

Prevalence of Piriformis Syndrome in Bankers And Its Risk Factors in Bankers Among City Sialkot

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ABSTRACT

Background: Piriformis syndrome is an occupationally relevant neuromuscular cause of buttock pain with possible sciatic-type radiation, frequently reported in sedentary workers and potentially influenced by prolonged sitting, poor ergonomics, and excess body weight. **Objective:** To determine the prevalence of piriformis syndrome and its associated occupational and lifestyle risk factors among bankers in Sialkot, Pakistan. **Methods:** A cross-sectional observational study was conducted across multiple banks in Sialkot among bankers aged 25–55 years who performed desk-based work (≥ 6 hours/day or ~ 30 hours/week) and reported piriformis-compatible symptoms. Participants with pregnancy, prior hip/pelvic/lumbosacral trauma or surgery, or known spinal/neurological disorders were excluded. Data were collected using a structured 28-item questionnaire and standardized provocative testing (FAIR test and Pace sign). Piriformis syndrome was operationally defined as compatible symptoms with positive findings on both provocative tests. Associations were evaluated using chi-square testing and multivariable logistic regression (SPSS v26). **Results:** Among 377 bankers (mean age 34.06 ± 7.92 years; mean BMI 24.50 ± 4.49 kg/m²), piriformis syndrome prevalence was 43.8% (165/377; 95% CI 38.7–48.9). Prolonged sitting > 8 hours/day (adjusted OR 2.18; 95% CI 1.39–3.42; $p=0.001$), rare breaks from sitting (aOR 2.63; 95% CI 1.66–4.17; $p<0.001$), overweight/obesity (a OR 1.97; 95% CI 1.26–3.07; $p=0.003$), and poor sitting posture (aOR 2.21; 95% CI 1.42–3.43; $p<0.001$) were independently associated with piriformis syndrome, while low physical activity was not significant after adjustment ($p=0.061$). **Conclusion:** Piriformis syndrome was highly prevalent among symptomatic bankers in Sialkot and was independently associated with prolonged sitting, infrequent breaks, elevated BMI, and poor sitting posture, supporting targeted ergonomic and movement-based workplace prevention.

Keywords: Bankers; Piriformis syndrome; Ergonomics; Sedentary lifestyle; Body mass index; Occupational risk factors; Prolonged sitting.

INTRODUCTION

Piriformis syndrome (PS) is a neuromuscular condition characterized by buttock pain with or without radiation along the sciatic nerve distribution, resulting from irritation or compression of the sciatic nerve by the piriformis muscle (1). The piriformis is a flat, pear-shaped muscle located deep in the gluteal region, originating from the anterior surface of the sacrum and inserting onto the greater trochanter of the femur, serving as an important external rotator and stabilizer of the hip (2). Owing to its close anatomical relationship with the sciatic nerve, variations in muscle anatomy, muscle hypertrophy, or prolonged mechanical stress can predispose individuals to nerve compression and pain syndromes that clinically mimic lumbar radiculopathy (3). This overlap in presentation contributes to diagnostic challenges and frequent misclassification of PS, particularly in populations with high exposure to prolonged sitting and static postures (4).

Piriformis syndrome has been increasingly reported among individuals engaged in sedentary occupations, where prolonged sitting, limited mobility, and suboptimal ergonomic practices contribute to muscular tightness, imbalance, and altered pelvic biomechanics (5).

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Occupational groups such as bankers, information technology professionals, and office workers are particularly vulnerable due to sustained hip flexion, reduced gluteal activation, and prolonged loading of the deep hip rotators (6). Clinical manifestations commonly include deep buttock pain, pain aggravated by prolonged sitting or standing, difficulty with transitional movements such as rising from a chair, and radiating pain into the posterior thigh or leg (7). These symptoms negatively affect work productivity, functional capacity, and overall quality of life, making PS an important occupational health concern.

Previous epidemiological studies have reported wide variability in the prevalence of piriformis syndrome, largely due to differences in diagnostic criteria, study populations, and assessment methods. Studies conducted among bankers and sedentary workers in South Asia have reported prevalence estimates ranging from approximately 50% to over 70%, particularly in individuals with prolonged sitting duration and higher body mass index (BMI) (8,9). Desai and Anand reported a prevalence of 51.9% among Indian bankers, with significantly higher rates in individuals sitting for more than eight hours daily (9), while Rehman et al. observed a prevalence exceeding 70% in Pakistani bankers (10). Conversely, studies in other sedentary occupational groups, such as tailors and handcrafters, have demonstrated comparatively lower prevalence rates, suggesting that occupation-specific ergonomic demands may influence risk (11,12).

