

The prevalence and risk factors of lower back pain among the general population in Al-Baha region, Saudi Arabia

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ABSTRACT

Background: LBP is defined as back pain below the costal margin. It is one of the most seen complaints leading people to seek medical attention and it is even a leading cause for requiring surgical intervention. Our main target in this study is to measure the overall prevalence of LBP and discover its possible pre disposing factors and identify its burden on the general population of Al-Baha region, KSA. *Method:* A cross-sectional method by a self-administered questionnaire was conducted among the general residents of Al-Baha. Participants were informed beforehand of the study objectives, details and confidentiality policy. Multiple independent variables have been considered, such as socioeconomic status, health status and occupational factors. *Results:* The research participants were (409), 60.9% females and 39.1% males. 68.8% (282) of participants were positive for having LBP issues and the remaining 31.1% (127) were not. 67% of females and 33% of males have LBP problems, indicating a high variation between the two genders. From a social perspective, the study revealed that 71.63% of participants with LBP problems are married, while 25.18% are single. 72.86% of all participants have a family member with LBP. It is noted that 28% of participants think that LBP affects their working and personal life. *Conclusion:* Research outcomes demonstrated that LBP is a significant health issue among Al-Baha population and that has been attributed to multiple predisposing factors, which are: Regular physical activity, sitting position, work nature and previous arthritis diagnosis. Lastly, LBP was a significant burden on peoples' personal, social and occupational life.

Keywords: Lower back pain, LBP, prevalence, risk factors, Al-Baha, Saudi Arabia

1. INTRODUCTION

Low back pain (LBP) is one of the common health-related issues that generally everyone experiences in their life and it can have a negative impact on the economy and society (Manzini et al., 2015). The study's findings indicate that the majority of the people almost 80% in this world experience the LBP in different stages of their life, especially people over the age of 50 (Walker, 1998). The global data indicate that almost 33.33% of the overall patient those visit the hospital and clinics have LBP but still the common cold is on top. Additionally, LBP is the third most frequent factor in surgical procedures and it is the fifth most frequent factor for hospitalizations (Ma et al., 2019; Andersson, 1999). A study was conducted in a similar context to find out the factors that are causing the LBP specifically in Riyadh, Saudi Arabia, the outcome suggested that older age, hypertension, anemia, osteoporosis and a history of fractures and arthritis, had close links and an association with LBP (Alhowimel et al., 2021). In addition to this, it has been found that lifting heavyweights, job satisfaction, work environment and some others are the major risk factors of LBP (Parreira et al., 2018). LBP leads to mental and physical burdens (Beyera et al., 2019). The research was conducted by Meucci et al., (2015) to demonstrate the prevalence of chronic lower back; the findings were based on the Medline, EMBASE and LILACS electronic databases. It has been found that the individual in the age range of 24-39 years had an LBP prevalence of 4.2% and the individual in the age range of 20-59 years had an LBP prevalence of 19.6%. The systematic review of 6 out of 9 studies expresses that people over 18 years had chronic lower back pain from 3.91% to 10.19%; in addition, 3 out of nine studies indicate a prevalence rate between 13.12% and 20.31% (Meuccu et al., 2015). LBP not only significantly impacts the mental and physical health of the individual, but it also has severe economic and social effects. It has been found that the LBP prevalence increased with the rate of 4.21% to 9.61%, specifically in 8 years, even though in most cases younger generation had a higher rate of LBP (Meucci et al., 2013). The third decade of life is difficult, as it can lead to serious health-related problems. It has been observed that the LBP increases at the third stage of human life and it is more dominant, specifically in women (Meuccu et al., 2015).

