

A surgeon's dress code – the patients' perspective

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Background: The dress code for surgeons has evolved over time from formal suit-and-tie to crisp white coat, and currently to various forms of smart-casual attire; however, there is no stipulated or rigid uniform guideline. It is important to explore and discuss the various forms of attire in relation to patients' ideals and perceptions of a surgeon.

Methods: An observational study in the form of a paper-based questionnaire was carried out at the Charlotte Maxeke Johannesburg Academic Hospital (CMJAH), Chris Hani Baragwanath Academic Hospital (CHBAH) and Wits Donald Gordon Medical Centre (WDGMC). Seven questions (Q1–Q7) were posed with various dress categories to select from in each question, namely: formal, smart, smart-casual and scrubs. Descriptive analysis of the survey responses, and the determination of the association between survey responses and a) hospital, b) gender, c) age group was performed. Fisher's exact test was used where the requirements for the chi-square test could not be met. Attire groups with $n < 15$ were not analysed. The strength of the associations was measured by Cramer's V and the phi coefficient respectively. Data analysis was carried out using SAS v9.4 for Windows. A 5% significance level was used.

Results: A total of 387 questionnaires were filled out with a total of 376 fully completed and eligible samples in consenting participants of 18 years and older. In all seven questions, scrubs were the preferred attire. Overall, for Q1–Q5 and Q7, after scrubs, smart was the next most popular attire. For Q6, after scrubs, smart, smart-casual and formal were all popular, indicating some leeway on weekends and public holidays. There was a significant association between each of the responses to the question and hospital ($p < 0.0001$). At CHBAH, patients preferred scrubs more and smart attire less, compared to CMJAH and WDGMC. At CMJAH, preference for formal attire was greater when compared to the other two hospitals.

Conclusion: Overall, patients preferred their surgeons to be dressed in scrubs as this attire easily identified surgeons and instilled confidence in the wearer.

Keywords: dress code, attire, clothing, doctor wear

Introduction

The perception of how surgeons should present themselves dates back to the time of Hippocrates (460 BC–370 BC) who recommended that physicians be “clean in person, well-dressed”.¹ The dress code of a surgeon has been one that has been contested recently, as evidenced by the updated guidelines on appropriate surgeon attire by the American College of Surgeons in 2016.² The surgeon's attire is an important component of the patient-doctor relationship; the basis of a good patient-physician relationship depends on mutual trust, confidence and respect.³ Therefore, to some degree, first impressions of appearance and/or professional attire have a bearing on the patient-doctor relationship.

Bond et al.⁴ explored the 2007 published ‘Uniforms and workwear – an evidence base for guiding local policy by the Department of Health (DoH)’ in the United Kingdom with regards to no clothing below the elbow (‘bare below the elbow’), removal of wrist watches and hand jewellery and removal of neckties. This study showed an obvious preference for either the formal attire or scrubs (attire used in theatre/operating rooms) as compared to ‘bare below the

elbow’; subgroups displayed that scrubs was selected as the most hygienic, whilst formal attire was selected as being the most professional and easiest attire to identify a doctor. ‘Bare below the elbow’ was considered least acceptable in all subcategories and overall. Landry et al. conducted an observational study to consider the patients' preferences for clinical attire.⁵ In this study patients preferred coated attire as compared to non-coated and ‘bare below the elbow’ attire. This finding is in keeping with results in three other studies,^{6–8} though other studies contradict this finding.^{9–11} Current evidence does not definitively associate white coats with increased transmission of infection.

In the So et al. study, scrubs were regarded as more hygienic, and patients perceived the white coat as a reflection of the hygiene of the attending doctor.¹² In 2014, Petrilli et al. discovered that formal attire with or without white coats, or a white coat with other attire, was favoured in most cases (approximately 60%).³ Scrubs allowed doctors in a surgical setting to carry out their duties efficiently and, particularly when they were used in theatre only, represented sterility.³ Acute settings, such as emergency departments, and then

many other sub-specialties, followed suit and adopted this form of dress code. However, other healthcare professionals (nursing sisters, health and rehabilitation team, radiography) began to don scrubs at work, which introduced some confusion within the healthcare setting. With the debate ongoing as to whether doctors should or should not wear white coats, be 'bare below the elbow', or if scrubs are suitably professional for working attire, it has become a conundrum for surgeons to know what to wear to work. Therefore, there is relevance in exploring and discussing various forms of attire in relation to the patient's ideals and perceptions if we are to accurately assess what a South African patient expects and, thus, perceives of their surgeon.

Study design and methods

An observational study in the form of a questionnaire that explored patients' perception of their attending surgeon's attire based on assessing professionalism, ability to identify a surgeon, perception of confidence and overall preference of dress code in the South African setting was undertaken. Descriptive analysis of the survey responses, and the determination of the association between survey responses and a) hospital, b) gender, c) age group are detailed.