Despite growing evidence linking piriformis syndrome to sedentary work, several important gaps remain. Many studies rely on self-reported symptoms without standardized clinical confirmation, while others include only symptomatic participants, limiting the interpretability of prevalence estimates (13). Additionally, the majority of available literature focuses on general office workers or clinical populations, with limited data specific to bankers in smaller urban centers such as Sialkot, where workplace ergonomics, awareness of musculoskeletal health, and access to preventive interventions may differ substantially from larger metropolitan areas. Furthermore, although risk factors such as prolonged sitting, obesity, poor posture, and low physical activity have been suggested, few studies comprehensively evaluate these factors alongside standardized provocative tests such as the Flexion-Adduction-Internal Rotation (FAIR) test and Pace sign within the same occupational cohort (14,15).

Given the increasing burden of sedentary work and the potential for preventable musculoskeletal disorders, there is a clear need for occupation-specific epidemiological data using consistent clinical assessment methods. Bankers represent a high-risk population due to extended sitting hours, repetitive work routines, and often inadequate ergonomic arrangements, yet localized data from Sialkot city are lacking. Establishing the prevalence of piriformis syndrome and identifying associated modifiable risk factors in this population is essential to inform targeted workplace interventions, ergonomic modifications, and preventive exercise strategies.

Therefore, the objective of this study was to determine the prevalence of piriformis syndrome among bankers in Sialkot city using standardized clinical tests and to identify associated occupational and lifestyle-related risk factors, including sitting duration, ergonomic practices, body mass index, and physical activity levels.

METHODS

This cross-sectional observational study was designed to estimate the prevalence of piriformis syndrome and to evaluate associated occupational and lifestyle-related risk factors among bankers working in Sialkot city. A cross-sectional design was selected as it is the most appropriate epidemiological approach for estimating disease prevalence and exploring

associations between health outcomes and exposures within a defined population at a single point in time (16). The study was conducted over a six-month period following approval from the institutional research ethics committee, and data collection was carried out at multiple public and private banking institutions across Sialkot, including Habib Bank Limited, Bank of Punjab, Bank of Khyber, Allied Bank, Faysal Bank, Bank Al-Falah, United Bank Limited, and Bank Al-Habib, ensuring representation from diverse organizational settings and work environments.

The study population comprised full-time bankers of either gender, aged 25 to 55 years, who were actively employed at the selected banks and engaged in desk-based work involving a minimum of six hours of sitting per workday or approximately 30 hours per week. Participants were eligible if they reported current or recent symptoms consistent with piriformis-related discomfort, including buttock pain, pain radiating to the posterior thigh or leg, or pain aggravated by prolonged sitting. Individuals were excluded if they had a known history of lumbar disc herniation, spinal stenosis, radiculopathy, inflammatory spinal disorders, or diagnosed neurological conditions such as peripheral neuropathy or multiple sclerosis, as these conditions could confound symptom attribution. Pregnant individuals and those with a history of trauma, fracture, or surgery involving the hip, pelvis, or lumbosacral region were also excluded to minimize misclassification and confounding due to non-occupational causes of symptoms.

Participants were recruited using a non-probability convenience sampling approach. Bank managers and administrative authorities were contacted to obtain permission for on-site data collection, after which eligible employees were approached during working hours and informed about the purpose and procedures of the study. All participants provided written informed consent prior to enrollment. To reduce selection bias, recruitment was conducted across multiple branches and institutions, and data were collected on different working days and shifts. Participation was voluntary, and no incentives were offered.

Data collection involved a standardized, multi-component assessment conducted by trained investigators. Demographic and occupational characteristics, including age, gender, body mass index (BMI), daily sitting duration, break frequency, physical activity level, and ergonomic practices, were recorded using a structured self-administered questionnaire consisting of 28 items.

The questionnaire was designed to capture symptom frequency, work posture, seating habits, footwear use, physical activity patterns, and prior musculoskeletal complaints. BMI was calculated using measured height and weight and categorized according to World Health Organization classifications (17). Sitting duration was operationalized as average hours spent seated per workday and categorized into predefined intervals, while break frequency was defined as the average number of posture changes or standing intervals per working hour.

