INTRODUCTION

Introductions and Greeting Attitudes Amongst Future Physicians in the United States
Introductions and Greeting Attitudes Amongst Future Physicians in the United States

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ABSTRACT

Purpose Understanding of the intricacies of the patient-physician relationship is essential to understanding outcomes in health communication. However, factors that influence the initial encounter—the backbone of one’s longitudinal or acute relationship—are poorly understood in medicine.

Method In 2019, medical students at 30 United States (U.S.) medical schools were asked to complete a questionnaire assessing their preference regarding their attitudes toward how they plan to introduce themselves upon graduation. For all survey respondent data, respective frequencies of categorical variables for patient cohorts were compared with Fisher exact test including 2 groups or chi-square test for patient cohorts including more than 2 groups.

Results Among all respondents (n=1056), the majority of U.S. medical students plan to introduce themselves as resident and attending physicians most formally via “Hello, my name is Dr. Appleseed” where ‘Appleseed’ is their last name (n=685, 65% resident, n=772, 73% attending), followed by: ‘First Last’ (15%), ‘First’ only (16%), and then ‘No preference’ (4%). Among stratified comparison sub-groups, there was only a significant difference wherein female students more preferentially introduced themselves using the prefix “Doctor” than male students when considering introductions as future-residents. Additionally, 40% of subjects report that their preferred greeting construct would change based on the following patient factors: age, race, gender, clinical condition, and clinical setting.

Conclusions Future U.S. physicians prefer to introduce themselves using the prefix ‘Doctor’ via “Hello, my name is Dr. Appleseed,” in which “Appleseed” refers to the treating physician’s last name. Female students show a stronger preference for introducing themselves using the prefix “Doctor” than male students, and nearly half of all students acknowledged that their greeting construct changes based on patient demographic factors and clinical setting.

Level of Evidence: Economic/Decision Analysis IV.

INTRODUCTION

Effective communication is an essential component of doctor-patient relationship. Theorized to be among the greatest predictors of patient satisfaction, a meaningful doctor-patient relationship with effective communication has been shown to influence patient quality of life, subjective symptom burden, patient motivation, adherence to medical recommendations, improved
outcomes with chronic disease management,10–13 and even medical malpractice litigation.14 In fact, some researchers have suggested that effective doctor-patient communication skills be a main objective in primary medical training,15 and should receive paramount emphasis to other core competencies throughout medical school.16 As such, understanding of the intricacies of the patient-physician relationship is essential to understanding outcomes in health communication,17 however, factors that influence the initial encounter are poorly understood in medicine.

To date, much of the study on the topic of patient-physician communication has focused on patient-centered models, which empower patients to allow them to take an active role in their care and make informed medical decisions—ultimately resulting in better medical outcomes, higher efficiency care, and greater quality of life of patients.18–20 There has been significantly less studied, however, on the initial moments that establish this connection. Psychological literature clearly establishes that the initial impression plays a substantial role in the establishment of implicit biases,21,22 perceivers' judgement of competence,17,23 establishing rapport, aiding patient comfort, and setting the tone of the interview.24–28 Therefore understanding the aspect of this first interaction are key to a good future working relationship.

Some physicians anecdotally report that the patient-physician relationship is improved when they introduce themselves by their surname with the prefix “Doctor”, citing that it clearly defines the role of the provider and removes any potential for ambiguity. Others, interestingly, feel that there is a benefit to introducing themselves in a more informal manner, such as by their first name only, as it improves patient comfort and a theorized willingness to be more truthful and forthcoming with information. The literature on the topic, however, is both limited and inconclusive.29–31

No literature has been reported regarding medical student attitudes toward the initial patient encounter. It is important to identify these preferences of medical students, as the physician-patient introduction and its potential role in the formation of a therapeutic alliance can be a point of emphasis in the medical training curriculum. The purpose of this cross-sectional study was to characterize medical student attitudes toward the initial patient encounter as prospective patients, and as future residents and attending physicians with attention toward numerous demographic and situational factors that may influence those attitudes including age, race, gender, clinical condition, and clinical setting (eg, trauma vs. non-trauma). We hypothesized that medical students would prefer a less formal introduction in order to establish a friendlier doctor-patient relationship though would convert to a more formal construct when encountering critically-ill or endangered patients.

