**Should Paediatricians wear the white ward coat? A survey among Nigerian Paediatricians**

**Abstract**

**Background**: The white ward coat which is regarded a traditional symbol of the medical profession, has recently being questioned concerning its usefulness in clinical practice. This is because the ward coat has the potential to transmit infections, as well as cause a transient elevation in blood pressure amongst adults and anxiety in children. However, most studies on the usefulness of the white ward coat in clinical practice have focused on mainly on patients’ opinion on how they want doctors to appear. There is a paucity of studies in medical literature that looks at the opinion of physicians concerning their apparels especially paediatricians. This study set out to determine which apparel Nigerian Paediatricians prefer to wear to work and the reasons behind their decision.

**Materials and Method**: This was a cross sectional study conducted among Nigerian paediatricians who attended the 55th Annual General and Scientific Conference of the Paediatric association of Nigeria that held at Lagos state, Nigeria from January 17th-19th 2024. Participants filled a well-structured self-administered questionnaire.

**Results**: Majority of the respondents 107 (54%) are consultants while registrars and medical officers had the least number 4 (2%) each. Most respondents practiced in government facilities 175 (88.4%) and at tertiary healthcare levels 167(84.3%). The generally preferred attire was scrubs 110 (55.6%), followed by formal wear (23.7%), white ward coats 27 (13.6%), and casual attire 14 (7.1%). There were no statistically significant associations between attire preference and demographic factors, including age, gender, years of practice, facility type, and cadre (p>0.05).

**Conclusion:** This study shows that majority of Nigerian Paediatricians generally prefer to wear scrubs at work and especially when they work in the emergency paediatric room settings.

**Key words:** Nigerian, Paediatrician, Ward coat, Scrubs

**Introduction**: The white ward coat which has been worn by medical doctors for several decades is viewed as symbol of authority, compassion and professionalism.1,2 Initially, the ward coat was black in colour because people associated the hospital with a place where people are brought to die. However, with the change of the image of hospitals to places where lives are saved and white colour perceived as a sign of life and purity, this made health care workers (doctors and nurses) to change the black coloured ward coat to white.2,3 Society has also carried this symbol of whiteness to the marriage altar where brides traditionally wear white as a symbol of their purity.2 Over the years, the white coat has become an integral and an important part of the physician’s image. Recently, the white ward coat has been the subject of some studies which have focused on its capacity to harbor and spread infectious agents.4-7In the United Kingdom, doctors recently have stopped wearing the white ward coat because of concerns that it contributes to the spread of infection.8-9Some patients have experienced transient elevation of their blood pressure when a medical personnel wearing white ward coat is measuring their blood pressure in the hospital setting , a condition known as white coat hypertension.10-12 The white ward coat has also been documented to scare children.10 This is because children often attribute pain and other unpleasant experience to the white coat and this usually makes children not to be cooperative during examinations.10 In order to gain a child’s maximal cooperation for medical examination, some paediatricians prefer not to wear white ward coats. It is noteworthy that other hospital workers besides medical doctors also wear white coats while carrying out their duties in the hospital, this might reduce significantly the famous symbol the white ward coat worn by medical doctors represents.

Although the use of the white coat may have declined considerably among physicians, many patients in general still prefer it when physicians wear the white coat.8,13-18Despite the technological advances and changes that medical practice has undergone in the last decade, questions related to the appearance and clothing of physicians have not yet been fully clarified.19 Discrepancy still exists between physician and patient attitudes toward wearing a white ward coat.

There has been a growing trend towards the use of scrubs in various departments in most hospitals in recent years especially in surgery, psychiatry and paediatric departments. This drift could be because scrubs are now in fashion and trendy. Additionally, scrubs are worn by other hospital members aside from doctors and nurses, who provide care for patients. Some scrubs have colorful designs that attract children and might lessen anxiety associated with the sight of white ward coat. However, Scrubs lack the hallmark of authority and professionalism the traditional white ward coat conveys. This observed trend towards the increasing use of scrubs in paediatric settings raises an important question: Should paediatricians substitute the traditional white ward coat for scrubs? Research, however, has paid little attention to what apparel Paediatricians prefer to wear at work while attending to their patients.

