

Knowledge, Opinions and Practice of Ergonomic Principles among Dental House Officers and Dental Resident Doctors at a South-western Nigerian Teaching Hospital

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ABSTRACT

Background: Dental practice involves high risks for work-related musculoskeletal disorders (WMSDs) due to sustained static postures and repetitive movements. Neglecting ergonomics leads to chronic pain, reduced dexterity, and premature career termination. This study evaluated the knowledge, opinions, and practice (KOP) of ergonomic principles among dental house officers and dental resident doctors (DRDs) at University College Hospital, Ibadan.

Methods: This descriptive cross-sectional study utilized a total enumerative sampling technique. Data on socio-demographics and KOP levels were collected via a structured, pre-tested online questionnaire and analysed using SPSS Version 27.0.

Results: Out of the 58 respondents (65.5% male), 71% understood basic ergonomics. However, significant gaps existed regarding dental room design (58.6% unaware) and stretching exercises (75.9% unaware). Despite high theoretical knowledge, 74.1% used backrests only intermittently and 72.4% never utilized magnification. A statistically significant difference was identified regarding opinions toward ergonomic principles, with house officers demonstrating a significantly more positive attitude toward their application compared to DRDs (median = 17.00 and 18.00 respectively, $U = 80.50$, $p = 0.040$).

Conclusion: A substantial gap exists between ergonomic awareness and clinical application. Findings suggest a decline in positive attitudes toward ergonomics as trainees progress, likely due to clinical fatigue and procedural pressures.

Keywords: Dental ergonomics, Dental Education, Musculoskeletal disorders, Dental trainees.

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INTRODUCTION

The demanding nature of dental practice, characterized by sustained static postures, repetitive

fine motor movements, and the use of vibrating instruments, places dental professionals at a significantly elevated risk of developing work-related

musculoskeletal disorders (WMSDs).^{1,2} These conditions, which commonly affect the neck, back, shoulders, and wrists, manifest as pain, discomfort, and reduced dexterity, often leading to decreased productivity, chronic disability, and in severe cases, premature career termination.³ Globally, the prevalence of WMSDs among dentists is alarming, with reported rates ranging from 60% to over 90% across various populations.⁴ This global burden underscores the urgent need for preventive strategies to safeguard the health and longevity of dental practitioners.

Ergonomics, defined as the scientific study of how people interact with their work environment to optimize well-being, offers a vital approach to mitigate these occupational risks. In the context of dentistry, applying ergonomic principles involves carefully designing the dental workspace, including adjustable chairs and stools, utilizing ergonomically designed instruments, and encouraging neutral working postures. International studies^{5,6} consistently demonstrate that adhering to ergonomic guidelines can markedly reduce the incidence and severity of WMSDs, enhance comfort, improve operational efficiency, and ultimately foster a more sustainable professional life for dentists.

In Nigeria, similar to many other developing nations, dental professionals encounter comparable occupational challenges, often exacerbated by limited resources and a potentially less developed understanding of ergonomic best practices. Local research indicates a high prevalence of WMSDs among Nigerian dentists, with common complaints centred on the lower back, neck, and shoulders.⁷ For example, a recent study conducted in Nigeria revealed that 83% of dental workers reported experiencing musculoskeletal injury more than once, with bending and repetitive tasks identified as significant risk factors, and the lower back being the most frequently affected area.⁸ This suggests that despite increasing awareness, there remains a considerable gap in the consistent implementation of ergonomic principles within the Nigerian dental community.

Our study looks at two distinct group of dental trainees: dental house officers and dental resident doctors (DRDs). Dental house officers, also known as dental interns, are recently graduated dentists who undergo a mandatory one-year internship - often referred to as housemanship - prior to receiving full licensure. Their job description primarily involves the clinical application of foundational skills under close

supervision. In contrast, dental resident doctors are licensed post-graduate dentists who have returned to a teaching hospital to undergo specialized training in a specific field, such as Oral and Maxillofacial Surgery, Orthodontics, Periodontology, Restorative Dentistry etc. Their role is more advanced, shifting from basic care to managing complex rehabilitative procedures and supervising junior dentists as they progress toward becoming board-certified consultants or specialists.

Dental trainees (house officers and dental resident doctors) represent a crucial demographic within the dental workforce, currently undergoing a pivotal phase of their professional growth. During their intensive clinical training, often spanning extended hours, they are in the process of establishing fundamental work habits. Insufficient knowledge and the adoption of poor ergonomic practices during these formative years can predispose them to the early onset of WMSDs, negatively impacting their long-term career prospects and overall well-being. While some dental curricula globally have begun to incorporate ergonomics education, the extent and effectiveness of such integration in Nigerian dental schools and teaching hospitals warrant further investigation.^{7,8}

There is a critical need to intervene during the foundational years to prevent the progression from acute discomfort to chronic disability. Thus, it is essential to assess the level of theoretical knowledge and clinical application among the dental trainees. By identifying these specific factors, this research provides the necessary evidence to advocate for curriculum reform and improved workplace design, ensuring that the next generation of dental specialists can maintain a healthy and sustainable practice.

