

Postural and Ergonomic Knowledge among Corporate Officials in Dhaka City, Bangladesh: A Cross-Sectional Study

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Received: 10 Oct 2026; **Accepted:** 19 Oct 2026; **Published:** 22 Oct 2026**Citation:** Sushanta Kumar Ghose, Md. Shahjahan, Muhammad Abdul Mojid Mondol. Postural and Ergonomic Knowledge among Corporate Officials in Dhaka City, Bangladesh: A Cross-Sectional Study. *J Transl Med Res*, 2026; 1(2), 01-06.**Abstract**

Prolonged static postures and inadequate ergonomic practices in office environments contribute significantly to musculoskeletal disorders (MSDs) among sedentary workers. In Dhaka City, Bangladesh, where corporate officials spend extended periods at workstations, awareness of postural principles and ergonomic interventions remains poorly characterized. This cross-sectional study assessed postural and ergonomic knowledge, attitudes, and self-reported practices among 250 corporate officials in Dhaka. Participants completed a validated questionnaire covering knowledge of neutral postures, workstation setup, and MSD risk factors. Results indicated low-to-moderate overall knowledge scores (mean = 48.3%, SD = 12.7%), with significantly lower scores among mid-level managers compared with senior executives ($p < 0.05$). Most participants reported practicing basic sitting posture corrections (62.4%) yet cited time constraints, lack of training, and inadequate workplace facilities as primary barriers to full implementation. The study highlights a critical gap in ergonomic literacy and recommends targeted educational interventions for corporate officials to mitigate MSD burden and enhance workplace health outcomes.

Keywords: Postural Knowledge, Ergonomic Knowledge, Corporate Officials**Introduction**

The rapid urbanization and expansion of the corporate sector in Dhaka City have transformed many professions into predominantly sedentary roles. Corporate officials, including managers, executives, and administrative staff, typically engage in prolonged computer-based work, meeting attendance, and document review, resulting in sustained static postures. Ergonomics, defined as the science of fitting workplace design to human capabilities, emphasizes neutral postures, proper workstation configuration, and regular movement breaks to prevent occupational injuries (Dul & Weerdmeester, 2019). In Bangladesh, office workers face unique challenges, including high ambient temperatures, poor indoor air quality, and limited access to ergonomic equipment. Although national labor policies and international guidelines (e.g., ISO 9241 for visual display terminals) exist, enforcement and knowledge dissemination remain inconsistent. Musculoskeletal disorders, including low-back

pain, neck pain, and upper-extremity discomfort, are well-documented among sedentary populations globally and regionally (Gupta et al., 2026), yet specific data on ergonomic knowledge among Dhaka's corporate officials are scarce. This study addresses that gap by investigating postural and ergonomic knowledge in a representative sample of corporate officials. The objectives were to (1) evaluate knowledge levels, (2) examine associations with demographic and occupational variables, and (3) identify barriers and facilitators to ergonomic practice adoption. Understanding these factors is essential for designing targeted health promotion programs within the corporate sector.

Methods

A descriptive cross-sectional survey was conducted among corporate officials employed in Dhaka City between February and June 2026. Dhaka was selected due to its concentration of multinational corporations, local banks, and government

agencies (Shilpy, 2025). Inclusion criteria comprised officials aged 25–60 years with at least two years of continuous office-based employment. Convenience sampling was employed across seven districts (Dhaka, Gulshan, Banani, Uttara, Mirpur, Dhanmondi, and Motijheel). A minimum sample size of 250 was calculated using Epi Info software, assuming 50% prevalence of adequate knowledge, 95% confidence interval, 5% margin of error, and a 10% non-response rate. Ethical approval was obtained from the Institutional Review Board of the Bangladesh Open University. Written informed consent was secured from all participants. Confidentiality was maintained, and participation was voluntary with the option to withdraw at any time. A self-administered, structured questionnaire was developed based on validated tools, including the Nordic Musculoskeletal Questionnaire (NMQ) and sections from the Occupational Health and Safety Assessment Series (OHSAS) 18001 ergonomics standards. It comprised four sections:

1. Demographic and occupational characteristics (age, gender, education, years of experience, job title).
2. Knowledge items (20 multiple-choice questions on neutral postures, workstation adjustments, and MSD risk factors; scored 0–100%).
3. Attitudes (5-point Likert scale).
4. Self-reported practices and perceived barriers (yes/no and open-ended responses).

The instrument underwent pilot testing with 30 non-study participants for clarity and content validity (Content Validity Index=0.92). Cronbach's alpha for the knowledge scale was 0.81, indicating acceptable internal consistency (Dul & Weerdmeester, 2019). Data were entered into SPSS version 26.0. Descriptive statistics (frequencies, percentages, means, standard deviations) summarized variables. Inferential

analyses included Chi-square tests, independent t-tests, and ANOVA to examine associations with demographic factors. Significance was set at $p < 0.05$. Qualitative responses were thematically analyzed.