One way of a consistently healthy lifestyle is to participate in physical activities like support and exercise. It has been found that people that consistently participate in sports have less likely to involve in LBP problems (Vuori, 2001). The research investigated the prevalence of back pain specifically for the individual involved in sports activities (Sato et al., 2011). The findings suggest that the lifetime prevalence ranged between 1-94%, which is generally considered the highest prevalence rate; on the other side, the point prevalence rate was lower as it was between 18-65% (Sato et al., 2011). In addition to this systematic review is also evident that physical activities, to some extent, are fruitful and beneficial for health. However, too many physical activities can lead to serious health concerns as they can affect the spinal cord (Trompeter et al., 2017). It has also been found that the majority of athletes are involved with a problem with lower back pain due to too many sports activities, which sometimes leads to severe injury and they cannot participate in sports activities (Sato et al., 2011). Therefore, there is a higher prevalence rate of back pain, specifically in athletes (Trompeter et al., 2017). The majority of the working-age population is generally involved in lower back pain problems. The research was conducted by using secondary data or reviewing the literature to demonstrate the real-world incidence and prevalence of LBP (Fatoye et al., 2019). It has been concluded that the prevalence of LBP was between 1.4-20%, and the incidence of LBP ranged from 0.024 to 7%. In addition, it was also suggested that the female LBP Odds were relatively higher in males than in the female participants (Fatoye et al., 2019).

LBP is a worldwide problem that is increasing further rapidly. The lack of treatment and availability of resources can lead to a lifetime disability, as most people belong to poor and lower-income countries without proper treatment facilities (Buchbinder et al., 2018). The majority of the worker that is associated with weightlifting and similar kind of other activities are in serious trouble as it has associated important and crucial risk factors, including works factors (Working load and their working position and duration) and personal factors (age, body mass, availability of the working time, qualification in term of education, earnings and many more) (Andini, 2015). In addition, some environmental risk factors (environmental noise and weather conditions) also significantly impact lower back pain (Andini, 2015). That is why managing all risk factors is substantial (Buchbinder et al., 2018). The research was conducted to evaluate the risk factors and management of LBP, specifically in older adults (Wong et al., 2017). Multiple factors like physical comorbidities, age-related changes and psychiatric can transform the experience and understanding regarding lower back pain (LBP), specifically of older adults (Wong et al., 2017). The role of the clinicians is also crucial as sometimes inappropriate and proxy reports make the diagnosis process ineffective (Chou et al., 2017). The treatment efficiency and effectiveness of the LBP are also substantial. Therefore, the treatment process should be based on the needs and wants of the individual. The evaluation of multiple factors like demographics, economics and environment can assist in treating LBP on a timely basis (Wong et al., 2017).

Moreover, many lifestyle factors are closely related to human health, such as smoking, lack of physical activities and obesity, which are the critical determinants of LBP (Chou et al., 2017). Several risks are associated specifically with the life of the working population as they have a higher probability of LBP. The poor and middle-income countries are the most affected as the average

rate of LBP disability increased by 54% from 1990. It is because of the lack of awareness and facilities (Hartvigsen et al., 2018). Awaji, (2016) conducted the research to demonstrate low back pain in Saudi Arabia and it has been found that there are multifactorial risks associated with LBP and the number of incidences and the prevalence rate has been increasing at a faster pace. The systematic review of Saudi Arabia suggests that the deficiency of Vitamin d is a risk factor directly associated with LBP. In addition, prevalence patterns of the LBP were recorded between 53.21 and 79.171% (Awaji, 2016). The systematic review suggests that almost 74% of the respondent who passed through or experienced falls were involved in injuries in Saudi Arabia. It was also observed that the medications were closely associated with the fewer. Hence, elder age is one of the most significant factors of LBP as almost 50% of the studies elders have more than one fall in the period of 12 months (Almegbel et al., 2018).

2. METHODS

Study Population and Sampling Procedure

This is a cross-sectional study that took place in Al-Baha region from March 2022 to October 2022. The population of this study is the residents of Al-Baha region. The study includes all residents meeting the inclusion criteria and living in Al-Baha region. The sample size was determined using the raosoft sample size calculator; using 5% as a margin of error and 95% as a confidence interval and 50% as response distribution, we assumed that 384 participants would be adequate to ensure the generalizability of responses. The responses have been collected in a non-probability convenience sampling technique

