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Abstract

Low back pain (LBP) is a prevalent global health concern that greatly impacts daily activities. Nevertheless, it has been extensively studied among healthcare practitioners in Iraq.

Prevalence and Predictors of Low Back Pain Among a Sample of Iraqi Academic Staff: A Cross-Sectional Study

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The effects on university faculty have not been sufficiently examined, even though they spend long durations sitting and standing. An analytical cross-sectional study was performed using a convenience sample of 98 academic personnel (clinical and non-clinical) in Babylon, Iraq, to evaluate the prevalence of LBP over different periods and identify related socio-demographic, occupational, and anthropometric factors. Participants finished the Nordic Musculoskeletal Questionnaire. Prevalence was assessed at the lifetime, 12-month, 4-week, and point (current-day) measures.

The lifetime prevalence of LBP was 56.1%, reducing to 35.7% in the previous year, 31.6% in the last month, and 25.5% on the survey day. Daily working hours demonstrated a notable difference ($p=0.035$), with individuals experiencing LBP working fewer hours (average 5.4) in contrast to those unaffected by LBP (average 5.6). This surprising outcome questions the theory that extended working hours increase the likelihood of LBP. Among individuals with 12-month LBP ($n=35$), 54.3% indicated experiencing limitations in their activities. Working 6 or more hours daily was linked to decreased chances of LBP, though this link was not statistically significant. A notable correlation was identified with height ($p=0.004$); people with LBP often appeared to be taller. This could suggest discrepancies in ergonomics or biomechanical strain. No notable connections were identified for age, teaching experience, gender, chronic illness, or occupation type ($p>0.05$), likely indicating traits of academic employment.

Low back pain is a frequent problem within the researched group of Iraqi academic staff. The inverse relationship with working hours indicates possible ergonomic or activity-related confounding factors. Implementing ergonomic measures is recommended.

Keywords: Low back pain (LBP), Academic staff, Prevalence, Iraq.



Introduction

Lower back pain is among the most common and debilitating ailments, marked by discomfort in the lower back. It can disrupt everyday tasks and has a considerable adverse effect globally (1). This condition impacts over 600 million individuals worldwide (2). The majority of studies suggest that 50%-80% of individuals have faced low back pain at some time during their lives (1-3).

Overall, academic and teaching personnel experience reduced physical demands compared to other professionals, as their roles require teaching, research, and extended periods of sitting and standing (2). In comparison, healthcare professionals have physically demanding roles (4). The incidence of low back pain in academic personnel may be linked to various factors, such as gender, age, and educational level. Additionally, extended hours in fixed positions, whether seated or upright, could also be a significant contributing element (2,5).

The female gender has historically been recognized as a risk factor for low back pain; this connection may stem from hormonal factors, physical capabilities, and reproductive concerns (2,5). The aging process has been recognized as a contributing factor for low back pain because of degenerative alterations that happen throughout a lifetime (6).

Although studies indicate that over 90% of health professionals in Iraq experience low back pain (LBP), there is still a lack of information concerning the prevalence of this condition among a significant group: university academic staff in the Iraqi community, particularly in the Babylon region (7,8). The stated

The prevalence of LBP differs, with approximately 22% of academic staff affected from 11% in Thailand to over 55% in Ethiopia. This variation may represent the working conditions for academic personnel, hours of work, methodologies, or additional cofactors (2,5).

The research seeks to assess the prevalence of low back pain in a sample of Iraqi academic personnel and to identify factors linked to LBP. This study aims to assess the occurrence of low back pain as chronic pain over the last year, the last month, and at the time of the survey, and to determine potential associations and predictors such as gender, age, and occupation, along with the effect of LBP on everyday activities. The main hypothesis is that increased average daily working hours correlate with greater odds of LBP. The secondary hypothesis suggests that there is a connection between academic rank and LBP.

Materials & Methods

Study Design

Although studies indicate a significant occurrence of low back pain (LBP) among health professionals in Iraq, estimated to exceed 90%, there is still a lack of knowledge concerning the prevalence of this critical group, the university academic staff in the Iraqi community, particularly in the Babylon region (7,8). The stated

The occurrence of LBP differs, fluctuating around 22% within academic personnel, ranging from 11% in Thailand to over 55% in Ethiopia. This variation may indicate the working



conditions for academic personnel, hours worked, methods used, or other influencing factors (2,5).

