

A Cross-Sectional Study Of The Perception Of Dental Students Towards Wearing White Coats In Clinical Departments In The Indian Context

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ABSTRACT

Background: Among dental students, wearing a white coat represents a symbol of recognition linked with dignity and respect for the wearers. However, it has been reported that dental students are seen wearing an apron or white coat in public places, and this practice needs to be corrected and addressed.

Aim: The study had the aim of determining the perception of dental students towards wearing of white coat/aprons.

Methods: The study utilized a closed-ended questionnaire comprising 10 items which was distributed to the clinical students from a dental college. The questionnaire explored the understanding of dental students towards their willingness to replace white coats with scrubs, white coat maintenance, grounds of wearing aprons outside premises and after college hours, and their understanding towards white coat wearing in college. The data recorded were assessed for distribution of frequency and to formulate results.

Results: The study results showed that the majority of dental students had a preference for wearing white coats over scrubs in college. The grounds for wearing a white coat outside college were for a different feeling and laziness in removing the white coat. The white coat was perceived as personal protective equipment by the participants and 40% traveled to college in a white coat. Majority of participants accepted on wearing white coat outside college during college time and immediately after that. The majority of subjects also kept their belongings in pockets of white coats.

Conclusion: The present study elucidates the white coat understanding in dental students as awareness is scarce concerning how, where, and when one should use a white coat. Institutes play a vital role in the dissemination and promotion of white coat use importance. Also, there is the necessity of implementing standards and policies for white coat maintenance and handling.

Keywords: Awareness, dental students, perception, white coats

1. INTRODUCTION

Apron or white coat is considered a dress code associated with dignity and respect among healthcare professionals. Patients visiting healthcare institutes for their treatment consider the white coat as a symbol of empathy and kindness in healthcare professionals. The white coat is also considered a symbol of prestige and knowledge linked to hope and care that a patient expects from their treating personnel. Initially, the white coat was introduced in the healthcare sector as a media of protection for physicians and patients from cross-contamination which emerged from the extensive research in the late 19th century that helped researchers concerning better understanding of ways to prevent contamination by bacteria [1].

Existing literature data has depicted that white coats from healthcare personnel can harbor potentially pathogenic and infective microorganisms and might have a vital role in infection transmission in a healthcare setting. Few specific medical fields as psychiatrists and Pediatricians have the practice of wearing white coats to reduce anxiety in their patients and avoid its role as a hurdle to effective communication which is linked with mixed results and responses. However, dental colleges in India continue the use of white coats among their students in clinical departments [2].

Recently, dental and medical students are frequently seen with white coats outside the premises of the institute during and after college hours showing them having little perception towards the use of white coats. This implies on need to assess the reason for wearing white coats outside the institute as if it had relevance in the healthcare sector or if white coats are used as a way of gaining social attention from family and friends of wearers. This further warrants the need to assess actual white coat use and rectification of any associated variance if seen [3,4]. Hence, the current work is aimed at the identification of the perception of the individual linked to the use of aprons or white coats in dental college students.

2. MATERIALS AND METHODS

The present cross-sectional observational study had the aim of determining the perception of dental students towards wearing of white coat/aprons. Verbal and written informed consent were taken from all the subjects before study participation.

The study included third-year and final-year students of the Institute that comprised the clinical students of the dental college as these students start treating patients in their postings to the clinical Departments and these students are also given instructions for following the universal precautions for minimization and/or prevention of cross-contamination in clinician and patients while performing clinical procedures. Additionally, all students wear aprons during their clinical posting hours.

The inclusion criteria for the study were students that were present in the Institute in the day of conducting the study and gave the consent for study participation. The exclusion criteria for the study were students that were not willing for contribution as participant in the study.

After inclusion, all the subjects were given a closed-ended questionnaire comprising 10 items, and a self-administered questionnaire which was utilized to record the responses of the responders. The questionnaire comprised items that assessed the understanding of the students in wearing their white coats or aprons outside the premises of the college and the reasons for the same. The perception of students was also assessed concerning their acceptability of substituting their white aprons with the scrubs and for maintenance of the aprons.

The questionnaire was given to the students in their lecture to allow the participation of the majority of the students in the study. Before questionnaire distribution, all the participating students were explained the study's nature and were ensured concerning anonymity and confidentiality of the gathered data including their demographics and questionnaire response. The students were allotted 10 minutes for filling the questionnaire which was done with investigators being present. The students were not offered any incentives to study or participate.