Consequently, this study aimed to evaluate the knowledge, opinions, and practice of ergonomic principles among dental house officers and DRDs at a South-western Nigerian Teaching Hospital. Furthermore, the study also set out to compare the levels of knowledge and practice between dental house officers and dental resident doctors.

By examining these key aspects, this research sought to pinpoint existing strengths and areas for improvement in ergonomic understanding and application within this specific group. The anticipated findings are expected to provide essential data to guide the creation of targeted educational interventions and possibly policy recommendations, thereby cultivating a culture of

ergonomic awareness and practice to protect the musculoskeletal health and enhance the professional longevity of Nigeria's future dental professionals. Ethical approval was obtained from the University of Ibadan/University College Hospital Ethics Review Committee before the commencement of the study (UI/EC/25/0546).

MATERIALS AND METHODS

Study Design and Setting: This descriptive cross-sectional survey was conducted at the Dental Centre, University College Hospital, Ibadan, Nigeria, a major training hub for dental professionals.

Participants and Sampling: The study utilized a total enumerative sampling technique, including all dental house officers and resident doctors (DRDs) actively practicing at the centre during the study period. Inclusion required active enrolment and voluntary consent. Individuals on extended leave (maternity, sick, or study leave) or those who had completed their training were excluded.

Data Collection Tool: A structured, self-administered online questionnaire was developed based on an extensive literature review and pre-tested among 10 practitioners for clarity and validity. The tool comprised four sections:

- **Section A:** Socio-demographic data (age, gender, ethnicity, training level).
- **Section B:** Knowledge of ergonomic principles and work-related musculoskeletal disorders (WMSDs).
- **Section C:** Opinions on the importance of ergonomics in dentistry using a 3-point scale.
- **Section D:** Self-reported practices regarding posture, equipment use, and exercises using a 4-point scale.

Administration and Collection: The questionnaire link was distributed via WhatsApp to consenting participants. Respondents were given one week to complete the survey, with a restriction of one submission per person. Responses were automatically captured by the online tool.

Data Analysis: Data were analyzed using IBM SPSS Version 27. Frequencies and percentages summarized demographics and ergonomic KOP (Knowledge, Opinions, and Practice) levels. The Mann-Whitney U test compared median scores between house officers and DRDs, with statistical significance set at $p \leq 0.05$.

Ethical approval (UI/EC/25/0546) was obtained from the UI/UCH Ethics Review Committee.

RESULTS

A total number of 58 respondents (dental house officers and dental resident doctors) who met the inclusion criteria were involved in this study. Table 1 shows that the majority of the respondents were male (65.5%). Also, 44.8% of the respondents were within the age group of 36-45 years while the least (5.2%) were 25 years and below. In addition, most of the respondents were of the Yoruba tribe (63.8%) and the least were from the Hausa tribe (1.7%). Based on the cadre of the respondents, most were dental resident doctors (91.4%).

As illustrated in Figure 1, the largest proportion of respondents belonged to the Department of Oral and Maxillofacial Surgery (OMS), accounting for 16 (27.6%), followed by Conservative Dentistry (CONS) with 12 respondents (20.7%). The least number of respondents were from Prosthetics, Periodontology, Community Dentistry and Oral Medicine.

KNOWLEDGE OF ERGONOMIC PRINCIPLES IN THE DENTAL CLINIC

As shown in Figure 2, a significant majority of the respondents (71%) indicated knowledge of what ergonomics means, while the minority (12%) reported having no prior knowledge of the subject. Table 2 shows that 22 (37.9%) of the respondents were taught ergonomics as undergraduate students. Among those who were taught ergonomics, 14 (34.1%) felt that they knew very much about the subject, while the majority (58.5%) possessed only a little knowledge.

A substantial majority of respondents (89%) demonstrated knowledge of the occupational hazards associated with neglecting ergonomic principles during dental practice. Furthermore, a vast majority (96.6%) claimed to know the best sitting posture for clinical procedures. However, there was low knowledge in other areas: 58.6% were unaware of ergonomic specifications for dental treatment room design, and 75.9% lacked knowledge regarding necessary movements and stretching exercises between patient appointments.