Results

Participant Characteristics

Among 250 participants, mean age of the participants was 38.6 ± 6.2 years, indicating that the respondents were predominantly middle-aged professionals. Regarding gender distribution, the majority of the respondents were male (68.4%), while 31.6% were female. In terms of educational attainment, most participants had completed a Bachelor's degree (62.8%), followed by those with a Master's degree (22.6%) and respondents holding qualifications above a master's degree (14.6%). With respect to professional experience, nearly half of the respondents had 6-10 years of experience (47.2%), whereas 31.6% had 2-5 years of experience and 21.2% had more than 10 years of professional experience. Regarding occupational designation, 42.0% of the participants were working in managerial positions, while 28.4% were executives and 29.6% were administrative staff. Overall, the findings indicate that the respondents represented a diverse group of professionals with varying levels of education, experience, and organizational responsibilities, providing a balanced representation of the study population. The participants had a mean age of 38.6 years ($SD = 6.2$), and the majority were male (68.4%). Regarding educational attainment, 62.8% held a bachelor's degree. Nearly half of the participants (47.2%) had 6-10 years of professional experience. In terms of occupational designation, 42.0% were managers, 28.4% were executives, and 29.6% were administrative staff.

Table 1: Sociodemographic characteristics of participants

Characteristics	Percentage
Mean age (years), Mean $\pm$ SD	38.6 $\pm$ 6.2
Gender	
Male	68.4
Female	31.6
Educational Qualification	
Bachelor's degree	62.8
Masters' degree	22.6
Above masters' degree	14.6
Professional experience	
10 years above	21.2
6–10 years	47.2
2-5 years	31.6
Occupational designation	
Managers	42.0
Executives	28.4
Administrative staff	29.6

Knowledge Level

The overall mean knowledge score was 48.3% (SD=12.7%), indicating moderate but suboptimal awareness. Key findings:

- Only 41.6% correctly identified the neutral sitting posture angle for the lower back.
- 56.8% recognized the importance of foot support at desk height.
- 68.4% understood the recommended screen distance from

the eyes (approximately arm's length).

- 52.4% knew the recommended break frequency (every 30-60 minutes).

Significant differences existed by job level: senior executives scored higher (mean=55.2%) than mid-level managers (mean=42.7%, p=0.012). Knowledge did not differ significantly by gender or education level.

Ergonomic knowledge items	Percentage
Recommended screen distance	68.4
Foot support at desk height	56.8
Break frequency (every 30-60 minutes)	52.4
Neutral lower-back sitting posture	41.6

The chart should use a percentage scale from 0% to 100%, with each bar labeled with its corresponding percentage.

Figure 1. Knowledge of Workplace Ergonomics

A horizontal bar chart can compare the percentage of partic-

ipants who correctly answered each ergonomic knowledge question.

Knowledge of Workplace Ergonomics
Percentage of participants who correctly identified key ergonomic recommendations