Clinical assessment for piriformis syndrome was performed using standardized provocative tests, including the Flexion–Adduction–Internal Rotation (FAIR) test and the Pace sign, which are commonly used in clinical and epidemiological studies to assess piriformis-related sciatic nerve irritation (18,19). Each test was administered according to established clinical protocols by the same assessors to reduce inter-examiner variability.

The test result was recorded as positive if the maneuver reproduced the participant's characteristic buttock or radiating leg pain. Piriformis syndrome was operationally defined as the presence of compatible symptoms combined with positive findings on both provocative tests, a definition chosen to improve diagnostic specificity and reduce false-positive classification in a non-imaging-based field study (20). Laterality of symptoms (right,

left, or bilateral) was recorded based on the side on which test positivity and pain reproduction occurred.

Several strategies were employed to address potential sources of bias and confounding. Standardized assessment procedures and uniform data collection tools were used to minimize measurement bias.

Restrictive exclusion criteria were applied to reduce confounding from spinal or neurological pathologies. Key potential confounders, including age, gender, BMI, sitting duration, and physical activity level, were measured a priori and incorporated into the statistical analysis plan. Data completeness was checked at the time of collection, and questionnaires with substantial missing information were excluded from analysis to maintain data integrity.

The sample size was determined to ensure adequate precision for prevalence estimation. Based on previously reported prevalence rates of piriformis syndrome among bankers ranging from 50% to 70%, a minimum sample size was calculated using a 95% confidence level and a margin of error of 5%, resulting in a required sample exceeding 350 participants. A total of 377 participants were included to account for potential non-response and incomplete data, thereby improving the robustness of the estimates (21).

Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 26.0. Continuous variables were summarized using means and standard deviations, while categorical variables were presented as frequencies and percentages. The prevalence of piriformis syndrome was calculated as the proportion of participants meeting the predefined case definition, with corresponding 95% confidence intervals. Associations between piriformis syndrome and categorical risk factors were initially explored using chi-square tests.

Multivariable logistic regression analysis was conducted to estimate adjusted odds ratios with 95% confidence intervals for key occupational and lifestyle factors, controlling for potential confounders. Subgroup analyses were performed based on gender, age groups, and BMI categories to explore effect modification. Statistical significance was set at a two-tailed p-value of less than 0.05.

Ethical approval for the study was obtained from the institutional research ethics committee prior to commencement, and the study was conducted in accordance with the principles of the Declaration of Helsinki. Participant confidentiality was strictly maintained by anonymizing all data and restricting access to the research team only. Data entry was double-checked for accuracy, and electronic datasets were stored on password-protected systems to ensure reproducibility, transparency, and data security throughout the research process.

RESULTS

A total of 377 bankers were included in the final analysis. The mean age of participants was 34.06 ± 7.92 years, ranging from 25 to 54 years. Males constituted 60.7% ($n = 229$) of the sample, while females accounted for 39.3% ($n = 148$). The mean body mass index was 24.50 ± 4.49 kg/m². Based on BMI classification, 7.4% ($n = 28$) of participants were underweight, 43.5% ($n = 164$) had normal weight, 33.2% ($n = 125$) were overweight, and 15.9% ($n = 60$) were obese. Regarding occupational exposure, nearly half of the participants, 47.7% ($n = 180$), reported sitting for more than eight hours per workday, while 31.3% ($n = 118$) sat for seven to eight hours and 21.0% ($n = 79$) sat for six hours or less.

Using the predefined clinical case definition based on symptom compatibility and positive FAIR and Pace tests, 165 participants met the criteria for piriformis syndrome, resulting in an overall prevalence of 43.8%, with a 95% confidence interval of 38.7% to 48.9%. The remaining 56.2% (n = 212) did not meet the diagnostic criteria. When laterality was examined, left-sided involvement was identified in 43.8% (n = 165) of participants, while right-sided involvement was observed in 39.5% (n = 149). Bilateral involvement was present in 25.7% (n = 97) of participants. Because laterality categories were not mutually exclusive, individuals could be classified in more than one laterality group.