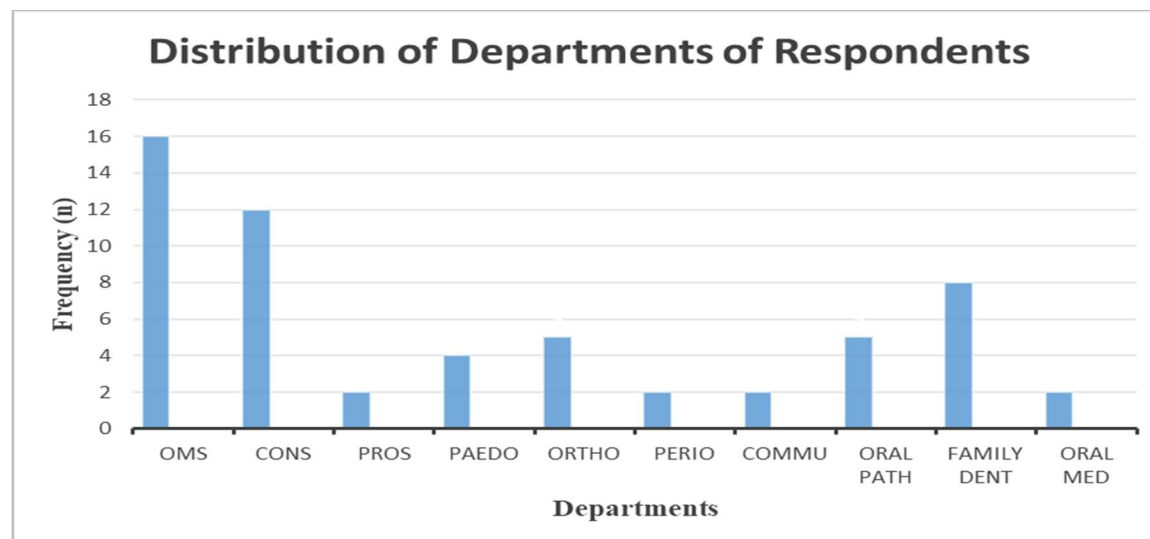
Figure 3 shows that the vast majority of respondents (98%) who claimed to know the best posture of the dentist while sitting and performing a procedure, correctly identified Posture B as the ideal ergonomic sitting position. Conversely, only 2% of respondents selected the incorrect posture (**Images of posture A and B in appendix I**).

Among the 55 respondents who were aware of the hazards of their jobs as dentists without ergonomics (yes and a little), Figure 4 shows that there was high awareness of musculoskeletal disorders such as back

pain, neck pain, shoulder pain and wrist/finger pain {53 (96.4%), 51 (92.7%), 40 (72.7%), and 36 (65.5%) respectively}.

Table 1: Distribution of the Demographic characteristic of respondents

Variable	Frequency Distribution (n)	Percentage (%)
Gender		
Male	38	65.5
Female	20	34.5
Total	58	100.0
Age (Years)		
25 years and below	3	5.2
26-35	23	39.7
36-45	26	44.8
Above 45 years	6	10.3
Total	58	100.0
Tribe		
Yoruba	37	63.8
Igbo	10	17.2
Hausa	1	1.7
Others	10	17.2
Total	58	100.0
Cadre		
House Officer	5	8.6
DRDs	53	91.4
Total	58	100.0



Key: OMS (Oral and maxillofacial surgery), CONS (Conservative Dentistry), PROS (Prosthodontics), PAEDO (Paediatric Dentistry), ORTHO (Orthodontics), PERIO (Periodontology), COMMU (Community Dentistry), ORAL PATH (Oral Pathology), FAMILY DENT (Family Dentistry), ORAL MED (Oral Medicine).

Figure 1: Distribution of the Departments of Respondents

OPINIONS ABOUT ERGONOMIC PRINCIPLES IN DENTAL PRACTICE

Regarding the opinions of the respondents, the strongest consensus was observed concerning Continuing Dental Education (CDE) related to

ergonomics in dentistry, with 98.3% of respondents agreeing that institutions should conduct continuous training. This was closely supported by 94.8% who advocated for the inclusion of ergonomics in the undergraduate dental curriculum. Majority (96.6%) of the respondents believed that ergonomic principles should be followed in routine practice and the same percentage (96.6%) identified the dental chair and instrumentation as pivotal factors. In addition, majority (82.8%) agreed with the practice of alternating between sitting and standing while 15.5% remained neutral. (Table 3)

PRACTICE OF ERGONOMIC PRINCIPLES IN THE DENTAL CLINIC

The data presented in Table 4 showed that only 1.7% of respondents reported consistently working in an upright position with the spine resting against the back of the dental stool; conversely, the vast majority (74.1%) utilized the backrest only intermittently. In terms of lower limb positioning, 27.6% of respondents adhered to working with legs separated and feet flat on the floor at all times, while 67.3% complied only occasionally. Workspace orientation also showed varied results: while 15.5% of respondents always aligned the operating field to the elbow level of their working hand, a higher

proportion (39.7%) consistently oriented the beam of light perpendicular to the observational direction.

