Physician Use of White Coats in Pediatric Ophthalmology

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ABSTRACT

Purpose: Recent literature reports that patients and parents of pediatric patients prefer their physician to wear a white coat and to address them informally. This study aims to characterize current practice patterns of pediatric ophthalmologists regarding their use of white coats and salutations during outpatient pediatric encounters.

Methods: An eight-question survey was e-mailed to members of the American Academy of Pediatric Ophthalmology and Strabismus in 2012. The questions focused on clinical setting, use of white coats in outpatient encounters, and preferred language used to address the patient’s parents. Surveys not completed in full were excluded from data analysis.

Results: Of approximately 1,266 members who received the survey, 606 completed the survey. Five hundred ninety-nine surveys were included in the data analysis. Sixty-three percent of attending physicians and 80% of fellows reported they did not routinely wear white coats while examining outpatient children. Forty-six percent of attending physicians and 48% of fellows addressed the patient’s parents as “mom” or “dad”. There was no significant association between wearing a white coat and type of practice setting, practice characteristics, or location in a children’s hospital for attending physicians or fellows.

Conclusions: Contrary to preferences expressed by patients and their parents, a majority of pediatric ophthalmologists do not routinely wear white coats during pediatric outpatient examinations. Practice patterns appear to be in line with previously reported parental greeting preferences.

INTRODUCTION

A white coat is the most frequent image associated with a physician. Modern history traces the association of the white coat with physicians starting in the late 1800s. Recently, the use of white coats in medicine, especially within the pediatric specialties, has become less frequent and more controversial. In addition, physician salutations are an important aspect of the patient encounter. Scant information in the literature exists to characterize the practice patterns of pediatric ophthalmologists’ use of white coats and salutations. Recent literature shows that patients and parents of pediatric patients prefer their physician to wear a white coat and to address them informally.

This study was undertaken to characterize the practice patterns of pediatric ophthalmologists regarding their use of white coats and salutations...
in outpatient encounters. The goal is to examine whether a gap exists between patient and parent preferences with current physician practice patterns.

**PATIENTS AND METHODS**

An eight-question, multiple-choice, close-ended questionnaire was e-mailed to all members of the American Academy of Pediatric Ophthalmology and Strabismus listserv once in January 2012 and again in February 2012. The organization e-mail list consisted of approximately 1,486 pediatric ophthalmologist members (including candidates-in-training [fellows]) at the time of the questionnaire. The survey was not sent to emeritus, honorary, international fellow, or orthoptist members, bringing the total number receiving the survey to 1,266. Approximately 20% of recipients were international members (ie, not from the United States or Canada). Members were asked to complete the questionnaire ([Appendix](#), available in the online version of this article) regarding their use of white coats and salutations during outpatient pediatric encounters. Demographic information collected included current level of training/practice (attending or fellow), length of time in practice, practice setting (private or academic/university-affiliated), and practice characteristics (rural or urban, association with a children’s hospital, and/or multi-specialty office or hospital).

Recipients were asked to access the questionnaire via a hyperlink (www.surveymonkey.com) embedded in the e-mail invitation to participate. Internet protocol addresses, which are numerical labels assigned to computers participating in a computer network, were deleted from data responses to provide anonymity. Surveys were excluded if any answers were omitted or if multiple answers were given for questions 1, 2, 5, or 7 because multiple answers to these questions were deemed to be contradictory for reliable data calculation. The study was exempted from institutional review board review by the Wills Eye Institute institutional review board.

Statistical analysis was mostly descriptive with survey responses summarized using frequencies and percentages. Association of respondent characteristics with wearing a white coat were evaluated using Pearson’s chi-square or exact chi-square tests, as appropriate. A $P$ value of less than .05 was considered statistically significant.

**RESULTS**

The questionnaire was sent to an estimated 1,266 listserv members. A total of 606 (47.8%) members completed the survey. Seven surveys were excluded; three were incomplete and four had multiple answers to questions 5 or 7. The remaining 599 (47.3% response rate) surveys were included. Five hundred seventy-four attending physicians and 25 fellows completed the survey. Of the 574 attending physicians who completed the survey, 156 (27%) were in practice for less than 10 years and 418 (73%) for 10 years or more. Three hundred fifty-nine (63%) worked primarily in private practice and 202 (35%) in an academic center or university-affiliated practice. Five hundred three (88%) were located in an urban environment. Two hundred fourteen (37%) practiced in a chi-

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<table>
<thead>
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<th>Variables</th>
<th>Value</th>
<th>No (%)</th>
<th>Yes (%)</th>
<th>$P$</th>
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<td></td>
<td>Yes</td>
<td>169 (79.0)</td>
<td>45 (21.0)</td>
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children's hospital, and 355 (63%) practiced in a multi-specialty office or hospital. Four hundred twenty-six (74%) reported they did not routinely wear a white coat while examining outpatient children. Two hundred sixty-six (46%) addressed parents as “mom” or “dad,” 190 (33%) by surname, 26 (5%) by first name, and 92 (16%) used various combinations.

Of the 25 fellows who completed the survey, 23 (92%) practiced in an academic center or university-affiliated practice, 22 (88%) practiced in an urban setting, 18 (75%) practiced in a children's hospital, and 21 (84%) practiced in a multi-specialty office or hospital. Twenty (80%) reported they did not routinely wear a white coat while examining outpatient children. Twelve (48%) addressed parents as “mom” or “dad,” 6 (24%) by surname, and 7 (28%) used various combinations. No fellows addressed parents by first name alone.

