

Patient Preference for Physician Gender in the Emergency Department

Haley A. Nolen, MD^a, Justin Xavier Moore, M.P.H.^{a,b}, Joel B. Rodgers^a, Henry E. Wang, MD, MS^a, Lauren A. Walter, MD^{a*}

^aDepartment of Emergency Medicine, University of Alabama School of Medicine, Birmingham, Alabama, ^bDepartment of Epidemiology, University of Alabama at Birmingham, Birmingham, Alabama

Despite historical gender bias against female physicians, few studies have investigated patients' physician gender preference in the emergency department (ED†) setting. We sought to determine if there is an association between ED patient demographics and physician gender preference. We surveyed patients presenting to an ED to determine association between patient demographics and patient physician gender preference for five ED situations: 1) 'routine' visit, 2) emergency visit, 3) 'sensitive' medical visit, 4) minor surgical/'procedural' visit, and 5) 'bad news' delivery. A total of 200 ED patients were surveyed. The majority of ED patients reported no physician gender preference for 'routine' visits (89.5 percent), 'emergent' visits (89 percent), 'sensitive' medical visits (59 percent), 'procedural' visits (89 percent) or when receiving 'bad news' (82 percent). In the setting of 'routine' visits and 'sensitive' medical visits, there was a propensity for same-sex physician preference.

INTRODUCTION

In recent decades, the proportion of female physicians has increased markedly in the traditionally male dominated field of medicine. In 2010, women made up 46.1 percent of all U.S. residents and fellows [1] and nearly 30 percent of active U.S. licensed physicians were female [2]. Within the field of Emergency Medicine (EM) specifically, nearly 40 percent of current Emergency Medicine residents [3] and more than 20 percent of active EM physicians are female [1]. Despite this increasingly equitable distribution, several studies show that female physicians continue to report higher rates of gender discrimination in multiple aspects of their careers [4,5].

At the same time, the modern medical practice environment has also seen increased attention paid to patient satisfaction and the patient's perception of the patient-physician interaction. Effective doctor-patient communication, potentially affected by preexisting patient preference and gender bias, is central to building a beneficial and effective patient-physician relationship as

well as for assuring patient satisfaction [6]. Several previous studies have shown that the tone and the content of the medical visit can be quite different dependent upon the gender of the physician and impacted in part by patients' preexisting stereotypes and expectations [7,8]. Specific studies note that despite spending more time with patients and more frequently using a patient-centered approach, women physicians are not evaluated as highly by patients as their male colleagues [9,10]. While other literature may suggest little effect on patient satisfaction based on physician gender [11], a 2007 study by Mast et al. suggested that the gender of the physician and the gender of the patient do moderate physician-patient communication styles, thereby affecting the physician-patient relationship and reported patient satisfaction [12].

Patient preference for specific physician gender preference has been the topic of previous reports with male physician preference and same-sex physician preference patterns described. A 2005 study by Schmittiel et al. reported that given a choice, both male and female patients overwhelmingly choose male physicians [13]. Other studies have suggested that there is also a specific physi-

*To whom all correspondence should be addressed: Lauren Walter, MD, FACEP, FAAEM, Department of Emergency Medicine, University of Alabama at Birmingham, 619 19th Street South, OHB 251, Birmingham, AL 35249, 205-996-7386 (office), lwalter@uabmc.edu.

†Abbreviations: ED, emergency department; EM, Emergency Medicine; UAB, University of Alabama in Birmingham; OB/GYN, obstetrical/gynecological.

Keywords: physician gender, emergency department, patient preference, gender studies

cian gender preference in medical situations or specialties involved in more intimate problems and procedures or psychosocial health problems, more often encountered for instance in a family practice or obstetrical-gynecological setting [14,15]. However a 2005 study by Johnson et al. revealed that a majority, 66.6 percent of women surveyed, did not report selecting an obstetrician-gynecologist based solely on gender [16]. Several studies present the scenario of patients' physician gender preference in the setting of a 'sensitive' procedure, specifically endoscopy and colonoscopy for the purpose of cancer screening. These studies all note a patient preference for same-sex physician [17], citing 'avoiding embarrassment' as the most common reason for a professed preference in this setting [18,19]. Specific survey studies evaluating patients' preference for surgeons found that in general, there was not a reported patients' surgeon gender preference but rather surgeon demeanor had more impact on a patient's perception of a surgeon and their perceived procedural competence [20,21].

In particular, the unique patient-physician relationship within the emergency department (ED) environment and its impact on patient physician gender preference is one that has not been recently explored. In addition to dealing with intimate and psychosocial health problems, the ED is also often rife with procedures, emotionally charged, and often a turbulent environment that can complicate the patient-physician interaction and relationship. The acuity and urgency of the ED setting offers a situation where patients are inherently most often unable to select or specify a physician gender preference, distinctive from a clinic or outpatient setting where this factor may be an optional patient selection. A study performed by Moettus et al. suggested that in the setting of ED pelvic exams, female ED patients reported significantly more embarrassment during exams carried out by male providers, potentially affecting patient comfort and compounding physician-patient communication in this setting [22]. In a study by Schindelheim et al. a substantial portion of ED patients reported preferences for both the gender and the age of their ED physician, male physicians being preferred more often than female [23].