Concerning maintaining a neutral posture while working, 70.7% of the respondents reported only occasional adherence, while 15.5% maintained this posture consistently. Finally, the data revealed a striking absence of magnification usage among the respondents, with 72.4% reporting that they had never utilized dental loupes during dental procedures.

COMPARISON OF THE LEVEL OF KNOWLEDGE, OPINIONS AND PRACTICE OF ERGONOMIC PRINCIPLES BETWEEN THE DENTAL HOUSE OFFICERS AND DENTAL RESIDENT DOCTORS

Table 5 shows that while house officers demonstrated a higher median knowledge score (28.00) than DRDs (22.00), the disparity was not statistically significant ($U = 17.00, p > 0.05$). Also, although DRDs appeared to maintain better ergonomic practices with a median score of 16.00 compared to 15.50 for house officers, the difference was not statistically significant ($U = 118.50, p > 0.05$). However, a statistically significant difference was identified regarding opinions toward ergonomic principles ($U = 80.50, p = 0.040$), where house officers reported a significantly higher median score (18.00) than the DRDs (17.00).

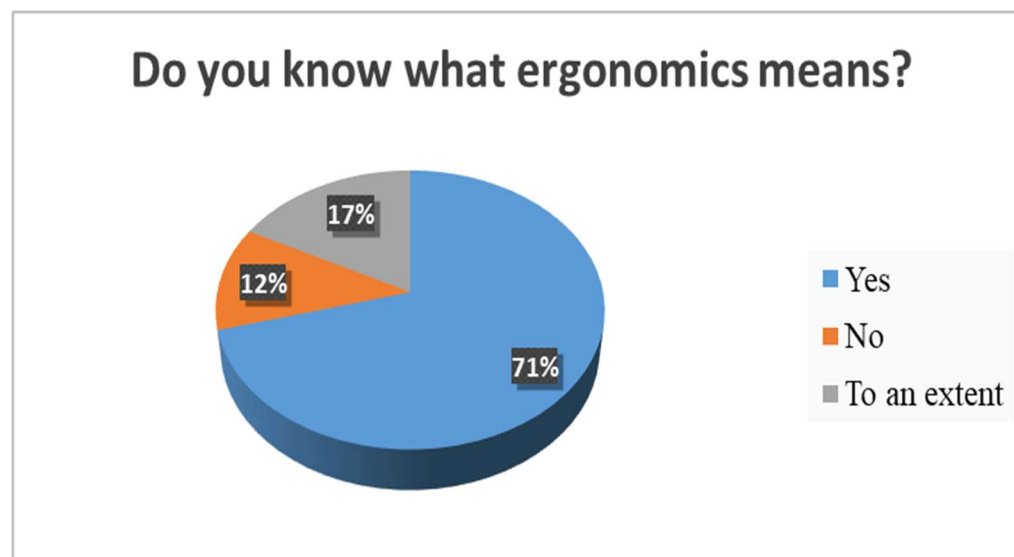


Figure 2: Baseline knowledge of ergonomics among respondents

Selection of the best posture of the dentist while sitting and performing a procedure

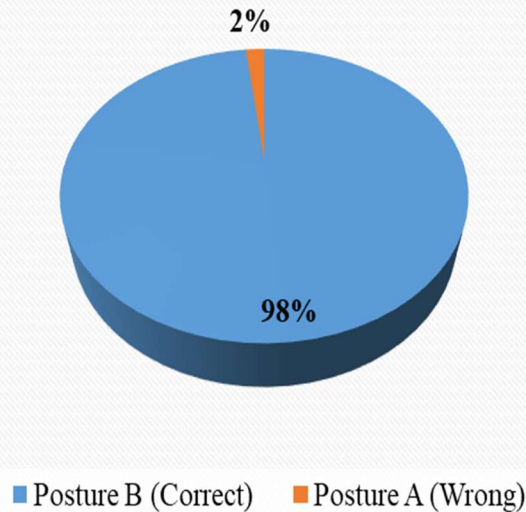


Figure 3: Distribution of respondents' ability to identify the correct ergonomic sitting posture during dental procedures.

