

Children and Caregivers' Preferences and Perceptions of Paediatric Dentists' Attire In Northern Nigeria

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ABSTRACT

Background: The appearance of the dentist can influence children's anxiety, cooperation, and overall dental experience during oral health care. However, data from Northern Nigeria on this topic remain limited.

Objective: To evaluate the preferences of children and their caregivers regarding paediatric dentists' attire in Northern Nigeria.

Methods: This descriptive cross-sectional study was conducted at a tertiary hospital in Northern Nigeria between July and September 2025. The study enrolled 180 child-caregiver dyads using consecutive sampling. Children aged 5-16 years presenting for dental care and their accompanying caregivers participated. Data was collected using structured interviewer-administered questionnaires and standardized photographs of male and female dentists in five different attire types: traditional white coat, surgical scrubs, formal attire, casual professional attire, and paediatric-themed scrubs. Participants indicated their preferred dentist attire, preferred dentist gender, and reasons for preference. Data were analysed using descriptive statistics and chi-square tests; statistical significance was set at $p < 0.05$.

Results: Both children (57.9%) and caregivers (50.6%) predominantly preferred the traditional white coat, citing professionalism, hygiene, and trust as key reasons. Children showed strong preferences for gender-concordant dentists. Most girls significantly preferred female dentists (75.0%), while most boys preferred male dentists (58.0%) ($p < 0.001$). No statistically significant difference was found between children's and caregivers' attire preferences ($p = 0.066$).

Conclusion: The traditional white coat was the most preferred attire among paediatric dental patients and their caregivers in Kano, Northern Nigeria, seen as a symbol of professionalism and expertise. Gender-matching significantly influenced children's preferences for dentists, reflecting northern Nigeria's cultural and religious values.

Keywords: Paediatric dentistry; dentist attire; white coat; children's preferences; caregiver perceptions; Northern Nigeria

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INTRODUCTION

The initial impression that a child forms of a dentist is often shaped by non-verbal cues before verbal interaction occurs. These cues include the dental clinic's environment and, significantly, the dentist's attire.¹ Establishing a positive first impression during early childhood is critical, forming the basis for lifelong oral health behaviours. This principle is central to the "dental home" concept, which aims to mitigate anxiety through early, positive exposure to the dental environment.²

Fostering a positive rapport between child and dentist is fundamental to reducing dental anxiety, a common challenge in paediatric practice.³ Consequently, paediatric dentistry prioritises creating a child-friendly atmosphere to alleviate the fear and anxiety associated with dental visits, making the dentist's appearance a crucial factor. The attire of a paediatric dentist can influence a child's anxiety, comfort, cooperation, and acceptance of dental treatment.³

Understanding children's and caregivers' preferences regarding dental attire is important for designing child-friendly dental services, especially in tertiary hospital settings, where first impressions and anxiety management can significantly affect access, compliance, and treatment outcomes. Traditionally, the white coat has been standard professional attire; however, it can inadvertently trigger "white-coat syndrome," where children may associate it with pain and fear.⁴ In response, many paediatric dentists have adopted non-traditional attire, such as colourful scrubs or cartoon-themed accessories, to project a more approachable and less intimidating image.^{3,5}

There is no universal standard regarding the most appropriate attire for paediatric dentists, and preferences may vary widely among children and their caregivers. While some studies indicate that traditional white coats may increase fear in young patients, others suggest that colourful or child-friendly attire may promote comfort and trust.⁵ Many dental clinics continue to use attire based on clinician preference rather than evidence-based guidance. This lack of clarity creates a gap in understanding how different types of professional clothing influence paediatric patient behaviour and caregiver satisfaction.

Therefore, this study investigated the preferences and perceptions of children and their caregivers regarding paediatric dentists' attire and its impact on the dental care experience in Northern Nigeria, a

region with unique socio-cultural characteristics and limited existing data on this topic.