As the medical world and emergency departments see an increase in female physicians, knowledge of patients' perceptions is necessary to educate physicians, both men and women, on how to optimize rapport and foster the physician-patient relationship. Knowledge of patient bias for physician gender would be important for ED clinicians to appreciate in order to potentially overcome certain biased patient expectations and improve physician-patient communication as well as subsequent patient treatment adherence and outcome. The implications for patient satisfaction and modern-day patient satisfaction scores must also be considered a potentially affected variable when patients' physician gender biases are more accurately understood and addressed [24]. The objective of this study was to identify emergency department patients' physician

gender preference when given a range of selected medical scenarios standardly encountered in the emergency department, and to identify patient demographics associated with these preferences.

METHODS

Ethics and Consent Statement

The Institutional Review Board of the University of Alabama at Birmingham approved this study. We obtained informed verbal consent from all participants during survey administration. All respondents were provided with an "Informational Document for Study Participants."

Study Design

We performed a cross-sectional survey study of a convenience sample of adult patients presenting to the Emergency Department of University of Alabama at Birmingham (UAB) Hospital, Birmingham, Alabama.

Setting

UAB Hospital an urban academic tertiary care center located in Birmingham, Alabama. The hospital has 1,110 inpatient beds. The UAB Hospital is a Level 1 Trauma Center and cares for more than 72,000 patient visits a year. Resident and attending physicians staff the ED.

Survey Development and Dissemination

We developed a 12-item survey regarding patient preferences for physician gender. (Appendix A) The survey was developed by Emergency Medicine physicians and researchers to include patient demographics and physician gender preference questions in various medical visit situations encountered in the ED. Demographics questions included closed responses for age (deciles), sex (male or female), race/ethnicity (White, Black, Asian, Pacific Islander, Latino/Hispanic, other), education (elementary school, middle school, high school, 2-year degree, 4-year degree, master's, post-graduate), marital status (married, committed relationship, single, divorced), years lived in state and/or country. Physician gender preference questions encompassed scenarios involving routine medical care, emergent medical care, care for sensitive issues, surgical care and situations involving the receipt of "bad news". These were also closed responses.

The surveys were administered individually and verbally to each patient participant by an interview team at the completion of their ED assessment and disposition, without specific reference to their current ED visit or to the clinicians they encountered during their current visit. The interviewer recorded the responses. The team was made up of 5 males and 3 females. Surveys were administered from March-June 2015. Surveys were only administered after care in the emergency department was complete.

Table 1. Comparison of participant characteristics stratified by gender preference of physician for routine/non-emergency medical visit. Among 200 participants.

	Gender Preference for Routine Medical Visit N (%)			p value*
	Female N = 8 (4.0)	Male N = 13 (6.5)	No Preference N = 179 (89.5)	
Age (%)				
≤20	1 (7.7)	0 (0.0)	6 (3.4)	.6
21 – 30	4 (30.8)	0 (0.0)	35 (19.6)	
31 – 40	2 (15.4)	0 (0.0)	24 (13.4)	
41 – 50	1 (7.7)	2 (25.0)	24 (13.4)	
51 – 60	3 (23.1)	2 (25.0)	48 (26.8)	
61 – 70	2 (15.4)	4 (50.0)	30 (16.8)	
≥71	0 (0.0)	0 (0.0)	12 (6.7)	
Race/Ethnicity (%)				
Black	3 (23.1)	5 (62.5)	95 (53.4)	*.04
White	9 (69.2)	2 (25.0)	79 (44.4)	
Other	1 (7.7)	1 (12.5)	4 (2.3)	
Sex (%)				
Male	4 (30.8)	7 (87.5)	83 (46.4)	*.03
Female	9 (69.2)	1 (12.5)	96 (53.6)	
Marital Status (%)				
Married	4 (30.8)	4 (50.0)	66 (36.9)	.6
Single	4 (30.8)	2 (25.0)	65 (36.3)	
Committed Relationship	4 (30.8)	1 (12.5)	20 (11.2)	
Divorced	1 (7.7)	1 (12.5)	28 (15.6)	
Education (%)				
≤ High School	3 (23.1)	1 (12.5)	13 (7.3)	.2
High School Graduate	5 (38.5)	3 (37.5)	111 (62.0)	
Some College	2 (15.4)	2 (25.0)	23 (12.9)	
≥ College Graduate	3 (23.1)	2 (25.0)	32 (17.9)	
Years Resided†	32.8 (11.4)	48.1 (12.7)	39.4 (16.6)	.1
Region (%)				
Southern**	10 (76.9)	8 (100.0)	169 (94.4)	.06
Non-Southern	3 (23.1)	0 (0.0)	10 (5.6)	
Physician Characteristic (%)				
Age/Experience	13 (100.0)	7 (87.5)	169 (94.9)	.5
Gender	0 (0.0)	1 (12.5)	7 (3.9)	
Race/Ethnicity	0 (0.0)	0 (0.0)	2 (1.1)	

†Mean (Standard deviation) for number of years in state or country.