**MATERIALS AND METHODS**

**Study Respondent Selection** As no patient information was sought for this voluntary, online questionnaire to medical students, ethics approval was not required for this study. Electronic consent was established upon engagement with the survey per study instructions. 1,056 medical students at 30 randomly selected United States medical schools were asked to complete a brief questionnaire assessing their preference regarding how general practitioners should introduce himself or herself in the initial patient encounter, in addition to their attitudes toward how they plan to introduce himself or herself upon graduation. Survey respondents were asked by a neutral party to complete the questionnaire at their leisure either through group, student-body email or social media forum (eg, Facebook group pages), to ensure that no bias was introduced by the study procedures. Medical students (both allopathic and osteopathic) of all ranks were asked to participate. Medical students not at an
1. As a patient, how would you prefer your general medical practitioner introduce himself or herself to you?
   a. Hello, my name is Dr. Appleseed
   b. Hello, my name is Jacob/Jill
   c. Hello, my name is Jacob/Jill
   d. No preference
   e. Other: __________ (free text allowed)

2. If you answered a, what answer most closely models your reasoning?
   a. It is customary to refer to physicians using the prefix “Doctor.”
   b. It establishes trust in the doctor-patient relationship
   c. It depends on the physician I am seeing, and personal attributes about them.
   d. I don’t care/Unsure

3. If you answered b, what answer most closely models your reasoning?
   a. It establishes a friendlier doctor-patient relationship
   b. It establishes trust in the doctor-patient relationship
   c. It depends on the physician I am seeing, and personal attributes about them.
   d. I don’t care/Unsure

4. If you answered c, what answer most closely models your reasoning?
   a. It establishes a friendlier doctor-patient relationship
   b. It establishes trust in the doctor-patient relationship
   c. It depends on the physician I am seeing, and personal attributes about them.
   d. I don’t care/Unsure

5. As a resident, how do you intend to introduce yourself to a new patient?
   a. Hello, my name is Dr. Appleseed
   b. Hello, my name is Jacob/Jill
   c. Hello, my name is Jacob/Jill
   d. No preference
   e. Other: __________ (free text allowed)

6. As an attending, how do you intend to introduce yourself to a new patient?
   a. Hello, my name is Dr. Appleseed
   b. Hello, my name is Jacob/Jill
   c. Hello, my name is Jacob/Jill
   d. No preference
   e. Other: __________ (free text allowed)

7. Would the way that you greet and introduce yourself to a patient differ based on any of the following patient characteristics (more than one answer may apply)?
   - Patient age (ie. patient is your age vs. patient is much older than you)
   - Clinical setting (ie. outpatient clinic vs. ICU vs. ED)
   - Patient gender
   - No, my greeting or introduction will not change
   - Patient race
   - Clinical condition of the patient (ie. common cold vs. critically ill)

8. Please describe your viewpoints on physician greetings:

9. How often do you shake hands on initial encounter with a patient?
   a. Always
   b. Often
   c. Sometimes
   d. Rarely
   e. Never

Figure 1. Questionnaire administered to study subjects
Accreditation Council for Graduate Medical Education (ACGME) accredited medical school were excluded from the study.

**Description of Questionnaire** Subjects who had consented to participate in this study were asked to complete a brief questionnaire (Figure 1). For Question 7, respondents were prompted to provide a discussion of their viewpoint(s) selected if they desired. The following demographic information was collected for all respondents: current age, sex, environment of medical school (eg, urban, suburban, rural), clinical year of medical school (M1, M2, M3, M4), ethnicity, region of medical school (eg, Northeast, Midwest, South, West, Puerto Rico or other U.S. territories), education level, and whether participant has family members who are/were physicians, and their intended medical specialty for which they were most interested in applying for residency training (eg, psychiatry, family medicine, internal medicine, radiology, anesthesia, general surgery, ophthalmology, orthopaedic surgery, vascular surgery, urology, OB/GYN, pediatrics, neurology, emergency medicine, pathology, dermatology, plastic surgery, not listed/other/undecided).

**Statistical Considerations** For all survey respondent data, respective frequencies of categorical variables for patient cohorts were compared with Fisher exact test including 2 groups or chi-square test for patient cohorts including more than 2 groups (version 8.00, GraphPad Prism for Mac, Graph Pad Software, La Jolla, CA). A p-value of less than 0.05 was

<table>
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<tr>
<th>Variable</th>
<th>Sample Size</th>
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<th>Jack/Jill Appleseed</th>
<th>Jack/Jill</th>
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Table 1. U.S. Medical Students’ Future Introduction Strategies as Resident Physicians. Data are given as percentage (number of) each group unless otherwise indicated. Percentages may not total 100 due to rounding. Sample size totals may not equal 1055 due to participant refusal to provide response. Categorical variables were compared using Fisher’s Exact Test* or Chi Square test*; p-values ≤ 0.05 were considered significant (denoted by bold text). Sub-category cohort size of less than 1% of study population sample size (‘) were excluded from comparison of categorical variable as relative frequencies may be skewed by smaller sample size.
considered statistically significant.