In data assessment, questionnaire with more than one response being marked or those forms that were incompletely filled were not included in the analysis. Among demographic data, gender, age, and residence. The collected data were assessed statistically utilizing SPSS (Statistical Package for the Social Sciences) software version 24.0 (IBM Corp., Armonk, NY, USA) for frequency proportion and distribution. The results were then formulated and tabulated.

3. RESULTS

The present cross-sectional observational study had the aim of determining the perception of dental students towards wearing white coats/aprons. The study initially screened 320 subjects from both genders. Two of the questionnaires were excluded from the data assessment due to incomplete questionnaires and the marking of multiple choices. The mean age of the study subjects was 21.04 ± 2.28 years. There were 28.3% (n=90) males and 71.1% (n=228) females in the present study. The majority of the students were residents of hostels or other places away from their parents with 79.8% (n=254) subjects and 20.1% (n=64) students living with their parents. Among 318 subjects, 91.1% (n=290) subjects agreed that they wear an apron/white coat outside college premises, whereas, 8.8% (n=28) subjects responded as not wearing an apron outside college premises (Table 1).

S. No	Characteristics	Number (n)	Percentage (%)
1.	Mean age (years)	21.04±2.28	
2.	Gender		
a)	Males	90	28.3
b)	Females	228	71.1

3.	Residence		
a)	With parents	64	20.1
b)	Hostel/other	254	79.8
4.	Wear an apron/white coat outside the college premises.		
a)	Yes	290	91.1
b)	No	28	8.8
5.	Total	318	100

Table 1: Demographic data of the student study participants

On assessing the perception of students for wearing a white coat on college premises outside clinical posting, 65.4% (n=208) subjects wore it as a PPE (personal protective equipment) to avoid cross-contamination followed by 21.4% (n=68) subjects considered that white coat is mandatory in the college, 8.2% (n=26) subjects reported wearing it as everyone else in the college wears white coat, and 5% (n=16) subjects reported to feel different after wearing white coat (Table 2).

S. No	Reason for apron wearing in college	Number (n)	Percentage (%)
1.	Mandatory in college	68	21.4
2.	Everyone else wears it	26	8.2
3.	Different feeling	16	5
4.	As PPE	208	65.4
5.	Total	318	100

Table 2: Perception of students for wearing white coats in college premises outside the clinical posting

Concerning places of the frequent visit of students in white coats during college hours or immediately following college hours, the most common place was stationary/grocery shops as reported by 74.4% (n=216) subjects, whereas, 25.6% (n=74) subjects responded to it negatively followed by 60.6% (n=176) subjects reporting to wear it to theory classes and library, 57.2% (n=166) subjects wearing it to food joints, and 40% (n=116) subjects wearing it while traveling as reported in Table 3.

S. No	Places of reported white coat wearing outside college premises	Without white coat		With white coat	
		n	%	n	%
1.	Food joints	124	42.7	166	57.2
2.	Stationary/grocery shops	74	25.6	216	74.4
3.	Traveling	174	60	116	40
4.	Library and theory sessions	114	39.3	176	60.6
5.	Total	290			

Table 3: Places of frequent visit of students in white coats during college hours or immediately following

For the reason of wearing aprons/white coats outside the college, the most common reason reported was laziness in removing an apron reported by 38.6% (n=112) subjects followed by feeling special or confident as reported by 22.7% (n=66) subjects, clothing ease by 11.03% (n=32) subjects, for hiding unironed clothing by 6.89% (n=20) subjects and feeling more confident by 3.4% (n=10) subjects. Other reasons reported included students forgetting to remove as reported by 7.58% (n=22) subjects, time constraint by 6.2% (n=18) subjects, and as everyone wears it by 3.4% (n=10) subjects respectively (Table 4).

S. No	Reason for wearing aprons/white coats outside college	Number (n)	Percentage (%)
1.	Clothing ease	32	11.03
2.	Hiding unironed clothing	20	6.89
3.	More confident feeling	10	3.4
4.	Feeling special/different	66	22.7
5.	Laziness in removing the apron	112	38.6
6.	Other reasons		
a)	Forget to remove	22	7.58
b)	Everyone wears it	10	3.4
c)	Time constraint	18	6.2
7.	Total	290	

Table 4: Reason for wearing a white coat outside college premises after college hours and immediately following

It was seen that for white coat washing and usage and opinion on its replacement to scrubs, 77.3% (n=246) students denied replacing white coats with scrubs. Washing frequency was once in two weeks in 3.1% (n=6) students, every day in 6.9% (n=22), alternate day in 30.8% (n=98), two times a week in 30.8% (n=98), and once a week in 29.5% (n=94) students respectively. Also, 77.3% (n=246) subjects agreed on keeping belongings in the pocket of a white coat/apron, whereas, 22.6% (n=72) subjects did not agree (Table 5).