MATERIALS AND METHODS

Study Design and Setting

This cross-sectional study was conducted at the Department of Child Dental Health, Aminu Kano Teaching Hospital (AKTH), a major tertiary facility in Kano State, Northern Nigeria. The Department of Child Dental Health comprises two units: Paediatric Dentistry and Orthodontics. Kano is Nigeria's most populous state, with a predominantly Muslim Hausa population characterised by conservative cultural values.⁶ The department manages a significant patient load, averaging 15 child patients daily.

Study Population and Sampling

The study population comprised child-caregiver dyads attending either the Paediatric Dentistry or Orthodontics Clinic at AKTH between July and September 2025. Consecutive sampling was employed until the target sample size was achieved. Inclusion criteria: (1) children aged 5-16 years receiving treatment at Paediatric Dentistry or Orthodontics clinics; (2) accompanying caregivers for paediatric dental or orthodontic patients; and (3) children and caregivers who provided informed consent/assent.

Exclusion criteria: (1) children with cognitive impairments affecting their ability to participate; (2) caregivers unable to communicate in English or Hausa; and (3) children who were uncooperative (Frankl's Class 1) or too ill to participate.

Sample Size Determination

A minimum sample size of 180 was calculated using the formula for cross-sectional studies, based on a prevalence of 13.5% from a relevant study conducted at the University of Ibadan, Nigeria,⁷ with a 95% confidence level and 5% margin of error.

Data Collection Instruments

Data collection instruments included:

1. Structured questionnaires: Separate interviewer-administered questionnaires were developed for children and caregivers, covering demographics, attire preferences, reasons for preferences, and dental anxiety. Age-appropriate language was used, and dental anxiety was assessed using the Modified Child Dental Anxiety Scale⁷ for children aged 8-16 years and the Facial Image Scale⁸ for children aged 5-

7 years. These scales were included to explore potential associations between children's baseline dental anxiety levels and their attire preferences, as previous research suggests that anxious children may respond differently to dentists' appearance.

2. Visual aids: Standardized photographs of male and female dentists in five attire types were used: (A) traditional white coat, (B) surgical scrubs, (C) formal attire without coat, (D) casual professional attire, and (E) paediatric-themed scrubs (Appendix A). Photographs were standardized for lighting, background, model positioning, and facial expression to ensure that attire was the only variable influencing participant responses.

3. Interviewer observation form: A structured observation form was developed to document child behaviour and engagement during interviews. The rationale for this instrument was to capture non-verbal behavioural responses that structured questionnaires and visual preference exercises alone could not adequately measure. Children, particularly younger ones, may have difficulty articulating their feelings verbally, exhibit social desirability bias, or show discrepancies between stated preferences and genuine responses. The observation form served to triangulate data from the primary instruments by providing objective, real-time documentation of children's engagement levels, comfort indicators, and behavioural cues.

The observation form contained a checklist of behavioural indicators, including:

- a. Engagement: maintaining eye contact, showing interest in photographs, responding promptly, asking questions about attire options
- b. Comfort level: relaxed body posture, positive facial expressions, absence of distress signs (crying, clinging, withdrawal), willingness to participate without caregiver prompting
- c. Attention span: completing all interview sections, requiring redirection (minimal/moderate/frequent), signs of fatigue or restlessness
- d. Reactions to specific attire types: verbal excitement, pointing toward preferred options, negative reactions (turning away, frowning, verbal rejection).

Ratings were recorded using a 5-point Likert scale with defined behavioural anchors to maintain consistency.

Data Collection Procedure

Researchers obtained informed consent from caregivers and assent from children in the waiting area. Children and caregivers were interviewed

separately to prevent bias. Questionnaires were administered first, followed by the visual preference exercise using standardized photographs. Age-appropriate language and assessment scales were used for children.

For the interviewer observation form, the interviewer completed the form immediately after each child interview to ensure accurate recall of behavioural cues. Observations were recorded before reviewing formal questionnaire responses to minimize interviewer bias. The form was completed by the same trained interviewer who administered the questionnaire to ensure consistency.

