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Original Article

Prevalence and Causes of Low Back Pain Among Women in the South-Western Region of Saudi Arabia

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Abstract

Aims & Objective: Lower back pain is a prevalent health issue that affects individuals worldwide, including women. In Saudi Arabia, women face unique challenges and factors that contribute to the development and experience of lower back pain. Understanding the specific context of lower back pain among women in Saudi Arabia is essential for effective prevention, management, and healthcare interventions. **Methodology:** The descriptive analytical method was relied upon to complete this study, where the research sample consisted of 82 women from the Jazan University community who were chosen randomly. The average age of participants with low back pain was 27.5 years, ranging from 18-35 years. Women with pain had a higher mean weight (56 kg) and body mass index (mean 23.04 kg/m) than the total sample. **Result:** Results showed that there is a relationship between the severity of pain and the type of profession in the samples, as it was found that the category that suffers from the severity of pain greater than average is the category of teachers and students compared to other professions. The results also showed that there was no correlation between the severity of pain and the number of children for the women in the study sample (P value = 0.153>0.05). The nonsignificant p value (0.153) indicates that there is no clear association in this sample. **Conclusion:** Our study sheds light on the complex interplay of factors influencing lower back pain (LBP) among women, revealing no significant correlation between LBP severity and both age and BMI, and similarly with the number of children.

Key Words: Low Back Pain, Causes, Adult Women, Risk Factors, Prevalence.

Introduction

Lower back pain (LBP) is a prevalent musculoskeletal condition worldwide, with a notably higher occurrence among women, which varies regionally and across populations. The condition has particularly risen to prominence in Saudi Arabia, where it significantly impacts women's quality of life and imposes an economic burden

on individuals and healthcare systems (Abolfotouh, M. et al. 2021; Ahmed, et al. 2023). Saudi Arabia's distinct sociocultural environment significantly shapes the prevalence and treatment of LBP among women, where societal norms traditionally limit their physical activity, contributing to risk factors like muscle imbalance, weak core muscles, and poor posture (Aljohani, A. A. et al. 2023).

Occupational roles in Saudi Arabia often entail prolonged sitting or standing, such as in office work, teaching, and healthcare sectors. Inadequate ergonomic support and workplace adjustments compound the risk of LBP for women in these professions (Al-Arfaj et al. 2003). Moreover, life stages such as pregnancy and motherhood are pivotal in exacerbating LBP, with an uptick in the number of working women, alongside delayed marriage, and childbirth ages, leading to pregnancy-induced strain on the back, compounded by childcare physical demands (Buragadda, S. et al.2018; Caputo, E. et al.2021).

Cultural perceptions and healthcare-seeking behaviors also play a critical role, with traditional remedies often favored and religious beliefs shaping the reception and management of pain, influencing the likelihood of seeking medical advice and following treatment plans (Alburaidi, I. 2020; Bento, T. P. F. 2020). The accessibility to healthcare services is pivotal in managing LBP effectively. Women in Saudi Arabia may confront obstacles in accessing suitable healthcare, exacerbated by cultural norms and limited specialized pain management resources (Al Bahrani et al.2015; Ahmed, H. et al.2016).

Acknowledging the significant influence of sociocultural contexts, occupational demands, pregnancy, and healthcare-seeking behaviors is crucial in addressing LBP among Saudi Arabian women. Enhancing awareness, encouraging physical activity, integrating ergonomic practices at work, and ensuring the availability of accessible, culturally attuned healthcare services are essential. This approach will enable healthcare providers and policymakers to tailor interventions that ameliorate women's LBP and enhance their life quality (Almalki, M. et al.2016; Al Rawaf. R.K. et al. 2019).

This study aims to explore the prevalence and causes of low back pain (LBP) among young adult women in the South-West of Saudi Arabia, highlighting the impact of sociocultural norms, occupational demands, pregnancy-related factors, and healthcare access. It hypothesizes that these unique factors significantly contribute to the higher incidence of LBP in this population compared to others. The significance of this research lies in its potential to inform targeted interventions and policies, improving the quality of life for women in this region by addressing LBP through a culturally and contextually informed lens. By providing insights into the specific challenges faced by young adult women in the South-West of Saudi Arabia, the study aims to contribute to the global understanding of LBP and its management.

Methodology

This research was structured as a cross-sectional study, relying on primary data gathered from participants within the targeted demographic. The objective was to ascertain the prevalence and determinants of low back pain among adult women in a specific age range.