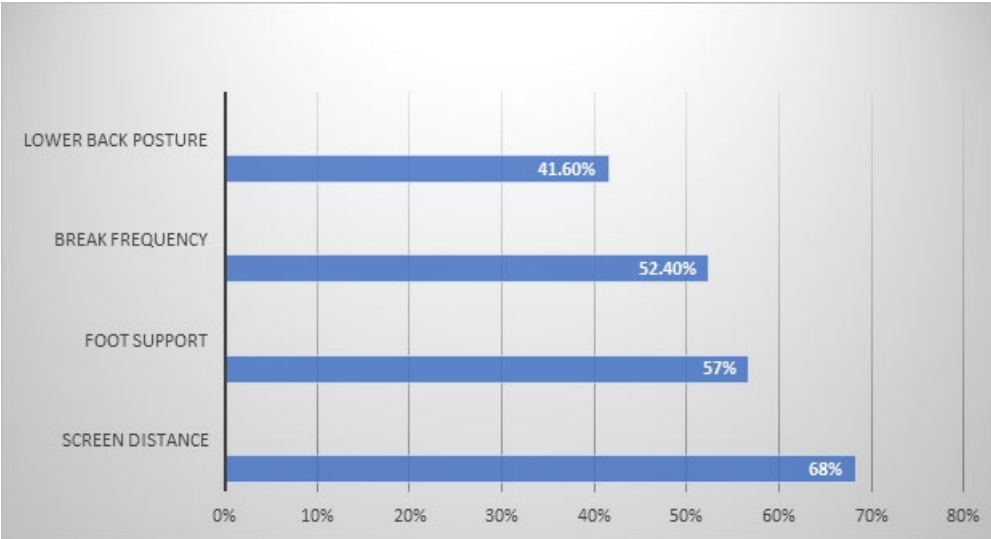
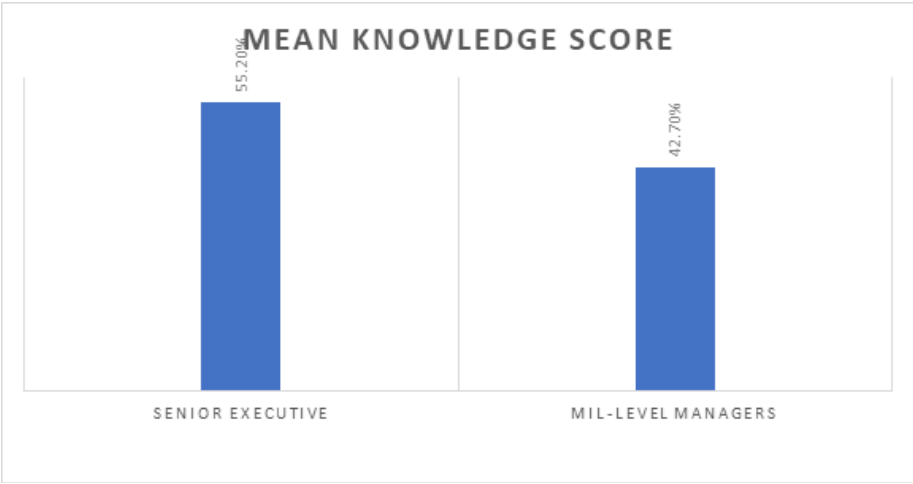


Figure 1: Ergonomic Knowledge Scores by Job Level

Job level	Mean knowledge score (%)
Senior executives	55.2
Mid-level managers	42.7

Mean Ergonomic Knowledge Scores by Job Level

Comparison of mean knowledge scores among senior executives and mid-level managers. Reported p=0.012.



Suggested research interpretation: The overall mean ergonomic knowledge score was 48.3% (SD=12.7%), indicating suboptimal knowledge of workplace ergonomics. Knowledge was highest regarding recommended screen distance (68.4%) and lowest regarding neutral lower-back sitting posture (41.6%). Senior executives achieved significantly higher mean knowledge scores than mid-level managers (55.2% vs. 42.7%, p=0.012). No statistically

significant differences were reported by gender or educational level.

Note: The charts present descriptive statistics from the figures you supplied. The reported p-value applies to the comparison between job levels; no statistical significance should be inferred for the individual ergonomic knowledge items.

Table 2
Knowledge Scores on Specific Postural Principles (n=250)

Knowledge Item	Percentage
Neutral lower back angle when sitting	41.6
Foot support at desk height	56.8
Screen distance from eyes (arm’s length)	68.4
Recommended break frequency	52.4
Overall knowledge score (mean ± SD)	48.3 ± 12.7

Table 3
Knowledge Scores by Job Level (n = 250)

Job Level	n	Mean Knowledge Score (%)	SD	p-value
Senior Executives	71	55.2	11.4	<0.05
Mid-level Managers	105	42.7	13.2	
Administrative Staff	74	49.1	12.8	

Attitudes and Self-Reported Practices

Most participants demonstrated positive attitudes (mean attitude score=3.8/5). However, only 62.4% reported routinely practicing sitting posture corrections, and 37.2% performed regular stretches. Primary barriers included: (1) time constraints (71.6%), (2) lack of ergonomic training (58.4%), (3) inadequate office furniture (52.8%), and (4)

high workload demands (44.0%). Qualitative responses highlighted the perception that ergonomic adjustments are “luxury items” rather than essential for productivity.

Figure 2
Distribution of Knowledge Scores (n=250)