Table 2: Knowledge of ergonomic principles and their application in dentistry among respondents

S/N	Questions	Yes	No
1	Were you taught about ergonomics as an undergraduate student?	22 (37.9)	36 (62.1%)
2	If yes, how much of ergonomics do you know?	Very Much 14 (34.1%)	A little 24 (58.5%) Not at all 3 (7.3%)
3	Are you aware of the hazards of your job as a dentist without ergonomics	52 (89.7%)	3 (5.2%)
4	Do you know about the benefits of the application of ergonomics in dentistry?	36 (62.1%)	14 (24.1%)
5	Do you know the best posture of the dentist while sitting and performing a procedure?	56 (96.6%)	2 (3.4%)
6	Do you know the popular operating posture that may cause musculoskeletal disorders?	31 (53.4%)	27 (46.6%)
7	Do you know the best position for forearms and operating fingers of the dentist?	42 (72.4%)	16 (27.6%)
8	Do you know the ergonomic specifications required when designing and equipping the dental treatment room?	24 (41.4%)	34 (58.6%)
9	Do you know about the dentist's movements and stretch exercises between patients' appointments?	14 (24.1%)	44 (75.9%)

Table 3: Distribution of the opinions of respondents about ergonomics in dental practice

S/N	Statements	Agree n(%)	Neutral n(%)	Disagree n(%)
1.	Ergonomics should be a part of the dental curriculum.	55(94.8)	3 (5.2)	0 (0.0)
2.	Dentists should follow the ergonomic principles in routine dental practice.	56(96.6)	2 (3.4)	0 (0.0)
3.	The dental chair and instruments play major roles in following ergonomic principles in routine dental practice.	56(96.6)	2 (3.4)	0 (0.0)
4.	The dentist should alternate between sitting and standing between patient appointments.	48(82.8)	9 (15.5)	1 (1.7)
5.	Various dental institutions should conduct continuing dental education on dental ergonomics.	57 (98.3)	1 (1.7)	0 (0.0)

Appendix I: Posture B

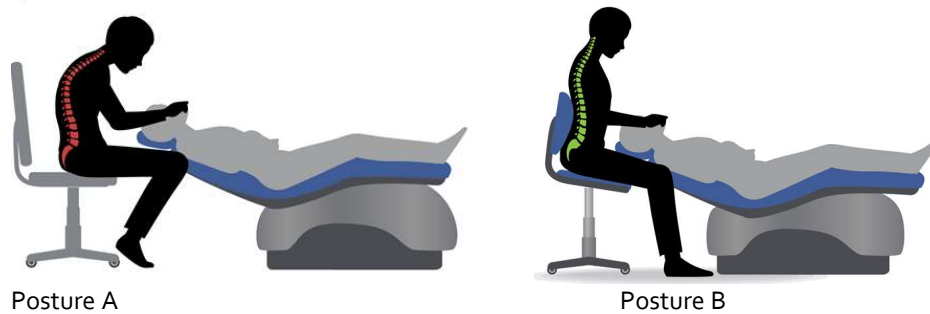


Table 4: Distribution of respondents practice of ergonomics in the dental clinic

S/N	Questions	Always n(%)	Sometimes n(%)	Rarely n(%)	Never n(%)
1.	How often do you work in the upright position with your spine resting on the back of the dental stool?	1 (1.7)	43 (74.1)	12 (20.7)	2 (3.4)
2.	How often do you work with your legs separated and your feet flat on the floor?	16 (27.6)	39 (67.2)	3 (5.2)	0 (0.0)
3.	How often do you orient the operating field to the elbow level of your working hand?	9 (15.5)	41 (70.7)	8 (13.8)	0 (0.0)
4.	How often do you orient the beam of light perpendicular to the observational direction?	23 (39.7)	29 (50.0)	6 (10.3)	0 (0.0)
5.	How often do you make an effort to maintain a neutral posture while working?	9 (15.5)	41 (70.7)	6 (10.3)	2 (3.4)
6.	How frequently do you use dental loupes for magnification purposes?	0 (0.0)	6 (10.3)	10 (17.2)	42 (72.4)

Table 5: Comparison of the knowledge, opinions and practices of ergonomic principles between dental house officers and DRDs (Mann Whitney-U test)

Test Variable	Respondents	N	Median scores	Mann U	P-Value
Knowledge	DRDs	53	22.00	17.00	0.220
	House officers	5	28.00		
Opinions	DRDs	53	17.00	80.50	0.040
	House officers	5	18.00		
Practices	DRDs	53	16.00	118.50	0.707
	House officers	5	15.50		