To maintain data quality, interviewers underwent a half-day training session on the consistent application of observation criteria. A pilot test with 10 child participants was conducted to refine the observation form and establish inter-observer agreement ($\kappa > 0.80$). Regular debriefing sessions were held throughout the data collection period to maintain consistency across interviewers.

Observation data were used to validate preference choices. Cases with discordance between stated preference and observed behaviour were noted, and high agreement between observed comfort and stated preferences strengthened confidence in the primary findings.

Ethical Considerations

Ethical approval was obtained from the Health Research Ethics Committee of Bayero University, Kano vide NHREC/BUK/624/10/23II. Written informed consent was obtained from all caregivers, and assent was obtained from children aged 7 years and above.

Data Analysis

Data were coded and analysed using SPSS version 25.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics (frequencies and percentages) were calculated for categorical variables and means with standard deviations for continuous variables. Associations between variables were explored using chi-square tests. Statistical significance was set at $p < 0.05$.

Observation form data were analysed descriptively to summarize the proportion of children demonstrating engagement and comfort indicators. These data were used primarily for triangulation with stated preference responses and to assess the reliability of the interview process.

RESULTS

Socio-demographic and Clinical Characteristics

A total of 180 child-caregiver dyads participated in this study (Table 1). The mean age of children was 8.4 ± 2.1 years. The largest age group was 5-7 years (82, 45.6). They consist of 99 females (55.4%) and 72 males (40.0%) of those who specified their genders.

Most children (92.7%) had previously visited the dental clinic.

Caregivers were predominantly the children's parents (73.9%), of Hausa ethnicity (70.6%), and Muslim (92.8%). Over half of the caregivers (54.8%) had attained tertiary-level education.

Table 1. Socio-demographic Characteristics of Participants (n=180 Dyads)

Characteristics	Category	Frequency (n)	Percentage %
Child's age (Years)	Mean $\pm$ SD (Range) 8.4 ± 2.1 (5-13)		
Age groups	5-7 years	82	45.6
	8-10 years	68	37.8
	11-13 years	30	16.7
Child's Gender	Male	72	40.0
	Female	99	55.4
	Unspecified	9	4.6
Previous dental visit	Yes	169	92.7
	No	11	6.1
Caregiver's relation	Parent	133	73.9
	Other	47	26.1
Caregiver's education	Tertiary	97	54.8
	Secondary	51	28.8
	Primary/Qu'ranic	16	9.0
Ethnicity	Hausa	127	70.6
	Fulani	25	13.9
	Other	28	15.5
Religion	Islam	167	92.8
	Christianity	10	5.5
	Unspecified	3	1.7

Attire Preferences

The traditional white coat was the most preferred attire among both children (57.9%) and caregivers (50.6%). (Table 2)

Table 2. Children's and Caregivers' Preferred Choice of Attire for Paediatric Dentists

Attire	Children n (%)	Caregivers n (%)
Traditional white coat	99 (57.9)	89 (50.6)
Surgical scrubs	24 (14.0)	27 (15.3)
Paediatric/cartoon scrubs	22 (12.9)	23 (13.1)
Formal attire (no coat)	4 (2.3)	10 (5.7)
Casual Professional	14 (8.2)	8 (4.5)
Unspecified	8 (4.6)	19 (10.8)
Total	177 (100.0)	176 (100.0)

Reasons for Attire Preference

Among children who preferred the white coat, 67.7% stated it represented what "a doctor/dentist should look like". Among caregivers who preferred the white coat, 79.3% cited its professional appearance as the primary reason. (Table 3)