**RESULTS**

**Patient demographics** A total of 1056 U.S. medical students were enrolled in our study. A breakdown of our study population can be found in Tables 1 and 2. If a question was left blank, the remaining data was included in the study.

**Analysis of subject responses** Among all respondents, the majority of U.S. medical students plan to introduce themselves as resident physicians most formally via “Hello, my name is Dr. Appleseed” where ‘Appleseed’ is their last name (n=685, 65%), followed by: ‘First Last’ (n=162, 15%), ‘First’ only (n=167, 16%), and then ‘No preference’ (n=41, 4%) (Figure 2.).

When considering future greeting strategies as attending physicians, the majority of U.S. medical students similarly plan to introduce themselves most formally via “Hello, my name is Dr. Appleseed” (n=772, 73%), followed by: ‘First Last’ (n=150, 14%), ‘First’ only (n=94, 9%), and then ‘No preference’ (n=39, 4%). These majority preferences persisted across groups irrespective of subject age, area of post-graduate medical training interest, geographic region of medical school, and gender (range: 55-78% across all cohorts; Tables 1 and 2; Figures 3).

Among stratified comparison sub-groups, there was only a significant difference wherein female students more preferentially introduced

<table>
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<th>Dr. Appleseed</th>
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Table 2. U.S. Medical Students’ Future Introduction Strategies as Attending Physicians. Data are given as percentage (number) of each group unless otherwise indicated. Percentages may not total 100 due to rounding. Sample size totals may not equal 1055 due to participant refusal to provide response. Categorical variables were compared using Fischer’s Exact Test or Chi Square test*. p-values < 0.05 were considered significant (denoted by bold text). Sub-category cohort size of less than 1% of study population sample size (*) were excluded from comparison of categorical variable as relative frequencies may be skewed by smaller sample size.  

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3). No statistically significant differences were found amongst other sub-group greeting preferences (Tables 1 and 2).

Among all respondents, U.S. medical students meeting their primary care physician in the outpatient clinic setting most preferred the construct “Hello, my name is Dr. Appleseed” where ‘Appleseed is that physician’s last name (n=634, 60%), followed by: ‘No preference’ (n=221, 21%), ‘First Last’ (n=132, 12.5%), and then ‘First’ only (n=69, 6.5%).

40% of patients reported that their preferred introduction would change based on the following patient characteristics: patient age (33%), gender (4%), clinical setting (eg.
Inpatient vs. scheduled clinic visit, 21%), clinical condition of the patient (eg., Critically ill vs. non-critically ill, 13%), and patient race (2%). Additionally, 44% of respondents reported always shaking hands upon initial encounter with a patient and 8% report never doing so.

**DISCUSSION**

To our knowledge, this is the first study reporting medical student preferences regarding their intended greeting during initial patient encounter. Contrary to our initial hypothesis, among medical students in the United States, the formal construct of introductions was overwhelmingly preferred both as a patient in the primary care setting and also when being a future provider. The rationale for this attitude hinges on a preference for establishment of a trusting doctor-patient relationship and conformity to a more customary introduction construct.

However, 40% of respondents acknowledged that their introduction to patients would likely vary based on the following clinical scenarios: Patient age, patient gender, patient race, clinical condition of the patient (eg, critically ill vs. non-critically ill, and clinical setting (eg, inpatient visit vs. scheduled clinic visit). For those participants who provided a narrative discussion of their attitudes, a common account to explain variation in physician greeting (n = 756) was:

“I think introductions in the initial patient encounter can directly affect future adherence, honest communication and the spirit of the patient in terms of trusting the overall care team. For patients that are my approximate age, I will likely use a less formal construct to influence a more meaningful, mutually respective doctor-patient relationship, while for pediatric and geriatric patients I will likely use a more formal construct to secure more trust in the relationship wherein a sense of paternalism may be of more importance.”

“Notably, in Pennsylvania (where I go to medical school) I have learned that the Amish community may not respond well to the shared decision-making model that is well-accustomed in westernized medicine and will aim to be more paternalistic with the Amish community—and therefore adopt a more formal construct in how I approach introductions with those patients.”