This study set out to determine if Nigerian paediatricians prefer to wear the traditional white coat or scrubs to work, as well as the reasons behind their choices. We believe our findings would help guide hospital policies on dress codes for paediatricians .

**Methods**

Every year in the month of January, the Paediatric Association of Nigeria holds its annual conference and scientific meeting. This brings together Pediatricians and Paediatricians –in- training practicing in Nigeria. This study is a cross sectional descriptive study conducted amongst Paediatrcians that attended the 55th Annual General and Scientific Conference of the Paediatric association of Nigeria that held in Lagos, Nigeria from January 17th-19th 2024.

The study instrument was a structured questionnaire which had been field-tested and reviewed. It was administered to Paediatricians who were present and who gave consent. Data collected were entered into SPSS version 26. Analysis was mainly descriptive. A p-value of less than 0.05 was considered significant. Results were documented as prose, tables and figures

**Results**

A total of 220 questionnaires were distributed and 198 were filled and returned. This gave a response rate of 90%. Table 1 shows the general characteristics of the study population. Out of 198 paediatricians surveyed, most respondents 96 (48.5%) were aged 40-49 years followed by those aged 30-39 years 67( 33.8%). There were more female 146(73.7%) than male 52 (26.3%) participants. Majority of the respondents 107 (54%) are consultants while registrars and medical officers had the least number 4 (2%) each. Most respondents practiced in government facilities 175 (88.4%) and at tertiary healthcare level 167(84.3%).

**Table 1: General Characteristics of the Study Population**

|  |  |  |
| --- | --- | --- |
| Variables | Frequency (n) | Percentage (%) |
| Age  <30 years  30-39 years  40-49 years  50-59 years  >/=60 years  Total | 8  67  96  22  5  198 | 4.0  33.8  48.5  11.1  2.5  100.0 |
| Gender  Male  Female  Total | 52  146  198 | 26.3  73.7  100.0 |
| Years of Practice  </=5years  6-10years  11-15years  16-20years  >20years  Total | 17  38  75  40  28  198 | 8.6  19.2  37.9  20.2  14.1  100.0 |
| Facility of Practice  Government  Private  Total | 175  23  198 | 88.4  11.6  100.0 |
| Level of Facility  Secondary  Tertiary  Total | 31  167  198 | 15.7  84.3  100.0 |
| Cadre  Consultant  Senior Registrar  Registrar  Medical Officer  Others  Total | 107  73  4  4  10  198 | 54.0  36.9  2.0  2.0  5.1  100.0 |

**Figure 1 depicts the general attire preferences by paediatricians.** The most preferred attire across all settings was scrubs 110 (55.6%), followed by formal wear (23.7%), white ward coats 27 (13.6%), and casual attire 14 (7.1%).

**Figure 1: Generally Preferred Paediatrician Attire**

Attire preferences in specific settings is shown in Figure 2 and 3.In emergency room settings, 107(54%) of respondents preferred scrubs exclusively, while 68(34.3%) preferred a combination of scrubs and a white ward coat while 10 (5.1%) preferred a combination of ward coat and formal dressing**.** In Paediatric ward or CHOP settings, an equal number of the responders 53(26.8%) preferred Scrubs and white ward coat worn on formal wear

**Figure 2: Preferred Paediatrician Attire in the Emergency Room**

**Figure 3: Preferred Paediatrician Attire in the Ward/CHOP**

The reasons for Preferring White Coats is shown in Table 2. The main reasons for preferring white coat include its use as a protective equipment 16(61.5%) and maintaining a professional look 13 (50%).