***Table 3. Primary Reasons for Attire Preference**

Traditional White Coat	Children (n=171)* n (%)	Caregivers (n=176)* n (%)
Looks like a doctor/dentist should	67 (39.2)	—
Professional appearance	—	73 (41.5)
Hygiene/cleanliness	10 (5.8)	8 (4.5)
Trust/confidence	8 (4.7)	4 (2.3)
Other/not specified	14 (8.2)	7 (4.0)
Paediatric/Cartoon Scrubs		
Friendly/approachable	22 (12.9)	5 (2.8)
Colourful/fun	18 (10.5)	10 (5.7)
Makes me less afraid	12 (7.0)	—
Not specified	4 (2.3)	8 (4.5)
Surgical Scrubs		
Looks professional	8 (4.7)	15 (8.5)
Practical/comfortable	6 (3.5)	8 (4.5)
Not specified	10 (5.8)	4 (2.3)
Formal Attire (No Coat)		
Smart appearance	2 (1.2)	6 (3.4)
Not specified	2 (1.2)	4 (2.3)
Casual Professional Attire		
Relaxed/informal	10 (5.8)	4 (2.3)
Not specified	4 (2.3)	4 (2.3)

*Denominator represents total participants who expressed a preference (Children n=171, Caregivers n=176). Percentages are calculated based on this denominator. Some participants provided multiple reasons.

Gender Concordance

A significant association was found between the child's gender and their preferred dentist's gender ($p < 0.001$). Most girls significantly preferred female dentists (75.0%), while most boys showed a preference for male dentists (58.0%). (Table 4)

Table 4. Association Between Child's Gender and Preferred Dentist's Gender

Child's Gender	Preferred Dentist n (%)	Female	Preferred Male Dentist n (%)	Total	χ^2	p-value
Female (n=72)	54 (75.0)	18 (25.0)		72	15.24	<0.001
Male (n=50)	21 (42.0)		29 (58.0)	50		
Total (n=122)	75	47		122		

Comparison of Attire Preferences between Children and Caregivers

No statistically significant difference was found in attire preferences between children and caregivers ($p = 0.066$). (Table 5)

Table 5. Comparison of Attire Preferences between Children and Caregivers

Respondent Type	Traditional White Coat <i>n</i> (%)	Non-White Coat Attire <i>n</i> (%)	Total <i>n</i> (%)
Children	99 (57.9)	58 (33.9)	157 (100)
Caregivers	89 (50.6)	79 (44.9)	168 (100)
Total	188 (57.8)	137 (42.2)	325 (100)

$\chi^2 = 3.371$, $df = 1$, $p = 0.066$

Note: "Not specified" responses (14 children, 8 caregivers) were excluded from statistical analysis.

DISCUSSION

This study provides important insights into the sartorial preferences of paediatric dental patients and their caregivers in the unique socio-cultural setting of Northern Nigeria. The findings reveal a strong and consistent preference for the traditional white coat among both groups, shaped by perceptions of professionalism, competence and familiarity.

The predominant preference for the traditional white coat among both children and caregivers supports observations from several local and international studies where the white coat is viewed as a symbol of medical authority and competence.^{1,7,10,11} In developed countries, the transition away from the traditional white coat in paediatric practice began in the late 20th century and became more pronounced in the 1990s and 2000s. This shift was informed by evidence that white coats often heightened anxiety in children, whereas colourful or casual attire fostered a friendlier and more reassuring clinical environment.^{5,14} In Nigeria, however, this change has only slightly gained momentum in recent years, particularly in the post-COVID period. As a result, many children in this setting remain accustomed to seeing doctors and dentists dressed in white coats, which may partly explain their continued preference for this attire. In Northern Nigeria, where access to specialist care is limited and the burden of dental disease is high, often presenting at late stages characterized by pain,^{12,13} the white coat may serve as an immediate, non-verbal cue of expertise and reassurance for caregivers: a visual representation of the professional who can alleviate their child's suffering. This interpretation is strongly supported by our data, where most caregivers who preferred

the white coat cited "professionalism" as the key reason.¹

Contrary to some international studies that advocate for colourful or cartoon-themed scrubs to reduce dental anxiety in children,^{5,14} our findings indicate that such attire is less preferred in this setting. Whilst formal professional attire (without a white coat) was among the options presented in the current study, very few children or caregivers selected this option, suggesting how unpopular they were, reinforcing the opinion that the white coat is a visual marker of medical expertise and trustworthiness.¹⁵

This study observed a clear preference among children for dentists of the same gender: girls preferred female dentists and boys preferred male dentists. This finding validates the role of religious and cultural nuances in shaping preferences and perceptions,¹⁶ aligning with research conducted in similar socio-cultural contexts.^{17,18} It also underscores the need for sensitive staffing and scheduling where possible, as well as further training to help dentists be effective and reassuring to children of all genders.