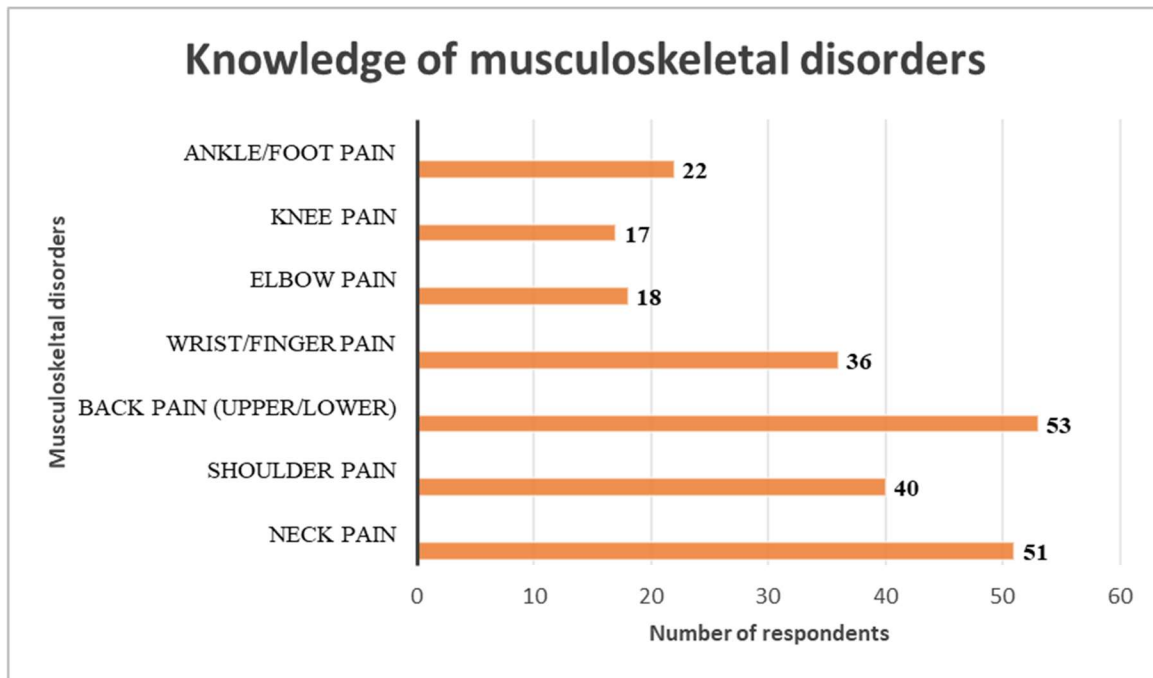


Figure 4: Knowledge of musculoskeletal disorders (MSDs) associated with dental practice among respondents

DISCUSSION

In the high-pressure world of dentistry, the risk of work-related musculoskeletal disorders (WMSDs) is part of the job description, especially for those just starting out in their clinical training. This study investigated the knowledge, opinions, and clinical practices regarding ergonomics among 58 dental house officers and DRDs at the University College Hospital, Ibadan, Nigeria. This group represents the next generation of specialists; therefore, their adherence to ergonomic standards is critical - not only for their own health but also for the professional culture they will eventually pass down to future trainees.

The sociodemographic profile of the participants in this study revealed that there was a male predominance (65.5%). While recent years have seen a significant and commendable surge in female enrolment in dental and medical schools across the country, our data suggests that there are fewer females at the postgraduate level. The higher representation of male dental trainees may be as a result of their female counterparts facing challenges with balancing the rigorous demands of post-graduate training and societal/familial expectations during their peak reproductive years. Also, most of the respondents fell within the 36–45 age bracket (44.8%), followed closely by the 26–35 age group (39.7%). This distribution is highly consistent with the

typical timeline for professional maturation in clinical practice. The relatively low percentage of respondents above 45 years (10.3%) likely indicates that many in this demographic have transitioned into more administrative or purely consultant-level roles. In terms of ethnicity, majority of the respondents identified as Yoruba (63.8%) which is likely a reflection of the geographical location of the study site (Ibadan, a Yoruba city). Hence, this reflects a catchment area effect, where most respondents are more likely to be drawn from the local and surrounding population.

In this study, a significant majority (71%) of respondents possessed a baseline understanding of what ergonomics entails, and 89.7% were aware of the occupational hazards associated with neglecting these principles. Despite this general awareness, there was a substantial deficiency in formal education and specific technical knowledge. Of the 58 respondents, 37.9% were taught ergonomics as undergraduates, and among those, the majority (58.5%) felt they only knew a little about the subject. This indicates that while trainees recognise the term, there is an inadequate depth of understanding. This is similar to findings by Kumar et al.¹⁰ who noted that while 76.8% of dental students had heard of ergonomics, their ability to apply specific principles like dental unit adjustments was poor. Furthermore, this study found that 75.9% of participants lacked

knowledge regarding stretching exercises between appointments, which is a critical preventive measure. This lack of practical knowledge is consistent with a South African study¹¹ conducted in 2022 which highlighted that undergraduate curricula often focus on clinical procedures at the expense of the physical well-being of the clinician.