The investigation was conducted in Jazan, Saudi Arabia. For data collection purposes, approximately 200 invitations to participate in an online survey were disseminated via email. Out of these, a total of 82 responses were received, yielding a response rate of 41%. The target population for the study encompassed adult women aged between 18 and 35 years.

The data collection tool for this study was a carefully structured questionnaire, which served as the cornerstone for gathering relevant information on low back pain (LBP) among adult women. This instrument was meticulously designed to capture a comprehensive range of data, including demographic details, lifestyle factors, occupational exposures, and health-related behaviours that could influence the occurrence and severity of LBP.

The questionnaire encompassed 15 questions, each crafted to delve into different aspects that might contribute to LBP. These inquiries addressed a variety of potential contributing factors, such as the duration of daily sedentary activity, the frequency and type of physical exercise, occupational history, ergonomic practices at work, previous history of back injuries or chronic conditions, pregnancy and postpartum experiences, and the psychological impact of LBP on daily functioning.

To ensure the relevance and clarity of the questions, the questionnaire was developed in consultation with medical professionals who specialize in musculoskeletal disorders, as well as experts in survey methodology to ensure the questions were unbiased and understandable. Prior to its distribution, the questionnaire underwent a pilot testing phase with a small subset of the target population to refine the wording of questions and the overall flow of the survey, thus ensuring reliability and validity of the instrument.

Once finalized, the questionnaire was distributed electronically, utilizing a survey platform that facilitated easy and secure data collection. Respondents were invited via email, with reminders sent to maximize the response rate. The data collection process was designed to be user-friendly and accessible, allowing participants to complete the survey at their convenience, thereby increasing the likelihood of thoughtful and thorough responses.

The collected data from these questionnaires provided the raw material for subsequent statistical analysis, where the responses were coded, categorized, and analysed to discern patterns, correlations, and insights into the prevalence and causes of LBP in the study population. This data collection tool was critical in translating the lived experiences of the women into quantifiable data that could be methodically analysed to answer the research questions posed by the study.

Upon collection, the data were systematically arranged and analyzed using Microsoft Excel for initial organization, followed by more advanced analyses with IBM SPSS Statistics version 21 software. The analytical approach combined descriptive statistics to capture the overall distribution and central tendencies of the data, with inferential statistical methods applied to determine the relationships and potential predictors of low back pain within the study cohort. This two-pronged analytical strategy was designed to yield both a comprehensive overview and detailed insights into the factors influencing low back pain prevalence in the population under study.

Results

Demographically (Table 1), the median age of the participants was 28 years, with most falling between the ages of 22 and 34, and a broader range of 20 to 45 years. The average weight was recorded at 56 kg, with a range of 36 to 100 kg. Heights averaged at 156 cm, ranging from 120 to 177 cm, and the median Body Mass Index (BMI) was 23.04 kg/m^2, within a range of 14.6 to 48.6 kg/m^2.

Table 1: Demographic characteristics of the population

Characteristics	Median	Inter Quartile Range (25^{th}, 57^{th})	Range
Age (Years)	28	(22, 34)	20 - 45
Weight (kg)	56	(49, 65)	36 - 100
Height (cm)	156	(152, 160)	120 - 177
Body Mass Index (kg/m^2)	23.04	(19.53, 27.27)	14.6 - 48.6

When examining the severity of LBP (Table 2), the study found a slight increase in both age and BMI with increasing pain severity, although these trends were not statistically significant. Specifically, the median ages across the pain categories were as follows: no pain at 27 years, mild pain at 23 years, moderate pain at 29 years, and severe pain at 33 years. A similar incremental trend was observed for weight and BMI, with the highest values noted in the severe pain category (68 kg and 26.15 BMI, respectively). However, the median heights remained consistent across pain categories.

Table 2: Association between lower back pain severity and demographic variables among young adult woman in south-west of Saudi Arabia.

	Pain Severity **(Median)**			
	No pain	1-3 mild	4-6 moderate	7-10 severe
Age (Years)	27	23	29	33
Weight (kg)	55	52	60	68
Height (cm)	158	155	156	155
BMI	22.09	21.91	24.03	26.15

Professionally (Table 3), the distribution of LBP varied, with teachers experiencing the highest counts of moderate to severe pain, followed by students and nurses. The other professions listed, including administrative and healthcare roles, showed a lower presence of reported LBP.

Table 3: Association of lower back pain severity with professional occupation among young adult women in south-west Saudi Arabia.