*Significance determined using Fisher's Exact Test and ANOVA.

(%)Denotes column percentages.

**Defined as participants from southern states.

Patients who were nonverbal, non-English speaking, < 19 years of age, vitally unstable, encephalopathic, or otherwise mentally impaired were excluded from this study.

Variables

Demographic variables assessed in this study include; age, sex, race/ethnicity, education, marital status, region, and years lived at residence (state/country). We categorized age into deciles, with those younger than 20 grouped together, and those age 71 and older grouped together. We categorized education into four groups: less than high school, high school graduate, some college, and college graduate or more. We categorized race/ethnicity into three groups: White, Black, and other. We categorized marital status into four groups; married, committed relationship, single, and divorced. We dichotomized region into two groups (i.e., southern and non-southern) based on participants' self-reported state of residence. We used the census

classification for defining southern states which included the following states: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia [25].

Statistical Analysis

We assessed the association between patient demographics and patient preference of physician gender for five medical situations most frequently encountered in the ED setting; 1) 'routine medical' visit (evaluation and management of chronic medical issues such as hypertension and diabetes as well as non-emergent minor illness or injuries), 2) emergency medical visit (life or limb threatening illness or injury such as acute myocardial infarction, stroke, or major trauma), 3) sensitive medical visit (genital complaint, OB/GYN-related problem, or sexual concern), 4) minor procedural or 'surgical' medical visit

Table 2. Comparison of participant characteristics stratified by gender preference of physician for emergency medical visit. Among 200 participants.

	Gender Preference for Emergency Medical Visit N (%)			p value*
	Female N = 7 (3.5)	Male N = 15 (7.5)	No Preference N = 178 (89.0)	
Age (%)				
≤20	2 (28.6)	0 (0.0)	5 (2.8)	.4
21 – 30	2 (28.6)	3 (20.0)	34 (19.1)	
31 – 40	1 (14.3)	1 (6.7)	24 (13.5)	
41 – 50	0 (0.0)	2 (13.3)	25 (14.0)	
51 – 60	1 (14.3)	3 (20.0)	49 (27.5)	
61 – 70	1 (14.3)	5 (33.3)	30 (16.9)	
≥71	0 (0.0)	1 (6.7)	5 (2.8)	
Race/Ethnicity (%)				
Black	3 (42.9)	7 (46.7)	93 (52.5)	.4
White	3 (42.9)	8 (53.3)	79 (44.6)	
Other	1 (14.3)	0 (0.0)	5 (2.8)	
Sex (%)				
Male	5 (71.4)	10 (66.7)	79 (44.4)	.1
Female	2 (28.6)	5 (33.3)	99 (55.6)	
Marital Status (%)				
Married	1 (14.3)	4 (26.7)	69 (38.8)	.4
Single	4 (57.1)	7 (46.7)	60 (33.7)	
Committed Relationship	2 (28.6)	2 (13.3)	21 (11.8)	
Divorced	0 (0.0)	2 (13.3)	28 (15.7)	
Education (%)				
≤ High School	1 (14.3)	2 (13.3)	14 (7.9)	.5
High School Graduate	5 (71.4)	6 (40.0)	108 (60.7)	
Some College	0 (0.0)	3 (20.0)	24 (13.5)	
≥ College Graduate	1 (14.3)	4 (26.7)	32 (18.0)	
Years Resided†	32.4 (14.2)	45.9 (16.7)	39.1 (16.3)	.2
Region (%)				
Southern**	6 (85.7)	14 (93.3)	167 (93.8)	.5
Non-Southern	1 (14.3)	1 (6.7)	11 (6.2)	
Physician Characteristic (%)				
Age/Experience	7 (100.0)	14 (93.3)	168 (94.9)	.7
Gender	0 (0.0)	1 (6.7)	7 (4.0)	
Race/Ethnicity	0 (0.0)	0 (0.0)	2 (1.1)	

†Mean (Standard deviation) for number of years in state or country.

*Significance determined using Fisher's Exact Test and ANOVA.

(%)Denotes column percentages.

**Defined as participants from southern states.

(abscess incision and drainage, laceration repair), and 5) 'bad news' visit (diagnosis of a life-threatening or terminal illness or notification about the unexpected death of a family member).

We performed Fisher's Exact test for associations among categorical participant characteristics and ANOVA for associations among continuous participant characteristics. We used SAS version 9.3 for all statistical analyses. We considered p -values $\leq .05$ as statistically significant.