Patients 18 years or older in the surgical inpatient wards and outpatient clinics of Charlotte Maxeke Johannesburg Academic Hospital (CMJAH), Chris Hani Baragwanath Academic Hospital (CHBAH), and Wits Donald Gordon Medical Centre (WDGMC) were included. Participants were selected at random on various days of surgical outpatient clinics, and all admissions in the surgical ward during the study period were included. A survey consisting of seven questions (Q1–Q7) with a selection of pictures (three males and two females of different ethnic groups per picture) depicting various types of attire (with and without a white coat) was distributed over a 9-month period. The seven questions in the questionnaire each had eight-picture options available to choose from for each question (A–H) (Supplementary File A).

The questionnaire was designed by the authors and images were selected by the authors. The sample size estimation was based on the key research question to be answered, in this case the estimation of proportions (e.g., the proportion of respondents who chose a particular attire). Based on worst-case (for sample size) estimates of 50%, 5% precision and the 95% confidence level, a sample size of 385 would be required. The actual sample size of 376 corresponds to a precision of 5.1% rather than 5.0%, which is adequate. The chi-square test was used to assess the relationship between question responses and hospital, gender and age group. Fisher's exact test was used where the requirements for the chi-square test could not be met. Attire groups with $n < 15$ were not analysed. The strength of the associations was measured by Cramer's V and the phi coefficient respectively. Data analysis was carried out using SAS v9.4 for Windows.

Results

A total of 387 questionnaires were conducted in CHBAH, CMJAH, and WDGMC over a period of 9 months, with 89 completed from WDGMC (46 females and 43 males); 142 completed from CMJAH (68 females and 74 males); and 156 completed from CHBAH (81 females and 75 males). However, the actual sample size of 376 of eligible and fully completed questionnaires was used.

The three hospitals, as well as the genders and age groups, were all fairly well represented in the sample size (Table I).

Table I: Tabulated overall participants of the survey according to hospital, gender and age

Characteristic	Category	Overall	
		n	%
<i>n</i>		376	
Hospital	CHBAH	146	38.8
	CMJAH	141	37.5
	WDGMC	89	23.7
Gender	Female	190	54.6
	Male	158	45.4
	Unknown	28	
Age (years)	18–30	36	10.1
	31–40	97	27.2
	41–50	80	22.5
	51–65	80	22.5
	> 65	63	17.7
	Unknown	20	

Q1: In which of the images do you think the doctor looks most professional?

There was a significant, moderate, association between the responses to this question and hospital ($p < 0.0001$). At CHBAH, patients preferred scrubs more, and smart attire less, compared to CMJAH. There was no significant association between the responses to this question and patient gender ($p = 0.61$) or age ($p = 0.82$).

Q2: Which of the images do you think makes it easiest for you to identify a doctor?

There was a significant, moderate, association between the responses to this question and hospital ($p < 0.0001$);). At CHBAH, patients preferred scrubs more, and smart attire less, compared to CMJAH. There was no significant association between the responses to this question and patient gender ($p = 0.66$). There was a significant, weak, association between the responses to this question and patient age group ($p = 0.0040$) – older patients were more likely to prefer formal with white coat, and less likely to prefer smart and scrubs, compared to younger patients.

Q3: Which of the images makes you feel most confident with the doctor's ability to help you?

There was a significant, moderate, association between the responses to this question and hospital ($p < 0.0001$). At CHBAH, patients preferred scrubs more, and smart attire less, compared to CMJAH. There was no significant association between the responses to this question and patient gender ($p = 0.99$) or age ($p = 0.13$).

Q4: What attire would you prefer your surgeon to wear on the initial/first visit?

There was a significant, moderate, association between the responses to this question and hospital ($p < 0.0001$). At CHBAH, patients preferred scrubs more and smart attire less, compared to CMJAH and WDGMC. There was no significant association between the responses to this question and patient gender ($p = 0.12$) or age ($p = 0.26$).

