role in promoting these lifestyle changes and increasing knowledge about low back pain. Early intervention through timely diagnosis and appropriate treatment can prevent the progression of low back pain and reduce its impact on individuals and society [4].

Effective management of low back pain in Saudi Arabia requires a multidisciplinary approach involving healthcare professionals, policymakers, and the community. Healthcare providers should have access to evidence-based guidelines and resources to ensure optimal care for patients with low back pain. Policymakers need to prioritize the prevention and management of low back pain by allocating resources and implementing policies that promote a healthy lifestyle and provide equitable access to healthcare services [26, 27].

Conclusion

In conclusion, the results highlight the significant burden of this condition in Saudi Arabia. Gender shows a significant relationship with LBP occurrence in the short term, none of the other parameters analyzed exhibit a significant relationship.

The findings emphasize the importance of targeted interventions, preventive strategies, and public health initiatives to address the risk factors associated with LBP and improve the overall management of this condition in Saudi Arabia. Further research is needed to explore the long-term impact of LBP, evaluate the effectiveness of interventions, and develop comprehensive guidelines for the prevention and management of LBP in the Saudi population. Therefore, it is essential to raise awareness about the importance of maintaining an active lifestyle, providing ergonomic workstations, and promoting proper training to prevent low back pain in the Saudi Arabian population.

Acknowledgments: We thank the participants who all contributed samples to the study.

Conflict of interest: None

Financial support: None

Ethics statement: Ethical approval was obtained from the research ethics committee of Majmaah University. Application number: (MUREC-Oct. 12/COM-2023/30-4). An informed consent was obtained from each participant after explaining the study in full and clarifying that participation is voluntary. Data collected were securely saved and used for research purposes only.
Written informed consent was obtained from all individual participants included in the study.

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