**Table 2: Reasons for preferring ward coats as paediatrician attire**

|  |  |  |
| --- | --- | --- |
| Variables | Frequency (n) | Percentage (%) |
| As Tradition  No  Yes  Total | 17  9  26 | 65.4  36.6  100.0 |
| As pocket for books/instruments  No  Yes  Total | 15  11  26 | 57.7  42.3  100.0 |
| For identification as a doctor  No  Yes  Total | 14  12  26 | 53.8  46.2  100.0 |
| Professional look  No  Yes  Total | 13  13  26 | 50.0  50.0  100.0 |
| As personal protective equipment  No  Yes  Total | 10  16  25 | 38.5  61.5  100.0 |
| Gives confidence  No  Yes  Total | 20  6  26 | 76.9  23.1  100.0 |

The reasons for not preferring White Coats is displayed in Table 3: The potential to frighten children 129 (75%), ability to cause heat/ discomfort 81 (47.1%), and risk of infection 33(19.2%) were common reasons cited.

**Table 3: Reasons for not preferring ward coats as paediatrician attire**

|  |  |  |
| --- | --- | --- |
| Variables | Frequency (n) | Percentage (%) |
| Increases risk of infection  No  Yes  Total | 139  33  172 | 80.8  19.2  100.0 |
| Can be hot/uncomfortable  No  Yes  Total | 91  81  172 | 52.9  47.1  100.0 |
| Can scare/frighten children  No  Yes  Total | 43  129  172 | 25.0  75.0  100.0 |
| Can be difficult to manage  No  Yes  Total | 154  18  172 | 89.5  10.5  100.0 |

Table 4 summarises reasons why paediatricians prefer scrubs. Comfort and ease of mobility 90 (81.1%) and use as protective equipment (53.2%) were the main reasons for preferring Scrubs, while 21(18.9%) considered scrubs to be trendy.

**Table 4: Reasons for preferring scrubs as paediatrician attire**

|  |  |  |
| --- | --- | --- |
| Variables | Frequency (n) | Percentage (%) |
| Its trendy  No  Yes  Total | 90  21  111 | 81.1  18.9  100.0 |
| Has pocket for books/instruments  No  Yes  Total | 84  27  111 | 75.7  24.3  100.0 |
| Comfort and ease of mobility  No  Yes  Total | 21  90  111 | 18.9  81.1  100.0 |
| Professional look  No  Yes  Total | 67  44  111 | 60.4  39.6  100.0 |
| As personal protective equipment  No  Yes  Total | 52  59  111 | 46.8  53.2  100.0 |
| Gives confidence  No  Yes  Total | 98  13  111 | 88.3  11.7  100.0 |
| Easy to manage  No  Yes  Total | 71  40  111 | 64.0  36.0  100.0 |

There were no statistically significant associations between Paediatrician demographic variables and attire preference as shown in Table 5.