Data Collection and Management

Data have been collected by all researchers in this study using an anonymous self-administered, reliable, pre-validated and modified questionnaire. The questionnaire has been distributed among residents of Al-Baha. All participants had been informed in detail about the studied aims, as well as data confidentiality. The questionnaire would require consent from the participant to participate in this study. Participants who agreed to take part in the study have been asked to complete the questionnaire regarding their lowered backed pain status and risk factors of lower back pain. All researchers in this studied would perform data entry. After verification, data had been transferred to the statistical database directly

Variables

The dependent variable was the BP, whereas independent variables were socioeconomic data, predisposing factors and health outcomes of the disease

Inclusion criteria and Exclusion criteria

Inclusion criteria were residents of Al-Baha region aged above 18 years who agreed to participate in the current survey study and their ability to understand the questionnaire. Exclusion criteria were a disagreement between parents on answers or an incomplete questionnaire.

Ethical Considerations

Written or verbal consent has been obtained from participants. All data was kept in a secure placed. The research staff ensured confidentiality and privacy. Also, any private information has not been discussed anywhere during the studied analysis.

3. RESULTS

Prevalence of low back pain according to demographic characteristics of the participating

The survey includes 409 participants; the overall study includes 25.9% of participants belonging to the 36-45 age groups, 24.7% to the 26-36 and 25.2% to the 18- 25 age group (Figure 1).

Moreover, 60.9% of females and 39.1% of male participants reported having a LBP. Additionally, 99.5% of participants are Saudi, 75.3% have higher education and 16.1% have high school education. Likewise, the survey included 67.0% of participants who are married and 30.3% of single participants. Regarding the Employment status of the overall participants, it is found that 44.5% are Employees working in the government sector. Meanwhile, 47.2% of participants are unemployed. Lastly, the financial condition shows that 80.7% of participants have a medium financial condition, while 11.5% belonged to a low level of financial condition (Table 1). Furthermore, two numerical variables were also included in the survey (weight and height).

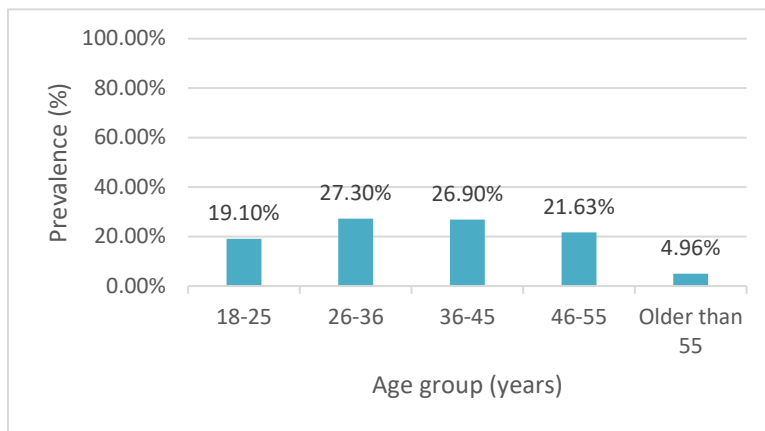


Figure 1 Reported prevalence of LBP in Al-Baha across age groups

Table 1 indicates that most female participants aged 36-45 have lower back pain problems. 27% of participants with lower back pain belong to the age group 26-36, whereas 26.95% of participants belong to the 36-45 age groups. In contrast, 23.62% of the participants with no lower back pain belong to the 36-45 age groups. Moreover, it is found that 67.02% of females and 32.98% of males have lower back pain problems. 99.65% of participants have Saudi nationality. 72.70% of lower back pain participants have higher education, whereas 6.03% have elementary. Furthermore, social characteristics indicate that 71.63% of participants with lower back pain problems are married, while 25.18% are single. Moving on, it is found that 47.16% of participants with lower back pain are unemployed, 43.97% are government employed while 8.87% of participants are working in the private sector.

Moreover, it is found that LBP has a significant association with age (Chi. Sq=18.2, sig=0.001), Gender (Chi. Sq=14.38, sig=0) and social status (Chi. Sq=12.06, sig=0). This demonstrates that demographic and social characteristics, including the nationality, their educational level (High school education, Intermediate, Higher education, Employment status (Government employee, private employee or unemployed)) and financial condition (high, low or Medium) does not have any association with lower back pain. The overall result for the prevalence of low back pain shows that 68.8% (282) participants have the problem of lower back pain while 31.1% (127) do not.