RESULTS

Gender Preference of Physician for Routine Medical Visits

Among 200 participants, the majority of participants (89.5 percent) had no physician gender preference regarding routine medical visits [Table 1]. There were no

differences in the distributions of age, marital status, education, years lived at residence, region, nor preference of physician characteristic for routine medical visits. However, patients that preferred male physicians were more likely to be black participants (63.5 percent) and patients that preferred female physicians were more likely to be white participants (69.2 percent) [p value = .04]. In addition, patients that preferred male physicians for routine medical visits were more likely to be male (87.5 percent), while patients that preferred female physicians were more likely to be female (69 percent) [p value = .03].

Gender Preference of Physician for Emergency Medical Visits

Among study participants, there were 178 (89.0 percent) participants that had no gender preference of physician during an emergency medical visit [Table 2]. There were also similar distributions of participants' age, race/ethnicity, sex, marital status, education, years lived

Table 3. Comparison of participant characteristics stratified by gender preference of physician for sensitive issue medical visit. Among 200 participants.

	Gender Preference for Sensitive Medical Visit N (%)			p value*
	Female N = 53 (26.5)	Male N = 28 (14.0)	No Preference N = 118 (59.0)	
Age (%)				
≤20	4 (7.6)	0 (0.0)	3 (2.5)	.06
21 – 30	16 (30.2)	4 (14.3)	19 (16.0)	
31 – 40	11 (20.8)	1 (3.6)	14 (11.8)	
41 – 50	6 (11.3)	5 (17.9)	16 (13.5)	
51 – 60	8 (15.1)	10 (35.7)	35 (29.4)	
61 – 70	5 (9.4)	7 (25.0)	24 (20.2)	
≥71	3 (5.7)	1 (3.6)	8 (6.7)	
Race/Ethnicity (%)				
Black	33 (62.3)	13 (46.4)	57 (48.3)	.5
White	19 (35.9)	14 (50.0)	57 (48.3)	
Other	1 (1.9)	1 (3.6)	4 (3.4)	
Sex (%)				
Male	9 (17.0)	25 (89.3)	60 (50.4)	*<.001
Female	44 (83.0)	3 (10.7)	59 (49.6)	
Marital Status (%)				
Married	18 (34.0)	9 (32.1)	47 (39.5)	.7
Single	21 (39.6)	10 (35.7)	40 (33.6)	
Committed Relationship	9 (17.0)	4 (14.3)	12 (10.1)	
Divorced	5 (9.4)	5 (17.9)	20 (16.8)	
Education (%)				
≤ High School	7 (13.2)	2 (7.1)	8 (6.7)	.8
High School Graduate	32 (60.4)	16 (57.1)	71 (59.7)	
Some College	5 (9.4)	5 (17.9)	17 (14.3)	
≥ College Graduate	9 (17.0)	5 (17.9)	23 (19.3)	
Years Resided†	33.5 (14.5)	43.2 (13.7)	41.1 (17.1)	*.007
Region (%)				
Southern**	50 (94.3)	25 (80.3)	112 (94.1)	.6
Non-Southern	3 (5.7)	3 (10.7)	7 (5.9)	
Physician Characteristic (%)				
Age/Experience	51 (96.2)	26 (92.9)	112 (94.9)	.7
Gender	2 (3.8)	2 (7.1)	4 (3.4)	
Race/Ethnicity	0 (0.0)	0 (0.0)	1 (1.7)	

†Mean (Standard deviation) for number of years in state or country.

*Significance determined using Fisher's Exact Test and ANOVA.

(%)Denotes column percentages.

**Defined as participants from southern states.

at residence, region, and preference of physician characteristic between all physician gender preference groups for emergency medical visits.

Gender Preference of Physician for Sensitive Issue Medical Visits

In regards to sensitive issues (i.e., genital problem, OB/GYN problem, or sexual problem) medical visits, the majority (59.0 percent) of patients had no gender preference, while 26.5 percent of patients preferred female physicians, and only 14 percent of patients preferred male physicians [Table 3]. There were no differences in the distributions of patients' age, race/ethnicity, marital status, education, region, and most important physician characteristic between all physician gender preference groups for sensitive medical visits. Patients that preferred a female physician for sensitive issues were more likely to be female (83.0 percent) patients (p value < .001). Similarly, patients that preferred a male physician were more likely

to be male (89.3 percent). Those that preferred a female physician resided in their state or country for the least amount of time (33.5 years) compared with patients that preferred male physicians (43.2 years) or had no preference (41.1 years) for sensitive medical visits (p value = .007).

Gender Preference of Physician for Minor Procedural or 'Surgical' Medical Visits

For minor procedural or 'surgical' medical visits (i.e., abscess drainage or laceration repair) the majority (89.0 percent) of participants had no gender preference for their physician [Table 4]. The distributions for participants' race/ethnicity, sex, marital status, education, region, years lived at residence (state/country), region, and patients' preferred physician characteristic were similar between groups. However, patients that preferred a female physician for minor procedural medical visits were more likely

Table 4. Comparison of participant characteristics stratified by gender preference of physician for minor surgical/procedural visit. Among 200 participants.