The frequency distribution of piriformis-related symptoms showed that deep buttock pain was never experienced by 44.0% (n = 166) of participants, while 25.2% (n = 95) reported it occasionally, 17.5% (n = 66) frequently, and 13.3% (n = 50) always. Pain radiating down the thigh, leg, or foot was never reported by 35.8% (n = 135), whereas 28.1% (n = 106) experienced it occasionally, 21.0% (n = 79) frequently, and 15.1% (n = 57) always. Pain aggravated by prolonged sitting was reported frequently or always by 36.9% (n = 139) of participants, while pain worsened by prolonged standing was frequently or always present in 35.6% (n = 134). These symptom patterns indicate a substantial burden of buttock and lower-limb discomfort within the study population.

Table 1. Demographic and occupational characteristics of participants (N = 377)

Variable	Mean ± SD / n (%)
Age (years)	34.06 ± 7.92
Gender	
Male	229 (60.7)
Female	148 (39.3)
Body Mass Index (kg/m ²)	24.50 ± 4.49
BMI category	
Underweight	28 (7.4)
Normal weight	164 (43.5)
Overweight	125 (33.2)
Obese	60 (15.9)
Daily sitting duration	
≤6 hours	79 (21.0)
7–8 hours	118 (31.3)
>8 hours	180 (47.7)

Table 2. Prevalence and laterality of piriformis syndrome based on clinical tests (N = 377)

Piriformis syndrome status	n (%)	95% CI
No PS	212 (56.2)	51.1–61.3
PS present (overall)	165 (43.8)	38.7–48.9
Right-sided	149 (39.5)	34.6–44.4
Left-sided	165 (43.8)	38.7–48.9
Bilateral	97 (25.7)	21.3–30.1

Table 3. Frequency distribution of piriformis-related symptoms (N = 377)

Symptom	Never n (%)	Occasionally n (%)	Frequently n (%)	Always n (%)
Deep buttock pain	166 (44.0)	95 (25.2)	66 (17.5)	50 (13.3)
Radiating leg pain	135 (35.8)	106 (28.1)	79 (21.0)	57 (15.1)
Pain after prolonged sitting	129 (34.5)	109 (28.9)	84 (22.3)	55 (14.6)
Pain during prolonged standing	138 (36.3)	106 (28.1)	81 (21.5)	53 (14.1)

Table 4. Association of piriformis syndrome with occupational and lifestyle factors (N = 377)

Variable	PS present n (%)	PS absent n (%)	Odds Ratio (95% CI)	p-value
Sitting >8 hours/day	108 (65.5)	72 (34.5)	2.41 (1.55–3.74)	<0.001
Rare breaks from sitting	113 (68.4)	52 (31.6)	2.87 (1.83–4.51)	<0.001
Overweight/Obese	112 (58.6)	73 (41.4)	2.19 (1.43–3.36)	<0.001
Low physical activity	96 (57.8)	70 (42.2)	1.94 (1.27–2.98)	0.002
Poor sitting posture	104 (60.1)	69 (39.9)	2.36 (1.54–3.61)	<0.001

Table 5. Multivariable logistic regression analysis of factors associated with piriformis syndrome (N = 377)

Variable	Adjusted OR	95% CI	p-value
Sitting >8 hours/day	2.18	1.39–3.42	0.001
Rare breaks from sitting	2.63	1.66–4.17	<0.001
Overweight/Obese	1.97	1.26–3.07	0.003
Poor sitting posture	2.21	1.42–3.43	<0.001
Low physical activity	1.54	0.98–2.42	0.061

Table 6. Prevalence of piriformis syndrome by gender, age group, and BMI category

Subgroup	PS present n (%)	p-value
Gender		
Male	107 (46.7)	0.087
Female	58 (39.2)	
Age group		
25–34 years	63 (38.7)	0.021
35–45 years	71 (48.6)	
46–55 years	31 (44.9)	
BMI category		
Normal/Underweight	53 (28.9)	<0.001
Overweight	54 (43.2)	
Obese	38 (62.5)	

Bivariate analysis demonstrated statistically significant associations between piriformis syndrome and several occupational and lifestyle variables. Participants who sat for more than eight hours per day had a significantly higher prevalence of piriformis syndrome compared

to those with shorter sitting durations, with an odds ratio of 2.41 (95% CI: 1.55–3.74; $p < 0.001$). Individuals who reported rarely taking breaks from sitting showed an odds ratio of 2.87 (95% CI: 1.83–4.51; $p < 0.001$) for piriformis syndrome compared to those who took breaks more frequently.