Table 1 Prevalence of low back pain according to demographic characteristics of the participating in the study

Variables	Total		Lower Back Pain				Pearson Chi-Square	P-value
	Frequency	%	No		Yes			
			Frequency	%	Frequency	%		
Age (years)								
18- 25 years	103	25.2	49	38.58	54	19.15	18.2	0.001
26-36 years	101	24.7	24	18.90	77	27.30		
36-45 years	106	25.9	30	23.62	76	26.95		
46-55 years	80	19.6	19	14.96	61	21.63		
Older than 55	19	4.6	5	3.94	14	4.96		
Gender								
Female	249	60.9	60	47.24	189	67.02	14.38	0
Male	160	39.1	67	52.76	93	32.98		
Nationality								
Non-Saudi	2	0.5	1	0.79	1	0.35	0.337	0.562
Saudi	407	99.5	126	99.21	281	99.65		
Educational level								
Elementary	19	4.6	2	1.57	17	6.03	7.902	0.48
High school	66	16.1	15	11.81	51	18.09		
Higher education	308	75.3	103	81.10	205	72.70		
Intermediate	16	3.9	7	5.51	9	3.19		
Social status							12.06	0.007

Divorced	9	2.2	2	1.57	7	2.48		
Married	274	67.0	72	56.69	202	71.63		
Single	124	30.3	53	41.73	71	25.18		
Widowed	2	0.5	0	0.00	2	0.71		
Employment status								
Employee (government sector)	182	44.5	58	45.67	124	43.97	0.39	0.823
Employee (private sector)	34	8.3	9	7.09	25	8.87		
Unemployed	193	47.2	60	47.24	133	47.16		
Financial condition								
High	32	7.8	12	9.45	20	7.09	0.724	0.696
Low	47	11.5	15	11.81	32	11.35		
Medium	330	80.7	100	78.74	230	81.56		
Weight (kg) Mean (SD)	73.46 (18.34)						63.718	0.879
Height (cm) Mean (SD)	162.33 (12.607)						56.58	0.097

Possible Risk Factors for Lower Back Pain

To check the risk associated with lower back pain, a chi-square test is utilized for each of the suspected factors such as exercise regularly, smoking habit, sitting position, back support to sit up, carrying heavy things, nature of your current job and period since started, family history of having back pain problem or any other diagnostic condition such as diabetes, arthritis, anemia, high blood pressure disease hyperlipidemia and osteoporosis. The overall analysis shows that 82% participants, who have lower back pain problem, do not exercise regularly, while only 18% do exercise on regular basis. Moreover 31% participants having LBP, sitting with a bent neck down, while 42% sitting with a forward hunched back and 16% with sitting with a hunched back (Figure 2).

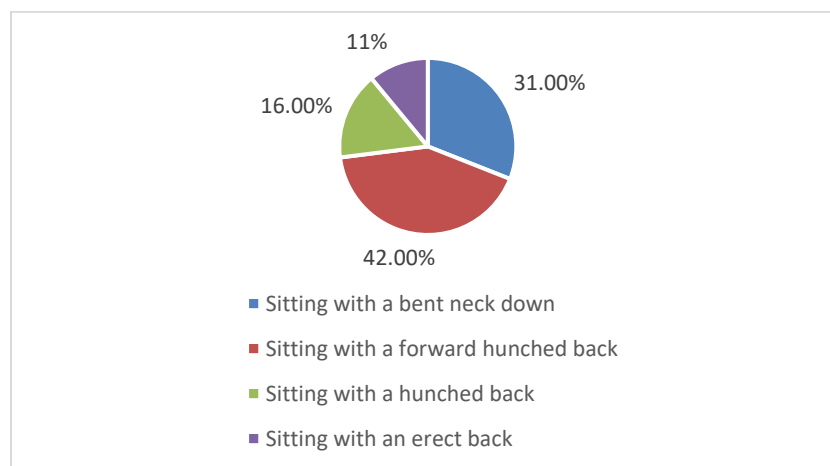


Figure 2 Reported regular sitting position in the LBP group

Moreover, 84% participants having LBP do not take back supports to sit up, likewise, 57% having LBP carry heavy load. 12.96% participant having LBP are diagnosed with arthritis before and 33.01% participant with LBP thing that nature of the job is a risk factor for the LBP problem.