	Gender Preference for Minor Surgical/Procedural Visit N (%)			p value*
	Female N = 9 (4.5)	Male N = 13 (6.5)	No Preference N = 179 (89.0)	
Age (%)				
≤20	2 (22.2)	1 (7.7)	4 (2.3)	*.01
21 – 30	2 (22.2)	1 (7.7)	36 (20.2)	
31 – 40	0 (0.0)	0 (0.0)	26 (14.6)	
41 – 50	1 (11.1)	3 (23.1)	23 (12.9)	
51 – 60	0 (0.0)	3 (23.1)	50 (28.1)	
61 – 70	2 (22.2)	5 (38.5)	29 (16.3)	
≥71	2 (22.2)	0 (0.0)	10 (5.6)	
Race/Ethnicity (%)				
Black	6 (66.7)	7 (53.9)	90 (50.9)	.6
White	3 (33.3)	5 (38.5)	82 (46.3)	
Other	0 (0.0)	1 (7.7)	5 (2.8)	
Sex (%)				
Male	5 (55.6)	10 (76.9)	79 (44.4)	.07
Female	4 (44.4)	3 (23.1)	99 (55.6)	
Marital Status (%)				
Married	2 (22.2)	5 (38.5)	67 (37.6)	.4
Single	5 (55.6)	7 (53.9)	59 (33.2)	
Committed Relationship	0 (0.0)	0 (0.0)	25 (14.0)	
Divorced	2 (22.2)	1 (7.7)	27 (15.2)	
Education (%)				
≤ High School	2 (22.2)	3 (23.1)	12 (6.7)	.1
High School Graduate	6 (66.7)	7 (53.9)	106 (59.6)	
Some College	0 (0.0)	0 (0.0)	27 (15.2)	
≥ College Graduate	1 (11.1)	3 (23.1)	33 (18.5)	
Years Resided†	36.7 (19.0)	44.2 (15.8)	39.1 (16.3)	.5
Region (%)				
Southern**	8 (88.9)	13 (100.0)	166 (93.3)	.6
Non-Southern	1 (11.1)	0 (0.0)	12 (93.3)	
Physician Characteristic (%)				
Age/Experience	8 (88.9)	12 (92.3)	169 (95.5)	.4
Gender	1 (11.1)	1 (7.7)	6 (3.4)	
Race/Ethnicity	0 (0.0)	0 (0.0)	2 (1.1)	

†Mean (Standard deviation) for number of years in state or country.

*Significance determined using Fisher's Exact Test and ANOVA.

(%)Denotes column percentages.

**Defined as participants from southern states.

very young (under 20 years) or much older (71+ years) [p value = .01].

Gender Preference of Physician for 'Bad News' Medical Visits

Among study participants, there were 164 (82.0 percent) participants that had no gender preference for physician when receiving 'bad news' [Table 5]. There were similar distributions of participants' race/ethnicity, marital status, education, years lived at residence, region, and preference of physician characteristic between all groups for 'bad news' medical visits. Patients that preferred to have male physicians for 'bad news' were more likely to be older (66.7 percent aged 61 to 70, p value = .02). In addition, patients that preferred male physicians for delivery of 'bad news' were more likely to be male patients (83.3 percent), while patients that preferred female physi-

cians for delivery of 'bad news' were more likely to be female patients (54.2 percent, p value = .03).

DISCUSSION

In general, the majority of patients surveyed in this study did not express a specific physician gender preference, however, several notable trends for same-sex physician preference were noted in particular scenarios.

In the setting of a non-emergent/'routine care' visit, the majority of patients surveyed did not report a physician gender preference. Less than 14 percent of female survey respondents and less than 8 percent of male survey respondents in this study expressed a physician gender preference for ED 'routine care.' However, in the 'routine care' scenario patients who preferred male physicians were more likely to be male, and patients who preferred female physicians were more likely to be female. Of those

Table 5. Comparison of participant characteristics stratified by gender preference of physician for ‘bad news’ medical visit. Among 200 participants.