**Table 5: Association between Paediatrician Characteristics and Generally Preferred Attire**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | White ward coat n(%) | Scrubs n(%) | Formal wear n(%) | Casual wear n(%) | Test statistic | p-value |
| Age (years)  <30  30-39  40-49  50-59  >/=60  Total | 0 (0.0)  7 (3.5)  13 (6.6)  6 (3.0)  1 (0.5)  27 (13.6) | 5 (2.5)  41 (20.7)  54 (27.3)  9 (4.5)  1 (0.5)  110 (55.6) | 1 (0.5)  16 (8.1)  24 (12.1)  4 (2.0)  2 (1.0)  47 (23.7) | 2 (1.0)  3 (1.5)  5 (2.5)  3 (1.5)  1 (0.5)  14 (7.1) | 15.79 | 0.20 † |
| Gender  Male  Female  Total | 6 (3.0)  21 (10.6)  27 (13.6) | 34 (17.2)  76 (38.4)  110 (55.6) | 11 (5.6)  36 (18.2)  47 (23.7) | 11 (5.6)  3 (1.5)  14 (7.1) | 4.29 | 0.23 χ |
| Facility of Practice  Government  Private  Total | 24 (12.1)  3 (1.5)  27 (13.6) | 96 (48.5)  14 (7.1)  110 (55.6) | 44 (22.2)  3 (1.5)  47 (23.7) | 11 (5.6)  3 (1.5)  14 (7.1) | 2.70 | 4.34 χ |
|  |  |  |  |  |  |  |
| Level of Facility  Secondary  Tertiary  Total | 6 (3.0)  21 (10.6)  27 (13.6) | 18 (9.1)  92 (46.5)  110 (55.6) | 6 (3.0)  41 (20.7)  47 (23.7) | 1 (0.5)  13 (6.6)  14 (7.1) | 1.98 | 0.57 χ |
| Cadre  Consultant  Senior Registrar  Registrar  Medical Officer  Others  Total | 18 (9.1)  7 (3.5)  1 (0.5)  1 (0.5)  0 (0.0)  27 (13.6) | 55 (27.8)  45 (22.7)  2 (1.0)  2 (1.0)  6 (3.0)  110 (55.6) | 26 (13.1)  18 (9.1)  1 (0.5)  1 (0.5)  1 (0.5)  47 (23.7) | 8 (4.0)  3 (1.5)  0 (0.0)  0 (0.0)  3 (1.5)  14 (7.1) | 14.46 | 0.27 **†** |

†= Fishers exact; χ = chi square, n = number, % = percentage

**Discussion**

This study sought to identify the attires preferred by Paediatricians at their place of work giving that most studies have focused on the preferences of patients. We found that most Nigerian pediatricians do not enjoy wearing white coats when treating children. The reasons for this include the increased possibility of creating fear in children, discomfort associated with heat it generates and the increased risk of infection. This aligns with earlier findings by Douse et al.17, who observed that pediatricians generally avoid white coats due to concerns that the coats might scare children and may potentially affect the doctor-patient relationship. This finding contrasts with the observation of some researchers who have documented that ward coats do not scare older children.15,16

Another reason why majority of Nigerian paediatricians don’t like white ward coat is because it makes them hot and it can be uncomfortable. The hot weather in Nigeria and the erratic power supply in the country makes wearing a ward coat over a formal attire uncomfortable because it can cause excessive sweating. This suggests that there is a need for an apparel that can provide comfort without causing excessive heat. Nigerian Paediatricians also do not favour the white coat because of its potential to cause infection. This belief is supported by some studies that have documented microbial contamination of physicians' white coats and its potential to transmit infections.4-7 This findings has made hospitals in the UK to suspend the use of the white coats in clinical settings.9 Thus, most physicians in the UK now wear scrubs. It is noteworthy that prevention of transmission of infection is important in paediatrics, because children are more susceptible to hospital-acquired infections because of their immature immunity. Despite these concerns of about transmission of infections, it is worthy of note that a small proportion of paediatricians still prefer to wear the white ward coat because it serves as a protective equipment and helps maintain a professional look.

The main reason why physicians chose to wear a white laboratory coat in the late 19th century was to help produce a sense of scientific validity for their medical practice while at the same time representing cleanliness and purity.20 This culture has passed down through many generations and has become a tradition. However, the modern day physicians have different reasons to wear white coats. Among the paediatricians who preferred to wear the white coat, personal protection, professional identification as well as helping them carry books and other medical equipment were the main reasons cited for wearing white coat. Similar findings have been documented by Douse et al.17

Doctors working in private settings showed less preference for the white ward coat compared to those in government establishments. This difference may be attributed to the absence of dress codes in many private facilities, in contrast to government facilities where dress codes are more commonly enforced.