“I will likely preface my name with “Hello, my name is Dr. X” in patients in an emergent setting, and a less formal manner “hello, my name is first name” in an outpatient, elective setting”

These findings differed from our hypothesis that medical students, as younger patient providers, would prefer a more informal introduction.

The literature on preferred introduction constructs upon initial doctor-patient encounter from the patient’s perspective is inconclusive.\textsuperscript{29–33} Makoul et al demonstrated that adult respondents in the primary care setting prefer that physicians introduce themselves with both their first and last name.\textsuperscript{29} In contrast, a questionnaire study by Davies-House conducted at a United Kingdom dental hospital showed that the largest proportion of patients had no preference as to how the provider introduced themselves.\textsuperscript{30} Walley et al demonstrated that upon initial meeting of a hand surgeon, patients indicated a preference for surgeons to introduce themselves as “Hello, my name is Dr. Appleseed,” in which “Appleseed” corresponds to the physician’s last name.\textsuperscript{31} Wallace et al corroborated these findings, in which 57% of vascular surgery patients wished the surgeon to introduce him/herself using his/her last name, and patients desired that their surgeons be attentive and present medical
information in a clear, simplified manner.\textsuperscript{32} Additionally, Mclafferty et al highlighted “failure of the surgeon to introduce themselves” as one reason why patients would not recommend a particular surgeon to family members or friends.\textsuperscript{33} Therefore our study is vital for future physicians to understand that patients want 1. Your introduction with first and last name and 2. To shake their hand. The importance of this comes at an era where online reviews are important for young providers in building up their practice and reputation in the community. Understanding these treads in medical students will allow future physicians to adjust their practice to hopefully improve the initial interaction with patients.

Furthermore, the literature states that the majority of patients in all clinical settings wish to shake hands with their provider upon initial introduction.\textsuperscript{29,30,32} These findings are in contrast to the present study in which less than half of respondents report always shaking hands with patients upon initial greeting in the clinical setting. Therefore, it is key that medical students understand this and adapt to this traditional culture interaction to improve their patient interactions. While nuanced, environmental and clinical context may play a pivotal role in patient greeting preference. Furthermore, as patient satisfaction and patient-physician communication are largely believed to influence eventual patient outcomes,\textsuperscript{1,2,11–14,3–10} these nuances of effective communication strategies must be elucidated.

Our data suggests that introduction strategies may differ significantly between clinical setting, patient age and gender, and even physician gender. Of note, in a portion of qualitative data that was made optional for respondents, one female third year student reported:

“I’ve seen my medical school faculty preceptor be confused with being a nurse over 10 times over my internal medicine clerkship whilst introducing herself by her first name. I plan to sidestep this confusion and introduce myself using the prefix ‘Doctor.’ I don’t want to be confused with a nursing staff and further, I don’t want my patients to not take what I am saying as seriously as they would a male counterpart.”

It is possible that this statistical difference in utilization of the ‘Doctor’ prefix amongst female physicians stems from the unfortunate gender bias that still exist within medicine which echoes some qualitative datapoints in our dataset.\textsuperscript{34–37} It is imperative that an in-depth analysis of patient preferences across the variety of clinical settings and provider demographics be recognized in order to optimize greetings and nurture corresponding outcomes.

Due to the nature of this study, it is characterized with inherent questionnaire bias as only those who choose to participate are representative in this analysis. While a cross-sectional design is desirable for this study question, it was not feasible to recruit subjects in a sequential manner. This study attempted to identify the physician’s viewpoint on preferred greeting constructs, but did not address that viewpoint of the patient. Additionally, our study queries medical students on their anticipated greeting constructs. While this survey cohort offers some benefit for educational training emphasis and interview, it may also misrepresent the actual greetings utilized by these students upon becoming a resident and attending physician.

**CONCLUSION**

Future United States physicians prefer to introduce themselves with the formal construct “Hello, my name is Dr. Appleseed,” in which “Appleseed” refers to the treating physician’s last name. Subgroup analysis showed that female students show a stronger preference for introducing themselves using the prefix
“Doctor” than male students, and over half of all students did not perform a handshake despite overwhelming importance for patients. In addition, nearly half of students acknowledged that their greeting construct changes based on factors such as patient age, race, gender, and clinical setting. Medical educators and future physicians must be aware of potential patient and physician biases that can manifest upon initiation of the doctor-patient relationship.

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