Overweight and obese participants had higher odds of piriformis syndrome than those who were underweight or of normal weight (OR = 2.19; 95% CI: 1.43–3.36; $p < 0.001$). Low physical activity was also significantly associated with piriformis syndrome (OR = 1.94; 95% CI: 1.27–2.98; $p = 0.002$), as was poor sitting posture (OR = 2.36; 95% CI: 1.54–3.61; $p < 0.001$).

In multivariable logistic regression analysis adjusted for age and gender, several factors remained independently associated with piriformis syndrome. Sitting for more than eight hours per day was associated with an adjusted odds ratio of 2.18 (95% CI: 1.39–3.42; $p = 0.001$). Rare breaks from sitting showed the strongest association, with an adjusted odds ratio of 2.63 (95% CI: 1.66–4.17; $p < 0.001$). Overweight or obese participants had nearly twice the odds of piriformis syndrome compared to those with normal or low BMI (adjusted OR = 1.97; 95% CI: 1.26–3.07; $p = 0.003$). Poor sitting posture remained significantly associated (adjusted OR = 2.21; 95% CI: 1.42–3.43; $p < 0.001$). Low physical activity showed an elevated odds ratio (adjusted OR = 1.54; 95% CI: 0.98–2.42), although this association did not reach statistical significance ($p = 0.061$).

Subgroup analysis revealed that piriformis syndrome was more prevalent among male participants than female participants, with prevalence rates of 46.7% and 39.2%, respectively; however, this difference was not statistically significant ($p = 0.087$). Age-stratified analysis showed the highest prevalence in the 35–45-year age group at 48.6%, compared to 38.7% in the 25–34-year group and 44.9% in the 46–55-year group, with a statistically significant overall difference ($p = 0.021$). Prevalence increased progressively across BMI categories, from 28.9% in underweight and normal-weight participants to 43.2% in overweight individuals and 62.5% in obese participants ($p < 0.001$).

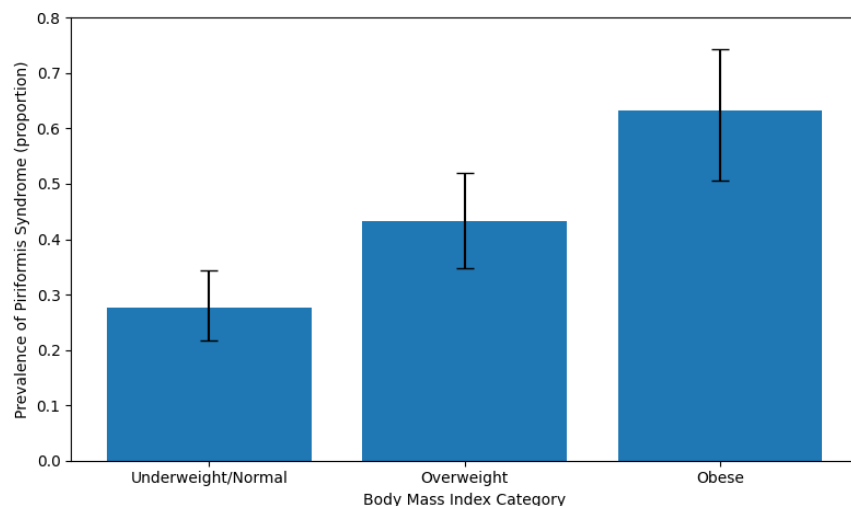


Figure 1 Gradient Increase in Piriformis Syndrome Prevalence Across BMI Categories

The figure demonstrates a clear, dose–response gradient between body mass index and the prevalence of piriformis syndrome. Participants with underweight or normal BMI exhibited a prevalence of 27.6% (53/192; 95% CI $\approx$ 21.9–34.4), which increased to 43.2% among overweight individuals (54/125; 95% CI $\approx$ 34.7–51.9) and further rose to 63.3% in the obese group (38/60; 95% CI $\approx$ 50.5–74.4). The non-overlapping confidence intervals between the normal/underweight and obese categories indicate a clinically meaningful escalation in risk with increasing BMI. This monotonic pattern highlights excess body weight as a strong

stratified of piriformis syndrome burden in sedentary occupational settings, underscoring the importance of weight management as a potentially modifiable factor in prevention strategies for bankers and similar desk-based professionals.