There was an overwhelming consensus (over 94%) that ergonomics should be integrated into the dental curriculum and that institutions should provide continuing dental education (CDE) on dental ergonomics. This positive attitude aligns with recent research by Galla et al.¹² which emphasizes that dental professionals (96.8%) are increasingly advocating for institutions to include ergonomics into the undergraduate curriculum. The recognition of the dental chair and instrumentation as pivotal (96.6%) suggests that trainees are aware of the environmental factors affecting their posture, even if they cannot always control them.

This study revealed a stark contrast between knowledge and practice. For instance, while 98% correctly identified the ideal sitting posture (Posture B), only 1.7% reported consistently working in an upright position with proper spinal support. Similarly, 72.4% of the respondents had never used dental loupes, which are essential for maintaining neutral posture through magnification.

Despite the knowledge gap, the results of this study showed nearly identical practice scores between house officers (15.00) and DRDs (15.11), which suggests that advanced knowledge does not necessarily translate to better clinical habits. This was also reflected in a study by Abid et al.¹³ where it was observed that 87.9% of dental students agreed that ergonomics is essential, yet many of them admitted to not following basic principles during procedures. The high preference for neutral spinal alignment (Posture B) in this study is encouraging, yet as Kandanattu et al.¹⁴ notes, consistent implementation is often hindered by clinical time pressures. In addition, both house officers and DRDs face similar institutional barriers with recent studies^{15,16} identifying malfunctioning dental units and lack of four-handed dentistry as primary reasons for poor ergonomic compliance.

Our findings indicated that house officers achieved a higher median knowledge score (28.00) compared to DRDs (22.00), although it was not statistically significant. Similarly, the difference in ergonomic practices between the two groups was not statistically significant. This may be attributed to the

clinical environment's constraints where the trainees are often forced to prioritize patient volume or accommodate fixed operatory designs that do not support ideal posture, regardless of their level of seniority. This aligns with findings by Abiodun-Solanke et al.¹⁷ who noted that while dental practitioners possess adequate theoretical knowledge, the translation into clinical habit is often hindered by high patient loads and equipment limitations.

A notable outcome of this research is the statistically significant disparity in opinions regarding ergonomic principles, where house officers maintained a more favourable attitude compared to DRDs. This divergence suggests a progressive reduction in the opinions about ergonomic principles as the trainees advance in their clinical training. Several factors may contribute to this shift - house officers are closer to their undergraduate curriculum, where ergonomic safety is frequently emphasised. As they get into the residency program, the pressure to specialize and the difficulty of complex procedures often push good posture to the backseat. Additionally, long-term clinical fatigue and burnout can make DRDs to place less importance on ergonomic rules. They may get used to working in uncomfortable positions, wrongly believing that sacrificing their posture makes them more efficient. These findings align with the observations of Khalil et al.,¹⁸ where it was noted that while younger dentists are more open to ergonomic principles, experienced practitioners often show resistance to altering established, albeit harmful, postural habits. This shift highlights the need for ergonomic education to move beyond the undergraduate level and be reinforced throughout residency to prevent poor musculoskeletal practices from becoming the professional norm.

LIMITATIONS OF THE STUDY

Sample Size Constraints: A primary limitation is the small sample size (N = 58) and the numerical imbalance between the cadres, as the dental resident doctors constituted 91.4% of the respondents. This may have an effect on the statistical power of comparisons between house officers and residents.

Single-Center Design and Limited Generalizability: This study was conducted exclusively at a single tertiary institution—the Dental Centre, University College Hospital, Ibadan. The observed ergonomic practices, opinions, and barriers are peculiar to the institutional infrastructure, fixed operatory designs. In addition, the patient volume is unique to this

facility. Therefore, these findings may not be entirely generalizable to other Nigerian teaching hospitals, private dental clinics, or secondary healthcare settings. Thus, a multicentre study will circumvent this.

CONCLUSION

This study highlights a critical knowledge-practice gap among dental trainees at UCH, Ibadan. Despite high baseline awareness of ergonomic risks, theoretical knowledge is rarely applied clinically. A significant finding is the decline in positive attitudes as trainees progress; while house officers maintain a favourable outlook, the pressures of specialised training and clinical fatigue lead DRDs to devalue ergonomic habits. The neglect of magnification and stretching suggests a culture that prioritises procedural volume over clinician well-being, risking a future surge in work-related musculoskeletal disorders.