The moderate but significant level of agreement between children and caregivers on attire preference is encouraging. It suggests that adopting a dress code that satisfies caregivers' expectations of professionalism will also, in most cases, align with the child's expectations of what a dentist should look like.¹⁹ This harmony simplifies clinic policy decisions, as a single approach can effectively meet the needs of both key stakeholders.

This study has a few limitations. Its cross-sectional design precludes causal inferences about the relationship between attire and actual anxiety or cooperation during dental procedures. Critically, as a single-centre study conducted at a tertiary hospital in a predominantly Muslim, Hausa-speaking urban

setting in Northern Nigeria, the findings should not be extrapolated to represent the preferences of similar populations in other parts of the country, where socio-cultural, religious, and demographic characteristics differ considerably. The participant pool, drawn exclusively from patients attending a specialist paediatric dental department, may further limit representativeness, as it excludes children receiving care at primary or secondary health facilities. Multi-centre studies spanning diverse geopolitical zones of Nigeria are therefore essential before broader generalisations can be made. Additionally, the study relied on photographs rather than direct observation of dentists in different attire during actual clinical encounters, which may not fully capture the complex dynamics of the dentist-patient interaction.

The strength of this study lies in its novel focus on an under-researched population in Northern Nigeria and its simultaneous capture of both child and caregiver perspectives, providing a holistic view essential for family-centred care. The use of standardized photographs ensured consistency in presentation across all participants.

Based on these findings, we recommend:

1. Clinic policy considerations: While this single-centre study alone is insufficient to establish the white coat as standard professional attire across Northern Nigeria, the strong preference expressed by our study population indicates that children's and caregivers' perceptions should inform dress code policies. Clinics may therefore allow flexibility in attire to enhance comfort and trust during clinical encounters, while maintaining an approachable and warm demeanour. Future multi-centre studies are needed to confirm generalisability before broader policy recommendations are made.
2. Staff training: Education of dental staff on the importance of attire in building trust, alongside communication skills to address potential anxiety in children.
3. Cultural competence: Sensitivity to preferences for gender concordance and culturally appropriate dress, integrating these considerations into patient-centred care planning.
4. Future research: Longitudinal studies to observe the impact of attire on child anxiety and cooperation during actual dental procedures, and comparative studies across different regions of Nigeria to assess generalisability.

Aligning dentists' appearance with societal expectations can foster trust, strengthen caregiver-clinician relationships, and enhance the effectiveness of paediatric dental care in Kano, Northern Nigeria.

CONCLUSION

The traditional white coat was the most preferred attire among paediatric dental patients and their caregivers attending a tertiary hospital in Kano, Northern Nigeria, where it is consistently perceived as a symbol of professionalism, clinical competence, and trustworthiness. Gender concordance significantly shaped children's preferences for their dentist's gender, reflecting the deeply held cultural and religious values of the study population. The broad agreement between children and caregivers on attire preferences simplifies dress-code policy decisions in this setting, as a single evidence-informed approach can satisfy the expectations of both groups. These findings are specific to the socio-cultural context of Northern Nigeria and should not be generalised to other regions of the country without confirmation from appropriately designed multi-centre studies. Clinicians and healthcare administrators are encouraged to consider patient and caregiver preferences when formulating attire policies, as aligning professional appearance with community expectations can strengthen trust, improve cooperation, and enhance the overall quality of paediatric dental care.

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Conflict of interest

None declared

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APPENDIX A

Pictorial Line-up of Dentist Attire Types



(A) Traditional white coat



(B) Surgical scrubs



(C) Formal attire (no coat)



(D) Casual professional attire



(E) Paediatric-themed scrubs