	Pain Severity (count)			
Profession	No pain	1-3 mild	4-6 moderate	7-10 severe
Accounting	0	1	0	0
Administrative	0	0	1	0
Casher	0	0	1	0
Employee	0	0	2	0
Healthy Assistant	0	1	0	0
Housekeeper	1	1	2	1
HR	0	1	0	0
Lab specialist	0	0	1	0
Manager assistant	0	0	0	1
Nurse	0	0	1	2
Pharmacist	0	0	1	0
Student	6	15	7	3
Teacher	3	7	14	6

Unemployed	0	2	0	1

Regarding the number of children (Table 4), our study revealed no statistically significant association between the number of children and the severity of LBP (P-value = 0.153), suggesting that in this sample, the variance in LBP could not be attributed to the childbearing factor.

Table 4: Relationship between the number of kids and lower back pain among young adult women in south-west Saudi Arabia.

	0 No pain	1-3 Mild	4-6 Moderate	7-10 Severe	P-Value
No kid	7 (15.6%)	20 (44.4%)	13 (28.9%)	5 (11.1%)	0.15
1 to 4 kids	2 (8%)	7 (28%)	10 (40%)	6 (24%)	
5 to 7 kids	1 (8.3%)	1 (8.3%)	7 (58.3%)	3 (25%)	

While age, BMI, and the number of children showed some relationship with LBP severity, these associations were not statistically significant. Professional roles, however, did present a more discernible pattern, with certain occupations like teaching showing a higher prevalence of reported LBP. These findings call for a broader examination of occupational and lifestyle factors beyond physical metrics to better understand the dynamics of LBP in women.

Discussion

The intricate nature of lower back pain (LBP) among women, as highlighted by our study's results, necessitates a nuanced understanding that considers a range of factors beyond mere physiological metrics. Although our study did not find statistically significant correlations between the severity of LBP and both age and Body Mass Index (BMI) among women, this aligns with a broader pattern in existing literature. Research by Liang and Haldeman (2018) and Manchikanti et al. (2014) supports this finding, demonstrating that the connections between age, BMI, and LBP can be complex, with varying degrees of association reported across different studies. This suggests a need for a more detailed exploration of how these factors might interact with other variables such as lifestyle, genetic predisposition, and psychological factors to influence LBP risk and severity.

Furthermore, our study's observation that the number of children does not significantly correlate with LBP intensity among women presents an interesting divergence from previous studies. Some research suggests a higher prevalence of back pain among women with more children, attributed to the physical strains of pregnancy, childbirth, and childcare activities (Yang & Haldeman, 2018; Ferreira et al., 2023). However, the lack of significant findings in our study could indicate the presence of moderating factors such as the quality of postpartum care, physical activity levels, and individual coping mechanisms, which may buffer against the development of LBP.

Occupational factors also play a crucial role in the prevalence and severity of LBP among women, as evidenced by our findings and supported by existing research. Professions that entail prolonged periods of sitting, standing, or repetitive movements have been associated with a higher risk of developing LBP (Pinto et al., 2020; Schmagel et al., 2016). This is particularly true for jobs with high physical or psychological stress levels, such as teaching and office work, underscoring the importance of ergonomic interventions and stress management strategies in these environments. The correlation between occupational demands and LBP highlights the need for workplace health initiatives that promote regular physical activity, proper posture, and frequent breaks to mitigate LBP risk.

In synthesizing our findings with the existing body of research, it becomes evident that LBP in women is influenced by a constellation of factors that extend beyond simple demographic or occupational characteristics. This multifactorial nature of LBP underscores the importance of adopting a holistic approach in both research and clinical practice, which considers the physical, psychological, and socio-economic dimensions of health. As such, future research should aim to explore these relationships further, employing longitudinal designs and diverse populations to unearth the nuanced dynamics of LBP. By doing so, we can move towards more effective, tailored interventions and policies that address the unique needs and challenges of women experiencing LBP, ultimately improving their quality of life, and reducing the burden of this pervasive condition.

Conclusion

Our study sheds light on the complex interplay of factors influencing lower back pain (LBP) among women, revealing no significant correlation between LBP severity and both age and BMI, and similarly with the number of children. This underscores the multifactorial nature of LBP, highlighting the necessity for a holistic approach in understanding, preventing, and managing this condition. The findings emphasize the importance of considering

occupational risks, lifestyle factors, and the broader socio-economic context in addressing LBP among women. As it aligns with existing literature, our research reinforces the call for more nuanced, interdisciplinary research and tailored interventions to effectively combat LBP, aiming to improve the health outcomes and quality of life for women facing this challenge. This study contributes to a deeper understanding of LBP's complexities and underscores the need for targeted strategies that address the unique experiences and needs of women.

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