RECOMMENDATIONS

- **Continuous Training:** Integrate longitudinal ergonomics education and regular posture checks throughout residency.
- **Institutional Support:** Subsidize dental loupes and provide adjustable, supportive stools in all clinics.
- **Micro-breaks:** Install visual guides for chairside stretching and mandate short breaks between patients.
- **Targeted Workshops:** Host hands-on sessions for dental trainees to demonstrate how ergonomic compliance ensures a longer, pain-free career.

Source of Support

Nil.

Conflict of Interest

None declared

REFERENCES

1. Kierklo A, Kobus A, Jaworska M, Botuliński B. Work-related musculoskeletal disorders among dentists - A questionnaire survey. *Ann Agric Environ Med*. 2011; 18:79-84.
2. Dantas FFO, de Lima KC. The relationship between physical load and musculoskeletal complaints among Brazilian dentists. *Appl Ergon*. 2015; 47:93-98.
3. Leggat PA, Kedjarune U, Smith DR. Occupational health problems in modern dentistry: A review. *Ind Health*. 2007; 45:611-621.
4. Ohlendorf D, Naser A, Haas Y, Haenel J, Fraeulin L, Holzgreve F, et al. Prevalence of musculoskeletal disorders among dentists and dental students in Germany. *Int J Environ Res Public Health* 2020; 17:1-19.
5. Srivastava R, Chandra C. Posture, Performance, and Prevention: Ergonomics in Clinical Dentistry. *Int J Med Sci Dent Heal*. 2025; 11:9-16.
6. Gupta A, Bhat M MT, Bansal N GG. Ergonomics in Dentistry. *Int J Clin Pediatr Dent*. 2014; 7:30-34.
7. Enone LL, Oyapero A, Ijarogbe O, Adeyemi TE, Ojikutu RO. Ergonomic Risks and Prevalence of Musculoskeletal Disorders Among Dental Surgeons in Nigeria: A Descriptive Survey. *J Int oral Heal JIOH*. 2021; 13:441-448.
8. Anyachukwu CC, Ezugwu FN ES. Prevalence of Work-Related Musculoskeletal Disorders among Dental Workers in Enugu Metropolis, Nigeria. *Niger Int J Med Heal*. 2025; 30:181-186.
9. Kumar A, Kattel B, Rijal B, Shrestha A, Bhagat T, Agrawal SK. Dental ergonomics among dental students of a teaching hospital in the Koshi Province: a questionnaire survey. *Int J Community Med Public Heal*. 2025; 12:1653-1659.
10. Kumar PM, Sahitya S, Penmetsa GS, Supraja S, Kengadaran S, Chaitanya A. Assessment of knowledge, attitude, and practice related to ergonomics among the students of three different dental schools in India: An original research. *J Educ Health Promot*. 2020; 9:266.
11. Moosa UK, Bhayat A. The Ergonomic Knowledge and Practice of Dental Students in a Tertiary Institution in South Africa. *Int J Dent*. 2022; 2022:4415709.
12. Galla S, Reddy RK, Gadiyar A, Chaitanya GK, Galla R, Penmetsa GS. Dental practitioners' knowledge, attitudes, and practices of ergonomics – a cross-sectional web-based survey. *Acta Biomed*. 2021; 92(4):e2021266.
13. Abid T, Ahmed N, Sajjad A, Hasan AR. Ergonomics in Dentistry: Knowledge, Attitude, and Practice among Dental Students. *J Clin Exp Dent*. 2020; 12(6):e532-

- e538.
14. Kandanattu S, Aruna G, Reddy R, Chaitanya GK. Time pressure and its impact on ergonomic compliance among dental practitioners: A longitudinal postural analysis. *J Int Soc Prev Community Dent.* 2024; 14:45-52.
 15. Gowdar IM, Al-Hammad AS, Al-Mohaimeed AS, Al-Enezi AS, Al-Dosari AS. Prevalence of musculoskeletal disorders and awareness of ergonomics among dental professionals. *Int J Med Sci Dent Health.* 2022; 8:1014-1021.
 16. Aljanakh M. Occupational hazards and ergonomic practices among dental assistants: A cross-sectional study. *Rev Diabet Stud.* 2024; 20:88-95.
 17. Abiodun-Solanke I, Agbaje JO, Ajayi DM, Arotiba JT. Prevalence of neck and back pain among dentists and dental auxiliaries in South-western Nigeria. *Afr J Med Med Sci.* 2010; 39:137-142.
 18. Khalil NM, El-Sallamy RM, El-Bakary AA, et al. Knowledge, Attitude, and Practice of Dental Ergonomics among Egyptian Dental Students and Practitioners. *Egypt J Occup Med.* 2021; 45:1-18.