	Gender Preference for ‘Bad News’ Medical Visit N (%)			p value*
	Female N = 24 (12.0)	Male N = 12 (6.0)	No Preference N = 164 (82.0)	
Age (%)				
≤20	2 (8.3)	0 (0.0)	5 (3.1)	*.02
21 – 30	4 (16.7)	1 (8.3)	34 (20.7)	
31 – 40	6 (25.0)	0 (0.0)	20 (12.2)	
41 – 50	3 (12.5)	1 (8.3)	23 (14.0)	
51 – 60	6 (25.0)	2 (16.7)	45 (27.4)	
61 – 70	1 (4.2)	8 (66.7)	27 (16.5)	
≥71	2 (8.3)	0 (0.0)	5 (3.1)	
Race/Ethnicity (%)				
Black	14 (58.3)	5 (41.7)	84 (51.5)	.4
White	9 (37.5)	6 (50.0)	75 (46.0)	
Other	1 (4.2)	1 (8.3)	4 (2.5)	
Sex (%)				
Male	11 (45.8)	10 (83.3)	73 (44.5)	*.03
Female	13 (54.2)	2 (16.7)	91 (55.5)	
Marital Status (%)				
Married	8 (33.3)	4 (33.3)	62 (37.8)	.8
Single	8 (33.3)	6 (50.0)	57 (34.8)	
Committed Relationship	4 (16.7)	0 (0.0)	21 (12.8)	
Divorced	4 (16.7)	2 (16.7)	24 (14.6)	
Education (%)				
≤ High School	3 (12.5)	1 (8.3)	13 (7.9)	.9
High School Graduate	15 (62.5)	6 (50.0)	98 (59.8)	
Some College	3 (12.5)	2 (16.7)	22 (13.4)	
≥ College Graduate	3 (12.5)	3 (25.0)	31 (18.9)	
Years Resided†	37.3 (15.1)	45.0 (14.7)	39.2 (16.6)	.4
Region (%)				
Southern**	22 (91.7)	12 (100.0)	153 (93.3)	.7
Non-Southern	2 (8.3)	0 (0.0)	11 (6.7)	
Physician Characteristic (%)				
Age/Experience	24 (100.0)	11 (91.7)	154 (94.5)	.5
Gender	0 (0.0)	1 (8.3)	7 (4.3)	
Race/Ethnicity	0 (0.0)	0 (0.0)	2 (1.2)	

†Mean (Standard deviation) for number of years in state or country.

*Significance determined using Fisher’s Exact Test and ANOVA.

(%)Denotes column percentages.

**Defined as participants from southern states.

with a reported physician gender preference in this setting, 69 percent of females preferred a female physician while 87.5 percent of males preferred a male physician. This statistically insignificant however notable same-sex trend preference in the ‘routine care’ setting is consistent with previous surveys obtained by Kerssens et al. [14]. In a non-emergent situation, such as a ‘routine visit,’ patients may envision a less rushed scenario and an opportunity to establish a personable connection to their physician, akin to the primary care setting, a role the ED is playing increasingly often. During this primary-care-like interaction, the patient might envision developing easier rapport with a same sex physician. Studies have shown that when patients elect to choose a primary care physician, gender concordant selection has been noted [13].

In the non-emergent/‘routine’ setting, there was also a notable preference of black participants for male physicians and white participants for female physicians. The reason behind this phenomenon is not entirely clear how-

ever, differing ethnic and cultural beliefs may help explain these findings. Culture-specific beliefs, norms, and values have been shown to affect the manner in which health, illness management, and source of treatment are perceived [26].

Perhaps for similar reasons, there was also a same-sex physician preference in the proposed scenario of ‘sensitive issues’ in the ED to include genitourinary complaints, obstetrical, or sexual concerns or complaints. These scenario-specific results were similar to previous studies which evaluated patient physician gender preference in the setting of obstetrical-gynecological visits or rectal examinations, other clinical scenarios where ‘sensitive issues’ are more common place. In these studies, respondents reported feeling an increased sense of ease during (internal) examination by a physician of the same sex [14,27]. Additionally, in those who reported a preference in this scenario for a female physician, this might be explained by a more patient-centered communication style

more frequently used by women [28]. In fact, in this study, over a quarter of all those surveyed preferred a female physician specifically when presented with the scenario of a 'sensitive' issue, which again may reflect a difference in inherent communication styles between men and women [29].

Women and men are known to utilize different communication styles and previous research has shown that male and female physicians tend to differ in the way they talk to patients [30,31]. Women tend to exhibit a more socioemotional and empathic communication style characterized by nonverbal engagement, increased expression of emotions, and higher levels of self-disclosure whereas men tend to adopt a more directive communication style [32,33]. These gender differences in communication styles have been shown to exist within the patient-physician interaction, affected by both sex of the patient as well as the sex of the physician. A 2002 article by Bylund et al. detailed patients who report that their physicians have empathic qualities, a characteristic more frequently associated with female physicians, report better satisfaction with care [34-36]. Seeking out these empathic qualities more often associated with women, including women physicians, may help explain the trend toward female physician preference in the setting of 'sensitive issues' in the ED.

In the setting of 'bad news' delivery in the ED, to include announcement and discussion of a serious illness or death of a loved one, the majority of patients did not report a physician gender preference. However, in this scenario too there was a trend toward same-sex physician preference again, perhaps due to gender communication style differences as discussed above as in the setting of 'sensitive issues.' In addition, older males (aged 61 to 70) in particular appeared to prefer a male physician in this instance. In the emotional rollercoaster that can accompany bad news, patients might anticipate finding comfort in a physician who is 'like' them and whom they feel might be better able to empathize and legitimize their feelings [37].