The research seeks to assess the prevalence of lower back pain among a group of Iraqi academic personnel and to identify factors linked to LBP. This study aims to assess the prevalence of low back pain as a chronic issue over the last year, the previous month, and at the moment of the survey, while also determining potential associations and predictors such as gender, age, and occupation, along with the effects of LBP on everyday life. The main hypothesis suggests that increased average daily working hours correlate with greater likelihood of LBP. The secondary hypothesis posits that LBP is associated with academic rank.

Statistical Analysis

The statistical analysis was conducted using IBM SPSS 24. Descriptive statistics are provided for lifetime, 12 months, 4 weeks, and at the point of the questionnaire. Continuous variables are presented as means and standard deviations, while categorical variables are shown as percentages, due to the restricted sample size (n=98) and the count of LBP cases (n=35). Continuous variables were assessed between groups utilizing an independent-samples t-test. Categorical variables were evaluated through chi-square tests. Relationships between LBP and possible predictors were analyzed through uni

variate logistic regression. Results are presented as unadjusted odds ratios and 95% confidence intervals. p-values less than 0.05 are deemed significant. The examination was restricted to univariate regression to prevent overfitting.

Results:

Prevalence of Low back pain

The lifetime prevalence of LBP is 56.1% (95% CI: 46.3-65.9), suggesting that over half of all academic personnel have encountered LBP at some time. The occurrence of LBP decreased by approximately 35.7% in the past year, 31.6% in the previous month, and 25.5% today. This frequency indicates that LBP is a significant health issue. The shift in prevalence from 12 months to four weeks, and subsequently to today, indicates that this pain is episodic rather than chronic. This episodic discomfort aligns with the requirements of the workload (Table 1).

Sample Population Characteristics

The study population's age ranged from 25 to 75 years, with an average age of 46.4 years. Males accounted for 75.5% of the participants. The participants had excess weight, showing an average BMI of 28.6 kg/m². The average teaching experience was 10.3 years, with a typical daily duration of 5.5 hours. Approximately 35.7% of the participants indicated that they had a chronic illness, including diabetes and/or hypertension (Table 2).

Table 1: Prevalence of Low back pain

Time Period	Cases (n)	Prevalence	95% CI
Lifetime (Ever)	55	56.1%	(46.3-65.9)
Past 12 months	35	35.7%	(26.2-45.2)
Past 4 weeks	31	31.6%	(22.4-40.8)
Today	25	25.5%	(16.9-34.1)



Table 2: Participant Characteristics (n=98).

Variable	Mean ± SD	Range (Min-Max)
Age (years)	46.4 ± 15.2	25.0 - 75.0
BMI (kg/m ²)	28.6 ± 4.2	20.8 - 36.7
Years of Teaching	10.3 ± 11.3	1.0 - 45.0
Daily Working Hours	5.5 ± 0.7	2.0 - 6.0
Weight (kg)	82.4 ± 12.5	54.0 - 113.0
Height (cm)	169.9 ± 7.1	156.0 - 190.0
Categorical variables		n (%)
Gender	Female	24 (24.5%)
	Male	74 (75.5%)
Chronic Disease	No	63 (64.3%)
	Yes	35 (35.7%)
Job Type	Clinical	59 (60.2%)
	Non-Clinical	39 (39.8%)

Characteristics by LBP Status (Past 12 Months)

Daily working hours revealed a statistically significant difference ($p=0.035$), with individuals experiencing LBP working fewer hours (5.4) compared to those without LBP (5.6). This surprising result challenges the assumption that extended working hours elevate the likelihood of LBP. Height showed a notable difference ($p=0.004$), as individuals with LBP were generally taller. This height measurement is intriguing and could indicate an ergonomic discrepancy or biomechanical strain (Table 3).

Impact of LBP on Function

Approximately 54% of participants who experienced LBP in the previous year indicated that it disrupted their daily activities. Approximately 31.4% had altered their employment, and

around 11.4% indicated the requirement for hospital admission due to pain. In this sample, just 14.3% indicated they had taken sick leave, implying that participants persisted in working despite their discomfort. This pattern of persisting in work despite discomfort could elevate the risk of chronic low back pain (Table 4).