Regarding the risk factor for LBP, it is found that LBP has a significant association with, exercise regularly (Chi. Sq=9.104, sig=0.002), sitting position (Chi. Sq=25.850, sig=0.00), back supports to sit up (Chi. Sq=4.916, sig=0.027), carry heavy things (Chi. Sq=22.170, sig=0.00), diagnosed with arthritis before (Chi. Sq=7.242, sig=0.004), nature of your work or study (Chi. Sq=409.0, sig=0.00). In contrast, these results indicate that the smoking habit of the participant has no association with lower back pain. Similarly, Nature of your current job (hand work, little sitting or inactive) has no association with lower back pain. Likewise, lower

back pain has no association with years of job experience, family history of suffering from lower back pain, having diabetes, heart disease, anemia, fractures before and hyperlipidemia, as the p-value for each of these variables is greater than 0.05, indicating the insignificant value of chi-square.

Table 2 Risk factors of LBP in Al-Baha region

Variables		Lower back pain				Total		Pearson Chi-Square	P-value
		N	%	N	%	N	%		
		No		Yes					
Exercise regularly	No	87	69	231	82	318	77.75	9.104	0.002
	Yes	40	31	51	18	91	22.25		
Currently, smoke	No	106	83	253	90	359	87.78	3.189	0.102
	Yes	21	17	29	10	50	12.22		
Sitting position	Sitting with a bent neck down	32	25	87	31	119	29.10	25.850	0.000
	Sitting with a forward hunched back	35	28	119	42	154	37.65		
	Sitting with a hunched back	21	17	45	16	66	16.14		
	Sitting with an erect back	39	31	31	11	70	17.11		
Back supports to sit up	No	117	92	237	84	354	86.55	4.916	0.027
	Yes	10	8	45	16	55	13.45		
Carry heavy things	No	86	68	120	43	206	50.37	22.170	0.000
	Yes	41	32	162	57	203	49.63		
Nature of your current job	Handwork	8	6	8	3	16	3.91	3.103	0.376
	I am not an employee	52	41	127	45	179	43.77		
	Little sitting	36	28	82	29	118	28.85		
	Sedentary	31	24	65	23	96	23.47		
Length of Job	From two to five years	11	9	16	6	27	6.60	1.545	0.672
	I am not an employee	57	45	125	44	182	44.50		
	Less than two years	10	8	21	7	31	7.58		
	More than five years	49	39	120	43	169	41.32		
Family suffers from lower back pain	No	39	31	72	26	111	27.14	1.187	0.166
	Yes	88	69	210	74	298	72.86		
Diagnosed with arthritis before	No	119	94	237	84	356	87.04	7.242	0.004
	Yes	8	6	45	16	53	12.96		
Do you suffer from diabetes	No	114	90	254	90	368	89.98	0.009	0.924
	Yes	13	10	28	10	41	10.02		
High blood pressure disease	No	108	85	239	85	347	84.84	0.006	0.940
	Yes	19	15	43	15	62	15.16		
Heart disease	No	126	99	276	98	402	98.29	0.935	0.334
	Yes	1	1	6	2	7	1.71		

Suffer from hyperlipidemia	No	106	83	217	77	323	78.97	2.238	0.135
	Yes	21	17	65	23	86	21.03		
Suffer from anemia	No	102	80	208	74	310	75.79	0.205	0.152
	Yes	25	20	74	26	99	24.21		
Suffer from osteoporosis	No	122	96	250	89	372	90.95	5.844	0.016
	Yes	5	4	32	11	37	9.05		
Had fractures before	No	107	84	245	87	352	86.06	0.504	0.478
	Yes	20	16	37	13	57	13.94		
Nature of your work or study	No	0	0	82	29	82	20.05	409.000	0.000
	Probably	0	0	135	48	135	33.01		
	Yes	0	0	65	23	65	15.89		

Impact of lower back pain on daily life activities

In order to check the impact of lower back pain on the daily activities of the patients, four criteria are selected including impact on personal life, impact on working life, changing their job and having spinal surgeries due to lower back pain. The result indicates that 28% of participants agree with the fact that lower back pain causes a simple effect on personal life, however, 24% of participants agreed with the medium effect of lower back pain on personal life. Similarly, it is found that 28% of participants agreed that lower back pain caused a simple effect on working life.