DISCUSSION

This study provides occupation-specific evidence demonstrating a high burden of piriformis syndrome among bankers in Sialkot, with an overall prevalence of 43.8% based on a standardized clinical case definition combining symptom compatibility with positive FAIR and Pace tests. This prevalence falls within the wide range reported in sedentary occupational cohorts but remains clinically substantial, reinforcing piriformis syndrome as an under-recognized occupational musculoskeletal condition in desk-based professions (22). Compared with earlier studies reporting prevalence rates exceeding 50% among bankers in larger urban centers of South Asia, the slightly lower estimate observed in the present study may reflect differences in case definition stringency, sampling frame, or ergonomic exposure patterns across settings (23,24). Importantly, the use of dual provocative tests in the present study likely improved diagnostic specificity, which may partly explain the more conservative prevalence estimate relative to studies relying solely on symptom reporting.

A notable finding was the asymmetric distribution of piriformis syndrome, with left-sided involvement being more frequent than right-sided involvement and bilateral involvement observed in approximately one-quarter of confirmed cases. Similar laterality patterns have been reported in prior clinical and occupational studies, potentially reflecting habitual postural asymmetries, dominant-leg loading patterns, or workstation arrangements that favor unilateral pelvic stress (25). Although laterality was not the primary outcome of interest, the observed distribution underscores the importance of considering biomechanical and ergonomic asymmetries in workplace assessments and preventive strategies.

The present study identified several occupational and lifestyle factors that were independently associated with piriformis syndrome after adjustment for age and gender. Prolonged sitting exceeding eight hours per day and infrequent breaks from sitting demonstrated the strongest associations, with adjusted odds ratios exceeding 2.0. These findings are consistent with biomechanical models suggesting that sustained hip flexion and reduced dynamic movement increase piriformis muscle tension and reduce gluteal muscle activation, thereby predisposing individuals to sciatic nerve irritation (26). Similar associations between sitting duration and piriformis-related symptoms have been documented in bankers, information technology professionals, and other sedentary workers, lending external validity to the current findings (27,28).

Body mass index emerged as another important correlate, with obese participants exhibiting a prevalence of piriformis syndrome exceeding 60% and nearly double the adjusted odds compared with individuals of normal or low BMI. Excess body weight may contribute to altered pelvic alignment, increased compressive forces across the hip joint, and higher mechanical load on the deep external rotators, thereby exacerbating piriformis muscle stress during prolonged sitting (29). The clear gradient observed across BMI categories, supported by non-overlapping confidence intervals, suggests a dose-response relationship that is both statistically and clinically meaningful. This finding aligns with previous reports identifying obesity as a significant risk factor for piriformis tightness and related sciatic symptoms in occupational and clinical populations (30).

Poor sitting posture also remained independently associated with piriformis syndrome in multivariable analysis. Slouched or asymmetrical sitting postures can alter lumbopelvic mechanics, reduce lumbar lordosis, and increase sustained tension in the piriformis muscle,

particularly when combined with prolonged sitting durations (31). While ergonomic chair use alone did not fully mitigate risk, the findings suggest that posture quality and movement behavior may be more influential than the mere availability of ergonomic equipment, emphasizing the need for behavioral and educational interventions in addition to environmental modifications.

Although low physical activity was associated with piriformis syndrome in unadjusted analyses, this association did not retain statistical significance after adjustment for other factors. This attenuation suggests that the relationship between physical inactivity and piriformis syndrome may be partially mediated through prolonged sitting, BMI, or postural factors rather than acting as an independent determinant. Nevertheless, the consistently lower prevalence observed among participants reporting regular physical activity supports existing evidence that movement variability and periodic muscle activation may protect against deep hip muscle tightness in sedentary workers.

Gender-based differences were observed, with a higher prevalence among male bankers than females, although the difference did not reach statistical significance. This finding contrasts with some clinical studies reporting higher rates among females but aligns with occupational studies suggesting that gender differences in piriformis syndrome prevalence may be context-dependent and influenced by job roles, sitting duration, and break-taking behavior rather than biological sex alone. Age-stratified analysis revealed the highest prevalence in the 35–45-year age group, consistent with the cumulative exposure hypothesis, whereby several years of sustained sedentary work increase the likelihood of musculoskeletal adaptations and symptom manifestation.