Association between predictors and LBP (Univariate Analysis)

Working six or more hours daily was linked to reduced odds; nonetheless, this pattern did not achieve statistical significance (OR=0.40, 95% CI: 0.17-0.94, $p=0.055$). No notable correlations were found regarding age, teaching experience, gender, chronic conditions, or occupation type ($p>0.05$). This connection may represent features of scholarly activity (Table 5).



Table 3. Characteristics by LBP Status (Past 12 Months)

Variable	LBP Present (n=35)	LBP Absent (n=63)	p-value
Age (years)	44.2 ± 16.0	47.6 ± 14.7	0.342
BMI (kg/m ²)	27.4 ± 4.0	29.2 ± 4.2	0.056
Years of Teaching	9.4 ± 10.8	10.9 ± 11.6	0.147
Daily Working Hours	5.4 ± 0.6	5.6 ± 0.7	0.035
Weight (kg)	81.4 ± 12.4	83.0 ± 12.6	0.275
Height (cm)	172.4 ± 7.5	168.6 ± 6.6	0.004

Data presented as Mean ± SD. Comparisons between groups were made using Independent Samples T-test. "Values of p<0.05 were considered to be significant."

Table 4 Impact of LBP Function

Impact Indicator	n (%)	95% CI
Activity Limitation	19 (54.3%)	(37.8-70.8)
Doctor/Healthcare Visit	17 (48.6%)	(32.0-65.1)
Medication Use	19 (54.3%)	(37.8-70.8)
Sick Leave	5 (14.3%)	(2.7-25.9)
Work Duty Changes (Ever)	11 (31.4%)	(16.0-46.8)
Hospitalization (Ever)	4 (11.4%)	(0.9-22.0)

Table 5: Factors Associated with LBP (Univariate Analysis)

Variable	Crude OR	95% CI	p-value
Age (≥44 vs <44 years)	0.77	(0.33-1.75)	0.673
BMI (≥28.3 vs <28.3 kg/m ²)	0.53	(0.23-1.23)	0.206
Years Teaching (≥5 vs <5 years)	0.40	(0.17-0.97)	0.067
Working Hours (≥6 vs <6 hrs./day)	0.40	(0.17-0.94)	0.055

Discussion

This research evaluated the occurrence of low back pain among university faculty in Babylon, Iraq, as well as its contributing factors and effects on this group. Over half of the participants indicated that they have had low back pain at some time in their lives. Moreover, more than

one-third indicated experiencing low back pain in the previous 12 months. These results underscore a common issue within this community. This research investigated the occurrence of low back pain in university faculty in Babylon, Iraq, as well as its factors and consequences for this



specific group. Over 50% of the participants indicated they had experienced lower back pain at some time in their lives. Additionally, over one-third reported having low back pain in the past twelve months. These observations highlight a major health issue common among this segment of the population.

The research revealed that 56.1% of academic personnel had encountered low back pain at some time in their lives. This aligns with the reported occurrence of low back pain in academic personnel in Ethiopia in the past year, which was 55.7% (2). A similar proportion was noted among bank employees in Ethiopia (55.4%; 10) and among educators in Botswana (55.7%). In Somaliland, around 52% of primary school educators indicated experiencing low back pain (11). These comparable percentages suggest that occupations that require extended sitting, standing, or repetitive movements might all play a role in this worldwide problem. The differences might indicate variations in physical requirements; healthcare workers encounter difficulties from patient care and extended periods of standing, while academic personnel deal with lengthy sitting and mental strain. In this research, the prevalence dropped from lifetime (56.1%) to 12-month (35.7%), 4-week (31.6%), and point (25.5%). This reduction in low back pain might indicate that these occurrences are intermittent rather than continuous. Other research has likewise indicated a comparable reduction in pain pattern (2).