Finally, in the suggested scenario of seeking 'emergent care' in the ED, the large majority of those surveyed did not express a physician gender preference. In the setting of a perceived 'true medical emergency,' patients may appreciate the need for timely, expeditious care by any physician, male or female. Less than 8 percent of female survey respondents and less than 15 percent of male survey respondents reported a physician gender preference in the setting of a medical emergency. In those respondents with a specific preference in the emergency setting, there was an insignificant yet slight trend noted for male physician preference with 71 percent and 67 percent of female and male respondents respectively preferring a male physician. These findings are slightly different than a previous study by Schindelheim et al., where 18 percent of women and 14.7 percent of men surveyed reported a specific physician gender preference in the ED setting,

women preferring male and female doctors equally whereas men preferred male physicians [23]. Over a decade has passed since Schindelheim's study was reported and modern day education and promotion of gender equity may help explain the differences noted. The trend however toward an insignificant minority's preference for male physicians in the setting of a medical emergency may reflect what Elsesser et al. noted in a 2011 publication assessing gender bias against female leaders [38]. A medical emergency is undoubtedly envisioned as a situation where a physician must effectively manage and lead in order to be successful and Elsesser reports that women in general are still seen as having less potential for management and leadership positions in our society.

The findings of this study are unique in revealing the majority of emergency department patients in general report no physician gender preference for multiple ED scenarios. Given the increasing number of female physicians entering emergency medicine and the persistent gender bias hurdles reported by female physicians, it is encouraging to report that patient perception of their emergency physician's gender does not appear to be contributing regularly or significantly to this bias. Note is made however of several scenario-specific same-sex preference trends which may be important. In the ED setting, where selection of a specific physician gender is rarely feasible, it may be beneficial for both male and female emergency physicians to be aware of these same-sex preference trends and some of the suggested reasons behind these preferences as discussed above. Acknowledging that these communication barriers often exist and making subsequent communication adjustments might then make for a more effective physician-patient relationship. Poor physician-patient communication, regardless of physician gender, can endanger patient treatment compliance and as such, treatment outcome [39]. In addition, given the increasing importance patient satisfaction metrics play in daily emergency department management, it is paramount to appreciate that patient's perception of their physician's gender may inherently impact the physician-patient relationship. The improved bias against female physicians in the 'medical emergency' scenario as compared to previous studies is encouraging however, the bias against women in leadership and power-centric roles, such as a female emergency physician, is not completely extinguished and continues to evolve.

Continued evaluation of gender specific communication styles and their impact on the physician-patient interaction could lead to improved clinical dialogue between patient and physician, regardless of either's gender. Overcoming this barrier that often exists in the physician-patient interchange would result in a more effective doctor-patient relationship and improved patient satisfaction, in the emergency department and beyond.

Limitations

Surveys were obtained face-to-face, and as such, answers to the questions may have been influenced by the gender of the interviewer. Both male and female interviewers were used to take surveys from both male and female patients to minimize any effects of this bias however it is important to note the potential for patients to express what they may have felt was a socially desirable response. Our patient sample was likewise evenly distributed between the sexes and representative of our emergency department population. An additional limitation to note is the patient's recently completed emergency department experience and the sex of the providers who had taken care of them. This also had the potential to bias their answers. The emergency department has a mix of male and female attending physicians and residents, which ideally minimized any of this potential bias. In addition, while surveys were obtained on a variety of days and times in the ED, analyzing a convenience sample affects generalizability. Finally, reasons for gender bias are purely speculative. Participants who expressed specific physician gender preferences were not asked why they preferred one gender versus the other.

CONCLUSION

Despite historical gender bias against female physicians and reported persistent gender discrimination representing a persistent hurdle in many aspects of female physicians' careers, this study showed, in general, no significant patient preference for physician gender, particularly in the setting of a true medical emergency in the Emergency Department. In scenarios of 'sensitive' issues or 'bad news' delivery, there was a significant trend toward preference of same-sex physician, potentially reflecting inter-gender communication styles and comfort levels.

With additions or modifications to this study's design, future similar assessments might be able to better characterize the specific reasons for any expressed patient physician gender preference. Expansion and specific insight into why patients might prefer a certain physician gender, particularly for specific medical settings, would add additional useful detail and help provide direction on current speculation.

In addition, more correlative studies are needed to ascertain if any connections exist between patient satisfaction and physician gender, particularly in the emergency department setting. This may help shed additional light on whether patient bias for physician gender directly impacts patient satisfaction survey results, an increasingly important aspect in clinical practice. While such an assessment may only highlight a select subset of ED patients, it may also provide a more anonymous venue for insight into the patient's perception of the patient-physician interaction for a gender-specific perspective as well.