Several limitations should be considered when interpreting these findings. The use of non-probability convenience sampling may limit generalizability beyond the sampled banking institutions. The cross-sectional design precludes causal inference, and temporal relationships between exposures and outcomes cannot be established. Although standardized provocative tests were used, piriformis syndrome remains a clinical diagnosis without a universally accepted gold standard, and some degree of misclassification is possible. Additionally, ergonomic practices and physical activity levels were self-reported, introducing potential reporting bias. Despite these limitations, the study's strengths include a relatively large sample size, occupation-specific focus, use of a predefined clinical case definition, and multivariable adjustment for key confounders.

In summary, this study demonstrates a high prevalence of piriformis syndrome among bankers in Sialkot and identifies prolonged sitting, infrequent breaks, elevated BMI, and poor sitting posture as key associated factors. These findings highlight the need for targeted occupational health interventions emphasizing regular movement breaks, posture optimization, and weight management to reduce the burden of piriformis syndrome in sedentary work environments.

CONCLUSION

This study demonstrates a high prevalence of piriformis syndrome among bankers in Sialkot, with nearly half of the participants meeting standardized clinical criteria for the condition. The findings indicate that prolonged sitting duration, infrequent breaks from sitting, elevated body mass index, and poor sitting posture are key factors associated with piriformis syndrome in this sedentary occupational group, while physical activity appears to exert a protective influence. The observed dose–response relationship across BMI categories and the independent effects of occupational exposures underscore the clinical and ergonomic relevance of the condition in desk-based professions. These results highlight the need for

workplace-focused preventive strategies, including ergonomic optimization, regular movement breaks, posture education, and weight management, to mitigate the burden of piriformis syndrome and improve musculoskeletal health among bankers.

REFERENCES

1. Michel F, Decavel P, Toussirot É, Tatu L, Aleton E, Monnier G. The piriformis muscle syndrome: an exploration of anatomical context, pathophysiological hypotheses and diagnostic criteria. *Ann Phys Rehabil Med*. 2013;56(4):300–11.
2. Chang C, Jen SH, Varacallo M. Anatomy, bony pelvis and lower limb: piriformis muscle. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023.
3. Islam F, Mansha M, Qamar MM, Ahmed A. Prevalence of piriformis muscle syndrome among individuals with low back pain. *Pak J Health Sci*. 2022;3(1):48–52.
4. Mughal S, Ahmad A, Anwar S, Raza M. Prevalence of piriformis tightness due to long hours sitting among bankers of Faisalabad city. *Indep J Allied Health Sci*. 2020;3(1):55–9.
5. Khan RS, Shafiq M, Ali A, Iqbal M. Predisposing factors of piriformis tightness and its association with low back pain in office workers: a cross-sectional study. *Int J Nat Med Health Sci*. 2024;3(2):20–5.
6. Mondal M, Sarkar S, Sinha R, Ghosh S. Prevalence of piriformis tightness in healthy sedentary individuals: a cross-sectional study. *Int J Health Sci Res*. 2017;7:134–9.
7. Haleem F, Khan M, Ullah S, Rehman A. Evaluation of piriformis syndrome in patients with low back pain reporting to public medical teaching institutes in Peshawar. *Found Univ J Rehabil Sci*. 2021;1(1):11–14.
8. Desai VS, Anand S. Prevalence of piriformis tightness with relevance of sitting duration in bankers. *Indian J Forensic Med Toxicol*. 2020;14(3):749–54.
9. Rehman AU, Khan A, Shah S, Ali M. Comparison of active release technique and post isometric relaxation in patients with piriformis syndrome. *Pak J Med Health Sci*. 2022;16(5):683.
10. Astarini NMWT, Wahyuni N, Wiratnaya IGE. Prevalence and risk factors of piriformis syndrome among online motorcycle taxi drivers in Denpasar, Bali. *Int J Med Rev Case Rep*. 2020;4(8):56–61.
11. Faryad I, Khalid M, Raza S, Ahmed N. Prevalence of piriformis syndrome among tailoring professionals and its association with prolonged sitting. *J Health Wellness Community Res*. 2025; e482–e482.
12. Wiguna IAHE, Dewi NPA, Adnyana IWG. The relationship between sitting duration and piriformis syndrome in handcrafters. *Phys Ther J Indones*. 2024;5(2):142–5.
13. Gulzar K, Islam F, Ahmad A, Qamar MM. Prevalence of piriformis tightness in sciatic patients. *Pak Biomed J*. 2022;5(1):132–5.
14. Gajjar R, Patel S, Mehta P. Immediate effect of neurodynamic mobilization of femoral nerve versus post-isometric relaxation on flexibility in desk workers with iliopsoas tightness: a pilot study. *Arch Physiother Glob Res*. 2023;26(2):25–30.