A cross-sectional investigation conducted by Al Bakri et al. (2024) indicated that over 90% prevalence was observed within a 12-month period among healthcare professionals in Iraq. This elevated prevalence might indicate the physical challenges faced by hospital healthcare staff in

contrast to academic personnel at universities, since the sample consisted solely of clinical healthcare workers. Nonetheless, the research does not have a systematic approach, potentially leading to sampling bias (8). Research conducted by Khudhir et al. (2017) (7) found that approximately 61% of academic personnel experienced low back pain. The research involved both academic and administrative personnel, featured a limited sample size (70), employed vague sampling methods and an unreliable questionnaire, and failed to control for possible confounding factors in its regression analysis, which could account for the elevated 12-month low back pain prevalence. In Iran, a group exceeding 160,000 individuals showed a lifetime prevalence of LBP at 25.2%. The difference might result from the study encompassing various occupational groups that have distinct physical activities and requirements (12).

Even though participants with low back pain exhibited a lower average BMI compared to those without it, BMI was not a significant predictor in the regression analysis ($p=0.206$). This implies that, in this academic group, BMI might not be the main influence on low back pain when compared to occupational factors. This research did not identify a link between age, gender, or academic status and low back pain. Nonetheless, the female gender has been identified as a predictor of LBP (2, 13). The research conducted in Ethiopia by Hailu et al. (2025) offered the most pertinent evidence for academic personnel, encompassing 607 staff members who filled out the validated Nordic questionnaire. Nonetheless, the research occurred during COVID-19, an era marked by a sedentary way of life, potentially affecting the outcomes.



The absence of a connection noted in this study might result from work distribution, cultural influences, and hormonal elements. A reverse correlation was noted between work hours and LBP, with those working over 6 hours showing reduced odds; nevertheless, this was not statistically significant ($p>0.05$). The cross-sectional research conducted by Mohammedi et al. (2017) indicated that a sedentary lifestyle correlates with LBP in teachers. This research focused on psychosocial stressors and pain-related activity limitations instead of activity protection (3). These results align with studies from Ethiopia (56%), Somaliland (52%), and Saudi Arabia, indicating that the characteristics of the academic lifestyle influence various regions despite cultural variations, unlike other research that has found a positive association between extended working hours and LBP (2, 11). This finding might be explained by the fact that physical activity leads to improved health compared to a sedentary lifestyle, and it could be related to the nature of the job, as the extended working hours of academic staff contrast with those of health professionals, who have varying physical activity requirements. Nevertheless, since physical activity levels were not assessed directly, this result remains a hypothesis in this research and needs further exploration. Additionally, this discomfort could be associated with improper posture and repetitive actions that exert biomechanical strain on the lower back (3, 14). Furthermore, extended periods of physical inactivity can result in weakened paraspinal muscles and spinal misalignment (15). This research found no correlation between LBP and teaching experience. This result aligns with the findings of other research (2, 7).

The majority of participants in this study indicated that LBP resulted in restrictions on physical activity and decreased working hours. One limitation of this research is its dependence on concrete stress instead of a reliable psychometric measurement (13). Although the prevalence of LBP is reported to be high, few participants actually took sick leave, as academic staff persisted in working despite experiencing pain. This discovery is also mentioned by Workneh et al. (10). This could indicate job pressures, role expectations (presenteeism), or possible job instability, as working through pain may heighten the likelihood of chronic low back pain and prolonged disability.

Limitations of the study

This study's limitations involve its cross-sectional design, which prevents causal relationships from being established. The Nordic Musculoskeletal self-report questionnaire might lead to recall bias as it depends on self-reported pain instead of clinically diagnosed issues. Furthermore, the research did not evaluate the physical activity levels of each participant. The limited sample size might have restricted the capability to identify modest relationships. While this research establishes a crucial baseline for academic personnel in Iraq, it is a single-center investigation, which greatly restricts the applicability of the results to all Iraqi academic staff. Merging clinical and non-clinical groups could conceal particular job-related hazards. It is suggested to conduct future multi-center studies involving larger sample sizes and utilizing multi-variable models.



Conclusion

Low back pain is a common issue faced by the examined group of Iraqi academic personnel. The inverse relationship with working hours indicates the existence of ergonomic or activity-level confounding factors. Ergonomic measures are advised.

Ethical approval

The ethical clearance has been granted by the Review Committee of Al Mustaqbal University (No. Reh 1-2.3.26).

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Conflicts of interest: The author declares no conflict of interest.