S. No	Whitecoat maintenance and perception on replacing it with scrubs	Number (n=318)	Percentage (%)
1.	Replacement with scrubs		
a)	Yes	72	22.6
b)	No	246	77.3
2.	Washing frequency		
a)	Once in two weeks	6	3.1
b)	Everyday	22	6.9
c)	Alternate day	98	30.8
d)	Two times a week	98	30.8
e)	Once a week	94	29.5
3.	Keep belongings in the pocket of the white coat/apron.		
a)	Yes	246	77.3
b)	No	72	22.6

Table 5: white coat washing and usage and opinion on its replacement to scrubs

4. DISCUSSION

Wearing of white coat by the doctor has a history that goes back to the 19th century and is accepted and applicable globally as a symbol of purity, dignity, and respect for the wearer. The original reason for wearing a white coat is attributed to prevention of the cross-infection and was made compulsory as a part of universal precautions for healthcare workers. On assessing the perception of students for wearing white coats on college premises outside clinical posting, 65.4% (n=208)

subjects wore it as a PPE (personal protective equipment) to avoid cross-contamination, whereas, 21.4% (n=68) subjects considered that white coats were mandatory in the college, 8.2% (n=26) subjects reported wearing it as everyone else in the college wears white coat, and 5% (n=16) subjects reported to feel different after wearing white coat. Hence, students need to understand that patients they treat have a preformed perception of how their doctor is dressed, and also their confidence and trust are derived from the formal attire of the doctor including a white coat as reported by Rehman SU et al [5] in 2005.

The study results showed that among 318 subjects, 91.1% (n=290) subjects agreed that they wear an apron/white coat outside college premises, whereas, 8.8% (n=28) subjects responded as not wearing an apron outside college premises. These results were consistent with the study of Rai R et al [6] in 2016. It was also reported that 40% traveled to college in the white coat which further increased the transmission rate of pathogens as also confirmed by Loveday HP et al [7] in 2007. White coat in dentistry is usually contaminated with saliva, aerosol, and blood with a definite risk of infection transmission as suggested by Littlechild P et al [8] in 1992. In the study, 57.2% (n=166) of subjects wearing it to food joints there is a risk of community spread from food joints and is a vital component to prevent infection in clinics which is in agreement with the study of Loh W et al [9] in 2000.

In the studies by Muhadi SA et al [10] in 2007 and Priya Bharathi PM et al [11] in 2022, the chest, sleeves, and pockets are the most contaminated areas of white coat/apron and 77.3% (n=246) of subjects agreed on keeping belongings in the pocket of white coat/apron making them at higher contamination risk. Students also feel pride in wearing aprons in front of friends and families as a display. For the reason of wearing aprons/white coats outside college, the most common reason reported was laziness in removing an apron reported by 38.6% (n=112) subjects followed by feeling special or confident as reported by 22.7% (n=66) subjects which by the study of Babu AT et al [12] in 2010.

The present study reported that for white coat washing and usage and opinion on its replacement to scrubs, 77.3% (n=246) of students denied replacing white coats with scrubs. Washing frequency was once in two weeks in 3.1% (n=6) students, every day in 6.9% (n=22), alternate day in 30.8% (n=98), two times a week in 30.8% (n=98), and once a week in 29.5% (n=94) students respectively. These studies contrasted the results of Iqbal S et al [13] in 2019 who reported white coat washing daily by 10% of students, whereas, a study by Pydi S et al [14] in 2015 reported 36% of students washing white coats twice a week.

It was also noted that 77.3% (n=246) subjects agreed on keeping belongings in the pocket of a white coat/apron, whereas, 22.6% (n=72) subjects did not agree. This could be attributed to the non-availability of changing rooms in the majority of Dental colleges in India. The present study has limitations including the study did not assess the reason for traveling with a white cat on an individual basis. The study also did not address the reason students wear white coats in theory classes and the number of white coats each student has. Also, bacterial contamination on white coats was not assessed.

Conclusions

The present study concludes that the majority of students from Dental college are aware of the vital role of wearing white coats to the college. However, there is a need for education of dental students concerning the right reason for wearing white coats. Concerning wearing white coats outside the college premises, the majority of the students had wrong perceptions and a huge gap in their attitude and knowledge. Hence, it warrants an emergency need to address improper perceptions and assumptions linked with the wearing of white coats by dental students.

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