In this study, scrubs was the most preferred attire amongst Nigerian Paediatricans. The main reasons given for this preference were comfort, ease of mobility and personal protective equipment. Clarke et al21 similarly documented that scrubs are more practical and more comfortable than white ward coat. This finding is in keeping with the global trend in health care where scrubs are increasing being worn by health care personnel globally. Another plausible reason could be because scrubs are now trendy and some of them have lovely colours that attract children. However, scrubs being trendier was the reason in a. few of our participants. Consultants in this study preferred scrubs more than the other cadres of paediatricians. The reason for this could be that many consultants might have become weary of the white coat after years of wearing them, from days of undergraduate medical school through residency training and now as heads of unit. They now see scrubs as a suitable alternative that provides comfort and still portrays them as professionals.

In specific paediatric settings, majority of pediatricians in this study preferred wearing either scrubs alone or a combination of scrubs with a white coat, particularly in the emergency room. .This finding is consistent with the observations by Khojah et al22, who documented a similar preference among respondents. This observation may be influenced by the widespread televised popular medical television shows, which often depicts physicians in emergency settings wearing scrubs or a combination of scrubs and white coats. These medical television shows might influence the perceptions the general public especially paediatrcians and patients on the ideal way a doctor working in an emergency room should appear. However, this finding contrasts with the report of Clarke et al.21, who documented that most adults and children preferred doctors in more traditional professional attires like a shirt rather than scrubs. This difference could be as a result of the smaller sample size used in the study of Clarke et al.21 which included only 37 participants, compared to the present study and that of Khojah et al.22, which surveyed 198 and 395 participants, respectively.

An interesting finding from this study was that none of the junior cadre paediatricians (junior registrars and medical officers) chose casual attire as a suitable option for work. Only a few of the senior registrars and consultants preferred casual wear. This difference could be that the senior registrars and consultants tend to feel they have earned the privilege of a higher status in the department and as such are entitled to dress in a more informal attire and want to distinguish themselves from junior cadre paediatricians who are expected to dress more formally.

In this study, only 7.1% of participants preferred casual dress for work, a finding similar to the 6% reported by Obu et al.19 This similarity suggests that casual attire is generally not widely accepted among doctors. De Lot et al23 observed that when doctors wore casual attire under a white coat, patients’ perceptions of the doctors knowledge declined. This observation shows the importance of a physician’s clothing in shaping patient perceptions. As the saying goes, “dress the way you want to be addressed”; a shabby appearance of a doctor could lead patients to view a doctor as incompetent or unskilled. Hippocrates also had earlier recognized the importance of a doctor’s attire on the doctor-patient relationship, when he stated that a physician "must be clean in person, well dressed, and anointed with sweet-smelling unguents."24

**Conclusion:**

This study shows Nigerian paediatricians generally prefer scrubs to the white ward coat especially in emergency room settings. Nigerian Paediatricans don’t want to wear the white ward coat because, because of its likelihood to frighten children, generate heat and potential to transmit infection. They only prefer white ward coats mainly in children outpatient settings and wards. The findings of this study support the need for a reconsideration of hospital dress codes in paediatric settings in Nigeria. There may be a need for hospitals in Nigeria to adopt scrubs as the standard attire for all paediatricians who work in the emergency room.

**Limitations**

One limitation of this study is its focus on paediatricians who attended Paediatric association of Nigeria conference, thus it may not be generalised to all Paediatricians in Nigeria.

Ethical approval

Approval for the study was obtained from the research and ethics committee of Federal teaching hospital Owerri, Imo State.

Consent

As per international standards or university standards, Participants’ written consent has been collected and preserved by the author(s).

**Future research**

Further research into how scrubs impacts on doctor-parent/child relationship and transmission of infections.

**Contributors**: This work was carried out in collaboration between all authors. OK conceptualised and designed the study, OK, OI and AK wrote the protocol, AI, IA, and AK did the statistical analysis and wrote the draft of the manuscript. OK, NE, IO, OU, and OI supervised and corrected the protocol and manuscript. OU and OI collected the data. All authors read and approved the final draft of the manuscript. OK is responsible for the overall content and accepts full responsibility for the work and /or the conduct of the study.

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**Conflicts of interest**

There are no conflicts of interest.

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