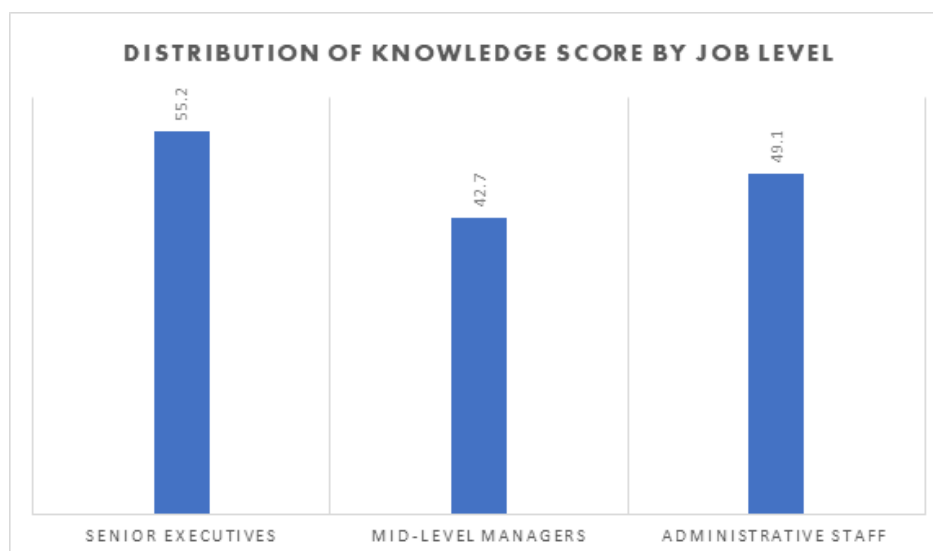


Figure: Knowledge score among participants

Musculoskeletal Complaints

Self-reported MSD prevalence was 71.2%, with neck pain

(54.8%) and low-back pain (48.4%) being most common, consistent with prolonged static postures.

Table 4

Self-Reported MSD Prevalence and Site-Specific Complaints (n=250)

MSD Site	Prevalence (%)	Most Common among corporate officials
Neck pain	54.8	Prolonged forward head posture
Low-back pain	48.4	Poor lumbar support
Shoulder/arm pain	36.2	Poor monitor height
Wrist/hand discomfort	29.6	Inadequate keyboard support
Overall MSD	71.2	-

Discussion

Globally, prolonged sitting in sedentary occupations is a well-established risk factor for MSDs. Studies in developed economies consistently report high prevalence of neck and low-back pain among office workers, linked to suboptimal workstation setup and lack of awareness of neutral postures. In developing Asian contexts, similar patterns emerge, with anthropometric mismatches and limited ergonomic training exacerbating the burden (Dul & Weerdmeester, 2019). In Bangladesh, research has focused primarily on prevalence rather than knowledge gaps. A cross-sectional study among private-sector office employees reported that 54.8% experienced neck pain and 48.4% low-back pain, attributing symptoms to prolonged static postures and absence of ergonomic interventions (Ahmmmed et al., 2024). Another study specifically targeting corporate office workers in Dhaka found significant ergonomic deficiencies in selected corporate settings, with high MSD prevalence directly linked to improper workstation design and lack of training (Shilpy, 2025). Related work on garments industry furniture in Bangladesh further highlights how traditional designs fail to accommodate local anthropometry, leading to poor ergonomic outcomes even when basic awareness exists (Hoque et al., 2021). Knowledge-specific research remains

limited in the Bangladeshi context. A randomized controlled trial conducted on office workers (across multiple countries, including relevance to South Asian settings) demonstrated that targeted health education interventions significantly improved knowledge, attitude, and practice (KAP) scores regarding office ergonomics (Dul & Weerdmeester, 2019). However, baseline knowledge in high-risk sedentary groups was often moderate at best, with time constraints and lack of training cited as universal barriers. No prior Bangladeshi study has exclusively examined postural and ergonomic knowledge, attitudes, and practices among corporate officials in Dhaka City, creating a clear research gap that this investigation addresses. The present study reveals a substantial gap in postural and ergonomic knowledge among corporate officials in Dhaka City. While 89.9% of participants reported awareness of basic principles, quantitative scores remained below 50%, suggesting superficial rather than applied knowledge. This finding aligns with regional studies on office workers in Bangladesh, where musculoskeletal discomfort is prevalent yet addressed reactively rather than preventively (Ahmmmed et al., 2024; Shilpy, 2025). Demographic disparities, particularly lower scores among mid-level managers, may reflect differential access to training opportunities and greater responsibility for subordinates,

indirectly influencing personal practice. Barriers such as time pressure and inadequate facilities underscore the need for systemic interventions, including mandatory ergonomic training modules and provision of adjustable furniture in corporate settings. These results mirror global trends in which knowledge alone does not guarantee behavioral change; environmental and organizational supports are critical (Gupta et al., 2026). Limitations include the cross-sectional design (precluding causal inference) and reliance on self-report, which may introduce recall or social-desirability bias. Nonetheless, the large, geographically diverse sample enhances generalizability within the Dhaka metropolitan area.

Conclusion

Corporate officials in Dhaka exhibit moderate ergonomic knowledge but low-to-moderate adoption of evidence-based postural practices, contributing to elevated MSD risk. Targeted, organization-specific educational programs, combined with policy advocacy for ergonomic standards, are urgently required. Such initiatives could reduce occupational morbidity, improve productivity, and support sustainable workplace health in Bangladesh's growing corporate sector. Future longitudinal studies are recommended to evaluate intervention efficacy.

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