Regarding the impact of lower back pain on daily life activities, it is found that the Chi-square value is significant for the selected 3 Criteria. This shows that lower back pain significantly affects the social and personal life of the participants and causes job change. Moreover, it is found that 41% of participants, who have lower back pain, experienced a simple effect on their personal life and working life. An additional 4% of participants change their job due to LBP and 99% of participants who have lower back pain, experienced Pinal surgeries due to lower back pain.

Table 3 Impact of lower back pain on daily life activities of the general population of Al-Baha region, KSA

	Lower back pain		Total	
	N	%	N	%
Impact of pain on your personal life				
Does not affect	37	13	37	9
Intense effect	30	11	30	7
Medium effect	99	35	99	24
Simple effect	116	41	116	28
Impact of pain on your working life				
Does not affect	56	20	56	14
Intense effect	30	11	30	7
Medium effect	80	28	80	20
Simple effect	116	41	116	28
Change job due to lower back pain				
Not an employee	126	45	126	31
No	145	51	145	35
Yes	11	4	11	3
Pinal surgeries before				
No	280	99	280	68
Yes	2	1	2	0

4. DISCUSSION

The findings of the presented research indicate that female participant has a higher ratio of lower back pain (LBP) injury than male as the results suggest that 67.02% of females and 32.98% of males have lower back pain problems. The targeted audiences of the presented research were Saudi nationals and the response was collected from them as more than 400 participants contributed to the study. One of the major reasons behind the prevalence of lower back pain in females is that they generally have less association with physical activities. Age is also one of the main factors which are also closely associated with a lower back pain problem; the results reveal that 71.63 participants are married to those who are facing the problem of lower back pain. It was also supported by the literature as it was found that the majority of the people have 20 years of age. People that have aged between 20 to 59 years old have a 19.6% of LBP prevalence. Individual with the age below 20 years has a less likely chance of LBP (Meuccu et al., 2015). In addition to this, the findings of the presented research also suggest that physical activities like sports and exercise have a close association with lower back pain. The literature also indicates similar views as the people that prefer to participate in physical activities are healthier and have fewer chances of injury (Vuori, 2001).

Exercise not only facilitates keeping people active but also relaxed the human muscles. The findings of the presented research indicate that the LBP is closely and significantly associated with physical activities, the sitting position, the weight that an individual carries and the nature of the work. The nature of the work is one of the most important factors that almost cover different sub-factors. The literature also indicates similar kinds of views as the majority of the working-age population is generally involved in lower back pain problems (Fatoye et al., 2019). Skilled workers that have to deal with the nature of work that requires physical power has more probability of these kinds of problem. The findings also depict that eating habits and lifestyle are also a close association with health and lower back pain. People who used to smoke consistently have more chances of the lower back which was also known from the previous literature as well (Chou et al., 2017). It indicates the validity and reliability of the data and results. LBP is a serious health issue, there is a need to manage this issue appropriately according to the data of the participants (N=412), 68.8% of respondent were facing the issue of LBP, which represent the majority. The issue of lower back pain can be managed by enhancing physical activities in society, reducing the level of stress getting proper sleep and many more.

There are several determinants and risk factors that can lead to enhancing this health issue. According to the finding of the presented study, LBP has a close relation with the nature of work, exercise, sitting position, diagnosed arthritis and carrying heavy weights. The results of the presented study support the previous literature as it was found that the duration of the work, working position and nature of the work are the major risk factors that can lead to LBP (Andini, 2015). Consistently working in the same position can also affect human health the majority of the employees work 8-9 hours without any rest which increases the depression level as well. Doctors and healthcare consultants also recommend rest in the workplace in order to be active and productive. Rest is one of the substantial components of human life. The literature also demonstrates that there are many employees that do not have the LBP problem but instead of having years of working experience this was just because of managing the work-life balance and social activities. In contrast to this, the findings of the presented study do not have similar views with the previous research as in the past studies were conducted to know the impact of smoking on the LBP; it was significant (Chou et al., 2017). However, the findings of the presented research do not express the same results. The evaluation of the possible risk factors of the LBP expresses that there is not any linkage between smoking habits and lower back pain.