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REFERENCES

1. Kandeel F, Mohamed F, Farrag NS, Galhom AE. Prevalence and Predictors of Low Back Pain among Medical Students from Egypt. *Advanced Spine Journal*. 2025;44(1):8-15.
2. Hailu Tesfaye A, Abere G, Demoze L, Yitageasu G, Mekonnen TH. Low back pain among academic staff at a university in Ethiopia: a cross-sectional study. *BMJ Open*. 2025 Oct;15(10):e096965.
3. Mohammadi G. Prevalence of low back pain and associated risk factors among high school teachers in Kerman, Iran. *Journal of Musculoskeletal Research*. 2017 Mar 4;20(01):1750005.
4. Abbas J, Abu-Leil S, Hamoud K, Joubran K. Low Back Pain Characteristics Among Health Science Undergraduates: A Prospective Study for 2-Year Follow-Up. *Journal of Clinical Medicine*. 2026 Jan 14;15(2):684.
5. Ogunboyo OF, Halid OY, Adigun KA, Ilesanmi AO. Prevalence and determinants of low back pain among lecturers: a quantitative approach. *Journal of Scientific Research and Reports*. 2019 Apr 25;23(3):1-8.
6. Madhi ZS, Al-Jubouri MD, Madhi IS, Mehzen JT, Leach J, Verma R, Yasin MN, Mohammed S, Arnell F, Siddique I. Pre-operative Leg Pain as a Predictor of Clinical Outcomes after Single Lumbar Microdecompression Surgery in Young and Middle-Aged Groups: A Retrospective Study. *Al-Rafidain Journal of Medical Sciences* (ISSN 2789-3219). 2024 May 17;6(2):89-93.
7. Khudhir KM, Mahmood KA, Saleh KK, Hossain M. A cross-sectional study to determine the prevalence and risk factors of low back pain among public technical institute staff in Kurdistan Region, Iraq. *F1000Research*. 2017 Feb 23;6:182.
8. Al-Bakri SH, Al-Shuwaili SJ, Ataimish HH. The prevalence and risk factors of lower back pain among healthcare workers in Iraq: A cross-sectional study. *Romanian Journal of Rheumatology*. 2024;33(1):11-4.
9. Al Amer HS, Alharbi AA. Arabic version of the Extended Nordic Musculoskeletal Questionnaire, cross-cultural adaptation, and psychometric testing. *J Orthop Surg Res*. 2023;18(1):672.
10. Workneh BS, Mekonen EG. Prevalence and associated factors of low back pain among bank workers in Gondar City, Northwest Ethiopia. *Orthopedic research and reviews*. 2021 Feb 9:25-33.



11. Shegere MM, Abdilahi AM, Ali SY, Farah NB, Adem BA, Nour AJ. Magnitude of low back pain and associated factors among primary school teachers in Borama City, Somaliland: an institutional-based cross-sectional study. *BMJ Open*. 2025 Aug 1;15(8):e099934.
12. Ghafouri M, Teymourzadeh A, Nakhostin-Ansari A, Sepanlou SG, Dalvand S, Moradpour F, Bavarsad AH, Boogar SS, Dehghan M, Ostadrahimi A, Aghazadeh-Attari J. Prevalence and predictors of low back pain among the Iranian population: Results from the Persian cohort study. *Annals of Medicine and Surgery*. 2022 Feb 1;74:103243.
13. Almansour AH, Almutairi DS, Alaskar TM, Kalkatawi MS, Aljubair MF, Alotaibi RS, AlHarkan KS, Alqahtani HA, AlOmar RS. Prevalence of low back pain and disability among secondary school teachers in the eastern province of the Kingdom of Saudi Arabia: a cross-sectional analytical study. *Frontiers in Public Health*. 2024 Jan 12;12:1307845.
14. Zenda KP, Rathebe PC, Moto TP, Masekameni DM, Mbonane TP. Prevalence of lower back pain and associated workplace and ergonomic factors among Mineworkers in a nickel mine, Zimbabwe. *Safety*. 2024 Sep 16;10(3):81.
15. Tesfaye AH, Abere G, Mekonnen TH, Jara AG, Aragaw FM. A systematic review and meta-analysis of low back pain and its associated factors among school teachers in Africa. *BMC musculoskeletal disorders*. 2023 Jun 17;24(1):499.