There was no significant association between wearing a white coat and type of practice setting, practice characteristics, or location in a children’s hospital for attending physicians (Table 1) or fellows, although the association between wearing a white coat and working in a children's hospital approached significance for attending physicians. No statistically significant differences were found comparing the use of salutations between attending physicians and fellows.

**DISCUSSION**

Recent studies suggest that, despite widely held beliefs, pediatric patients and their parents prefer their physicians to wear a white coat.\(^2\)\(^-\)\(^5\) A survey conducted by Reddy et al. found that 57% of parents prefer their children’s physician to wear a white coat during an outpatient pediatric ophthalmology examination.\(^2\) Matsui et al. found that 69% of children and 66% of parents preferred a physician to wear a white coat during a pediatric emergency department visit.\(^3\) Both studies involved completion of a survey before seeing the physician. Longmuir et al. found that patients and parents had no significant preference for physician attire in the outpatient pediatric ophthalmology setting.\(^4\) However, this study involved completion of a survey after the office visit, at which time preference may have been influenced by satisfaction. Dunn et al. analyzed white coat practices of house staff during adult inpatient encounters and examined patient preferences; 72% of house officers did not always wear a white coat even though 65% of patients believed that a physician should do so.\(^5\)

We found in our study that a majority of pediatric ophthalmologists did not routinely wear white coats during pediatric outpatient examinations. Seventy-four percent of attending physicians and 80% of fellows reported not wearing white coats. This number was not influenced by years in practice, location of practice, or practice setting. A positive relationship between practicing within a children’s hospital and wearing a white coat approached significance.

Pediatric ophthalmologist practice patterns are at odds with preferences of patients and their parents. The reason for this discrepancy is likely multifactorial. A long-held belief is that children are more fearful and stressed when the physician wears a white coat. Therefore, physicians avoid their use in an effort to provide a pleasant and productive patient encounter. This assumption does not take into account the many factors that influence childhood behavior, including age, cognitive ability, memory formation, psychosocial environment, and previous physician–patient encounters. Discussion of the complex cognitive processing that is necessary to form learned associations is beyond the scope of this article. A literature review by Bischof in 1995 revealed no published evidence supporting this theory, with only two articles addressing physician dress.\(^6\) One found that physician dress did not alter rapport with adolescent patients,\(^7\) and the other concluded that children did not respond negatively to physicians wearing a white coat.\(^8\) Three textbooks briefly mentioned that no white coat may alleviate fears in pediatric patients, but none used published evidence to support this view.\(^9\)\(^-\)\(^15\) Bischof concluded that fear of white coats in pediatric patients was largely anecdotal.\(^6\)

There also exists concern regarding possible spread of infection via white coats within the medical community. Contamination of a white coat occurs within hours, even when freshly laundered.\(^9\) Bacteria, including methicillin-resistant *Staphylococcus aureus*, can be cultured from various locations on a white coat after patient encounters.\(^10\) Increased frequency in laundering, universal protective gowns, short sleeves, or avoiding white coats all together in an effort to combat spread of infection have been considered.\(^9\)\(^,\)\(^11\) The National Health Service in the United Kingdom has already adopted a policy that avoids white coats, long sleeves, and ties.\(^12\)
Our results reveal pediatric ophthalmologist practice patterns appear to be in line with previously reported parental greeting preferences. Reddy et al. found that 46% of parents preferred to be addressed as “mom” or “dad,” 37% by first name, and 20% by last name (eg, Mr. or Mrs. Jones).2 Less than 1% of parents preferred to be addressed by their first and last name together. Dunn et al. found that 40% of adult inpatients preferred to be addressed by first name, 43% had no preference, and 18% preferred last name.5 In 2008, Kahn proposed a physician etiquette checklist for new inpatient encounters.16 However, the author did not address which greeting was preferable. In 1988, Furlow wrote a commentary recommending that physicians should refer to patients formally (by “Mr. or Mrs.”) based on his personal experiences and observations.17

Limitations of our study include its self-report methodology. We did not match the preference of individual patients or parents with the behavior of their own pediatric ophthalmologist. We did not examine gender differences and may have failed to identify other factors that play a role in practice patterns. We do not know the exact number of fellows or international members who received the survey and used approximate numbers based on the fairly stable proportions in the American Academy of Pediatric Ophthalmology and Strabismus membership. International members could be located in areas where institutional policies regulate their use of white coats.

We found that physician use of white coats runs contrary to patient and parent preferences. More research would be helpful to close this gap. If infection is the main reason physicians refrain from white coat use, patient and parent education would increase understanding of this practice and perhaps adjust preferences to align with practice patterns. However, if avoidance of white coats is due to the belief that children are fearful of white coats, physician education could help resolve this issue to bring practice patterns in line with patient and parental preferences. Physician salutation practice patterns are similar to patient and parent preferences. It may be useful to consider means by which physicians can tailor their approach for each patient/parent individually, because some prefer greetings dissimilar from the majority.

REFERENCES
1. What is your current level of practice/training?

☐ attending
☐ fellow

2. If you answered "attending" to #1, please indicate for how many years

☐ 0 to 5 years
☐ 6-10
☐ 10-20
☐ >20

3. What type of practice setting (majority, ie. >85% time spent): 

☐ private office
☐ academic center/university-affiliated

4. Characteristics of practice: 

☐ urban
☐ rural

5. Do you practice in a children's hospital?

☐ yes
☐ no

6. Do you practice in a multispecialty office/hospital?

☐ yes
☐ no

7. Do you routinely wear a white coat when examining outpatient children?

☐ yes
☐ no

8. Do you address patients’ parents as:

☐ "mom" or "dad"
☐ parents' first name
☐ surname (ie: "Mr. _____" or "Mrs. _____")