Smoking contains a higher level of nicotine which is not good for health. It creates resistance in the overall process of blood circulation. Gradually, the cells start dying which consequently impacts the vertebral discs (Schembri et al., 2020). This is considered the main determinant of the degenerative disc disease and mostly it has been seen that it can lead to LBP. There are several other activities like environment and health consultation. This is also generally happening in exceptional cases where the individual is consuming an unlimited amount of nicotine. Similarly, the findings of the presented study suggest that there is not any association between family history and LBP. However, this is against the clinical studies as health experts indicate that there are higher chances of LBP in an individual if their parent generation had this type of health issue (Dario et al., 2015). Therefore, this component needs to go through further investigation because it is a fact that genetics have an effect on the LBP. The LBP can create severe disorders in the life of the individual with regard to health. It not only increases the physical problem but can have significant impacts on mental health as well.

The LBP can have a significant impact on the day-to-day activities of the individual as it increases the level of anxiety and creates difficulties in housework as well even if it becomes challenging to perform the fundamental activities (Parreira et al., 2018; Wong et al., 2017; Almegbel et al., 2018). The findings of the presented study also suggest similar results. The nature of the impact can differ with regard to personal and work life as according to the opinion of the participants of the of Al-Baha region 28% of the respondents believe that LBP can be affected simply on the personal and working life. So, the participants' opinion varies with

regard to their own circumstances and condition. It is crucial for giving the best performance specifically in the workplace to remain active but the employees with the problem of the LBP can reduce the performance and productivity which consequently impact the organization's profitability. Most of the time it can be a major reason for changing the employee's job and organization which is also proved in the presented study. LBP requires timely treatment in terms of surgeries injuries or pain. It was also demonstrated in the findings of the presented research that 99% of the respondent that passed through lower back pain had to go through spinal surgery. Spinal decomposition is the most important and common surgery that is generally conducted to cure LBP. Hence, it was an excellent effort and experience of research regarding the prevalence and risk factors of LBP specifically with the general population in the Al-Baha region, Saudi Arabia. It was proved that there are several variables including the work nature (duration and position), lack of physical activities, sleep disorder and many more which can lead to enhanced LBP.

5. CONCLUSION

Low back pain (LBP) is one of the widely widespread chronic pain disorders that are generally found in a society that has a high burden of physical and mental work. There are different factors that can lead to LBP. The main objective of the present research is to investigate and evaluate the possible risk factors that can cause LBP and are the major reason behind the prevalence of the chronic specifically in the Al-Baha region, KSA. In order to accomplish the main objectives, a questionnaire was prepared and distributed to the people of the Al-Baha region. It has been found that the majority of the female (67.02%) has lower back pain while the ratios of the male were relatively low (32.98%). Similarly, the findings also demonstrated a close relationship of the LBP with the nature of work, exercise, sitting position, diagnosed arthritis and carrying heavy weights. On the other side nationality of the participant, their educational level, employment status and financial condition do not have any association with a lower back pain problem. The findings also suggest that the LBP has the potential to impact the personal, working and social life of the people specifically living in the Al-Baha region.

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Author Contributions

All authors contributed evenly with regards to development of study design, data collection and analysis, interpretation of data, drafting the manuscript and critical revision.

Informed consent

Informed consent was obtained from all individual participants included in the study.

Ethical approval

This study was approved by the Research Ethics Committee in Faculty of Medicine, Al-Baha University with the ethical approval number (REC/PAT/BU-FM/2022/53).

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Conflict of interest

The authors declare that there is no conflict of interests.

Data and materials availability

All data sets collected during this study are available upon reasonable request from the corresponding author.

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