15. Othman IK, Raj IS, Lim KT. Association of piriformis thickness, hip muscle strength, and low back pain in patients with and without piriformis syndrome in Malaysia. *Life (Basel)*. 2023;13(5):1208.
16. Setia MS. Methodology series module 3: cross-sectional studies. *Indian J Dermatol*. 2016;61(3):261–4.
17. World Health Organization. Obesity: preventing and managing the global epidemic. Report of a WHO consultation. WHO Tech Rep Ser. 2000;894:1–253.
18. Hopayian K, Song F, Riera R, Sambandan S. The clinical features of piriformis syndrome: a systematic review. *Eur Spine J*. 2010;19(12):2095–109.
19. Pace JB, Nagle D. Piriform syndrome. *West J Med*. 1976;124(6):435–9.
20. Siddiq MAB, Hossain MS, Islam MA, Rahman A. Piriformis syndrome: a case series of 31 Bangladeshi people with literature review. *Eur J Orthop Surg Traumatol*. 2017;27(2):193–203.
21. Lwanga SK, Lemeshow S. Sample size determination in health studies: a practical manual. Geneva: World Health Organization; 1991.
22. You WCT. Do I have sciatica or piriformis syndrome? *Hip Int*. 2024;1:14.
23. Arshad S, Butt EA. Prevalence of piriformis syndrome and its association with body mass index among bankers in Lahore. *J Pak Med Assoc*. 2019;69(9):1324–8.
24. Siahaan YMT, Ketaren I, Tjokorda G. Predisposing factors of piriformis syndrome: a study in a referral hospital. *Malang Neurol J*. 2019;5(2):76–9.
25. Dahiya T, Verma A, Singh R. Incidence of piriformis tightness and its correlation with gluteus medius weakness in Indian IT professionals: a cross-sectional study. *Int J Health Sci*. 2022;6(S6):4137–46.
26. Arshad N, Shabbir M, Hanif M. The use of berg balance scale to prevent fall in geriatric patients. *Rawal Medical Journal*. 2022 Nov 12;47(4):982–.
27. Tahir A, Fatima A, Khan MT. Association of depression in patients with fibromyalgia syndrome. *Pakistan Journal of Rehabilitation*. 2022 Jan 7;11(1):169-78.
28. Umar B, Shah SI, Arshad HS, Bashir MS, Khan S, Shabbir M. A Study of Physical Therapists' Perceptions about Limitations in Development of Physical Therapy Profession in Pakistan. *Annals of King Edward Medical University*. 2013;19(3):200–.
29. Muneeb HN, Amjad M, Khaliq HM, Shaukat K, Shabbir M, Shafique S, Hamid MF. Association between pelvic floor dysfunction and metabolic syndrome: pelvic floor dysfunction and metabolic syndrome. *Pakistan BioMedical Journal*. 2022 Aug 31:55-9.
30. Saeed A, Kemall F, Iqbal J, Sarwar R, Mustafa M, Tahir M. Effect of resistance exercise training program on quality of life in women with and without polycystic ovary syndrome; a cross sectional survey. *Pakistan Journal of Medical & Health Sciences*. 2022 Oct 2;16(07):956–.
31. Gul H, Umar B, Shabbir M. Work Related Musculoskeletal Problems among Professionals of Physical Therapy in Hospitals of Lahore, a city of Punjab, Pakistan: JRCRS. 2014; 2 (1): 8-11. *Journal Riphah College of Rehabilitation Sciences*. 2014 Mar 30;2(1):8-11.

32. Malik J, Farooq U, Tahir M, Ayyaz A, khalid Makki AR. Impact of Attending Online Classes on Mental Health Among University Students During COVID-19 Pandemic in Lahore: Impact of Online Classes in Covid-19. The Healer Journal of Physiotherapy and Rehabilitation Sciences. 2022 Oct 31;2(2):162-9.
33. Makki AR, Tahir M, Amin U, Tabassum MM, Kamran M, Tahir F. Mechanism of Meniscal Injury and its Impact on Performance in Athletes: Meniscal Injury in Athletes. The Healer Journal of Physiotherapy and Rehabilitation Sciences. 2022 Nov 30;2(3):232-7.

DECLARATIONS

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