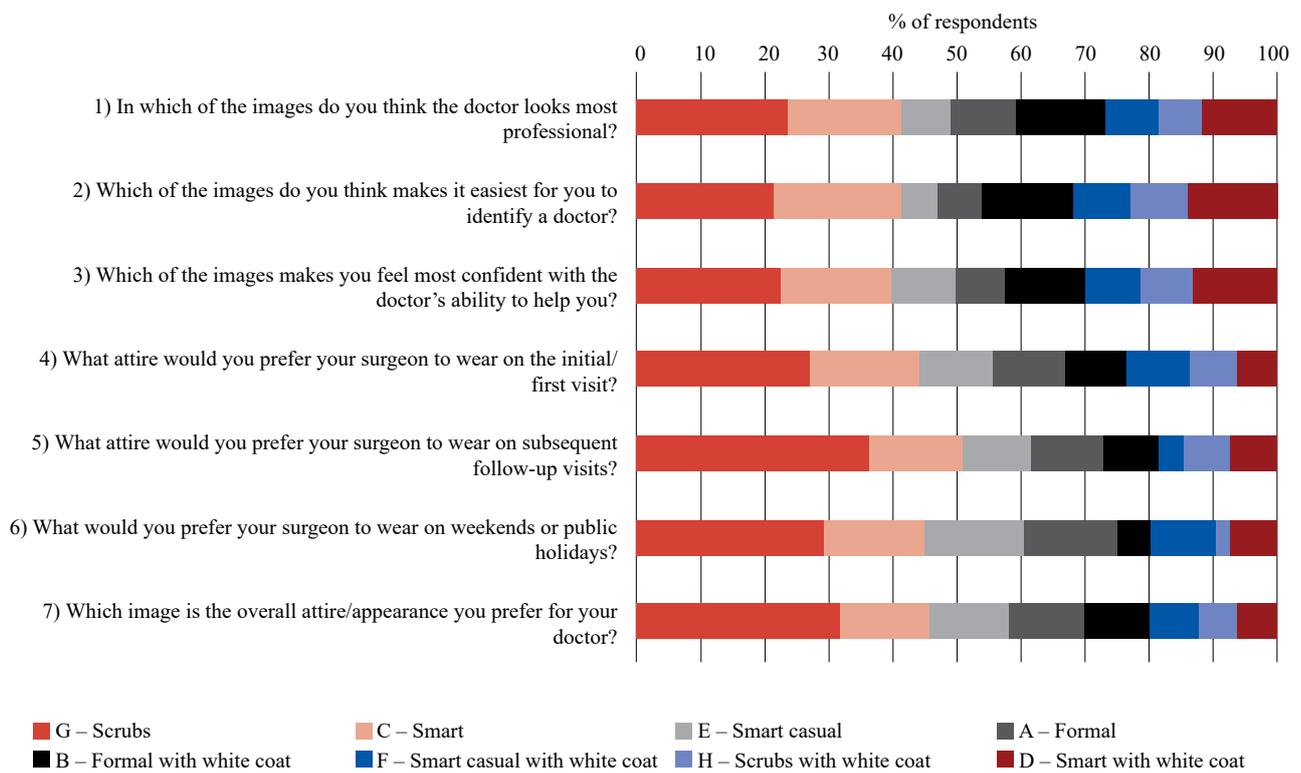


Figure 1: Overall attire preference per question

Q5: What attire would you prefer your surgeon to wear on subsequent follow-up visits?

There was a significant, strong, association between the responses to this question and hospital ($p < 0.0001$). At CHBAH, patients preferred scrubs more and smart attire less, compared to CMJAH and WDGMC. At CMJAH, formal attire was more strongly preferred compared to the other two hospitals. There was no significant association between the responses to this question and patient gender ($p = 0.27$) or age ($p = 0.70$).

Q6: What would you prefer your surgeon to wear on weekends or public holidays?

There was a significant, moderate, association between the responses to this question and hospital ($p < 0.0001$). At CHBAH, patients preferred scrubs more and smart attire less, compared to CMJAH and WDGMC. At CMJAH, formal attire was more strongly preferred compared to the other two hospitals. There was a significant, weak, association between the responses to this question and patient gender ($p = 0.0076$) – male patients preferred formal attire and smart-casual with white coat more compared to female patients. Female patients preferred smart-casual attire more than male patients. There was no significant association between the responses to this question and patient age ($p = 0.25$).

Q7: Which image is the overall attire/appearance you prefer for your doctor?

There was a significant, moderate, association between the responses to this question and hospital ($p < 0.0001$). At CHBAH, patients preferred scrubs more and smart attire less, compared to CMJAH and WDGMC. At CMJAH, formal attire was more strongly preferred compared to the other two hospitals. There was a significant, weak, association between

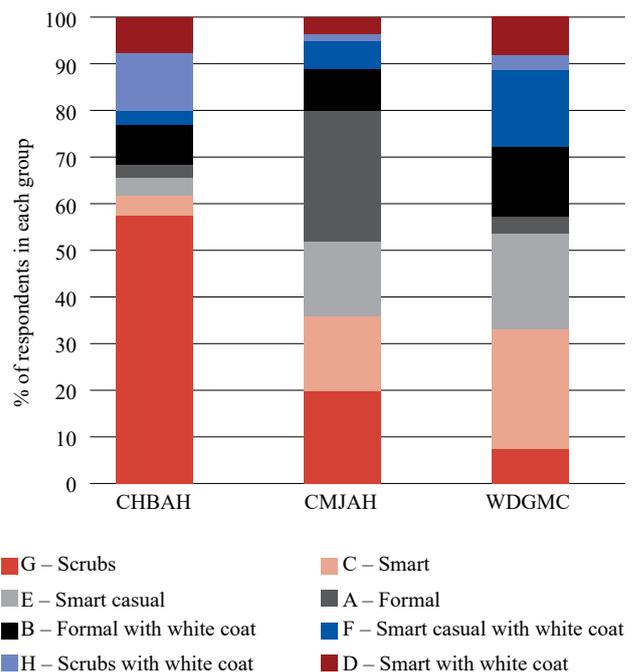


Figure 2: Overall attire preference

the responses to this question and patient gender ($p = 0.0076$) – male patients preferred formal attire and smart-casual attire more compared to female patients. Female patients preferred smart attire and scrubs with white coat more than male patients. There was no significant association between the responses to this question and patient age ($p = 0.14$).

Discussion

Our study demonstrated that at CHBAH patients preferred their surgeons dressed in scrubs. This attire resulted in easy

identification of surgeons and evoked confidence. Male patients preferred formal attire and smart-casual attire more, compared to female patients. Female patients preferred smart attire and scrubs with white coat more than male patients. Whereas at CMJAH patients preferred their surgeons to don formal and smart attire, with the males selecting formal attire more often than the females, who selected smart. In contrast, WDGMC patients were more comfortable with their surgeons dressed in smart attire closely followed by smart-casual attire.

We ensured broad patient representation by selecting hospitals in different locations, included both private (WDGMC) and public (CMJAH and CHBAH) and extended the survey to surgical outpatients as well as inpatients. These choices indicate how patients at the various facilities consider a surgeon to look most professional, easily identifiable, evoke a sense of confidence, and demonstrate a sense of the doctor being able to help the patients. These findings are similar to the results of Bond et al.⁴ where patients preferred formal and scrubs attire.

It was evident in this study that white coats were generally not preferred except occasionally for the 50-and-older age groups. This is in contrast to studies by Landry et al.,⁵ Rehman et al.,⁶ Douse et al.⁷ and Gherardi et al.⁸ which showed patients' preference for white coats over no white coats. However, Gooden et al.,⁹ Cha et al.¹⁰ and Hueston and Carek¹¹ showed the converse – patients preferred doctors not to wear white coats. That said, these studies focused more on the preference or lack of the white coat and 'bare below the elbow' rather than the type of dress or attire.

The different choices between the hospitals may be due to the various demographics of the patient profiles – CHBAH is located in Soweto, and WDGMC and CMJAH are located in Parktown. The few patients who did select a particular dress code along with a white coat were the 50-and-older age groups and this may be influenced by the long-standing tradition of attending physicians wearing white coats. Various healthcare institutions may have a general, even if unwritten/unofficial, dress code. Patients may be accustomed to a particular attire within that facility, and this may also have ultimately influenced their preference.

The pictures of the models within each type of attire attempted to rule out bias according to ethnicity and gender and included different images of the selected type of dress code for ease of reference. This allowed patient selection of answers to each of the seven questions to be based more on the type of dress rather than the looks of the model.

Study limitations

The survey had a limited number of questions that may not have fully explored the patients' perception of their surgeon's attire, but rather focused more on their preference of what they would like to see their attending surgeon wear.

A sampling bias may be considered as patients were selected in surgical outpatient clinics and inpatient surgical wards on various days and times throughout a 9-month period.

The results are subject to a selection bias in view of patients being already accustomed to surgeons dressing in a particular way prior to this study taking place.

Those not comfortable conversing in or reading English may have had difficulty in accurately interpreting the questionnaire, and, therefore, completing it. And those

unable to read would not have been able to participate in the study.

Conclusion

This study has shown that patients prefer a dress code of scrubs for their attending surgeon, closely followed by smart and formal attire. We also demonstrated that on the whole, South African patients do not prefer white coats across the spectrum of dress attire. As there is no dress code rule for surgeons, the patients' opinions must, therefore, be considered and have some degree of influence on how we present ourselves in our working environments. Further studies with larger sample sizes that span larger locations would be of value to further evaluate what patients perceive of a surgeon's dress code. The results of these studies can then inform the most appropriate surgeon attire in healthcare facilities.

Conflict of interest

The authors declare no conflict of interest.

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Ethical approval

Ethical Committee approval was obtained from the University of the Witwatersrand Human Research Ethics committee (R14/49).

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Image A: Formal attire



Image E: Smart-casual



Image B: Formal attire with a white coat



Image F: Smart-casual with white coat



Image C: Smart



Image G: Scrubs



Image D: Smart with white coat



Image H: Scrubs with white coat