REFERENCES

1. Association of American Medical Colleges. 2012 Physician Specialty Data Book [Internet]. cited 2015. Aug 22; Available from: <https://www.aamc.org/download/313228/data/2012physicianspecialtydatabook.pdf>
2. Young A, Humayun C, Rhyne J, Dugan M. A Census of Actively Licensed Physicians in the United States, 2010. *Journal of Medical Regulation*. 2011;96(4):10-20.
3. Association of American Medical Colleges (AAMC) 2015 Report on Residents [Internet]. cited 2016. Feb 20. Available from: <https://www.aamc.org/data/448474/residentsreport.html>
4. Freedman, Jessica M.D. Women in Medicine: Are We "There" Yet? [Internet]. cited 2015. Aug 22. Available from: <http://www.medscape.com/viewarticle/732197>
5. Cydulka RK, D'Onofrio G, Schneider S, Emerman CL, Sullivan LM. Women in Academic Emergency Medicine. *Acad Emerg Med*. 2000;7(9):999-1007.
6. Clever, SL, Jin L, Levinson W, Meltzer DO. Does Doctor-Patient Communication Affect Patient Satisfaction with Hospital Care? Results of an Analysis with a Novel Instrumental Variable. *Health Serv Res*. 2008;43(5 Pt 1):1505-1519.
7. Hall JA, Roter DL. Do patients talk differently to male and female physicians? A meta-analytic review. *Paient Educ Couns*. 2002;48(3):217-24.
8. Gabbard-Alley AS. Health communication and gender: a review of critique. *Health Commun*. 1995;7(1):35-54.
9. Roter DL, Hall JA, Aoki Y. Physician gender effects in medical communication: a meta-analytic review. *JAMA*. 2002;288(6):756.
10. Hall JA, Blanch-Hartigan D, Roter DL. Patients' satisfaction with male versus female physicians: a meta-analysis. *Med Care*. 2011;49:611.
11. Hall JA, Irish JT, Roter DL, Ehrlich CM, Miller LH. Satisfaction, sex, and communication in medical visits. *Med Care*. 1994;32:1216-31.
12. Mast MS, Hall JA, Roter DL. Disentangling physician sex and physician communication style: Their effects on patient satisfaction in a virtual medical visit. *Patient Educ Couns*. 2007;68(1):16-22.
13. Schmittiel J, Grumbach K, Selby JV, Quesenberry CP. Effect of Physician and Patient Gender Concordance on Patient Satisfaction and Preventive Care Practices. *J Gen Intern Med*. 2000;15(11): 761-769.
14. Kerssens JJ, Bensing JM, Andela MG. Patient Preference for Gender of Health Professionals. *Soc Sci Med*. 1997; 44(10):1531-40.
15. Christen RN, Alder J, Bitzer J. Gender differences in physicians' communicative skills and their influence on patient satisfaction in gynaecological outpatient consultations. *Soc Sci Med*. 2008;66(7):1474-83.
16. Johnson AM, Schnatz PF, Kelsey AM, Ohannessian CM. Do Women Prefer Care From Female or Male Obstetrician-Gynecologists? A Study of Patient Gender Preference. *J Am Osteopath Assoc*. 2005;105(8):369-79.
17. Varadarajulu S, Petruff C, Ramsey WH. Patient Preferences for Gender of Endoscopists. *Gastrointest Endosc*. 2002;56(2):170-3.
18. Varia A, Patel MK, Tanikella R, Machicao V, Fallon MB, Lukens FJ. Gender Preference for the Endoscopist Among Hispanic: The Results of a Prospective Study. *J Immigrant Minority Health*. 2014;16:990-3.
19. Lahat A, Assouline-Dayan Y, Katz LH, Fidler HH. The preference for an endoscopist specific sex: a link between ethnic origin, religious belief, socioeconomic status, and procedure type. *Patient Prefer Adherence*. 2013;9(7):897-903.
20. Abghari MS, Takemoto R, Sadiq A, Karia R, Philips D, Egol KA. Patient Perceptions and Preferences When Choosing an Orthopaedic Surgeon. *Iowa Orthop J*. 2014;34:204-208.

21. Dusch MN, O'Sullivan PS, Ascher NL. Patient perceptions of female surgeons: how surgeon demeanor and type of surgery affect patient preference. *J Surg Res.* 2014;187(1):59-64.
22. Moettus A, Sklar D, Tandberg D. The Effect of Physician Gender on Women's Perceived Pain and Embarrassment During Pelvic Examination. *Am J Emerg Med.* 1999;17(7):635-7.
23. Schindelheim GL, Jerrard DA, Witting MD. Patient Preference for Emergency Physician Age and Gender. *Am J Emerg Med.* 2004;22(6):503.
24. Duberstein P, Meldrum S, Fiscella K, Shields CG, Epstein RM. Influences on patients' ratings of physicians: Physicians demographics and personality. *Patient Educ Couns.* 2007;65(2):270-4.
25. United States Census Bureau. Geographic Terms and Concepts [Internet]. cited 2015. Aug 20. Available from: https://www.census.gov/geo/reference/gtc/gtc_census_divreg.html.
26. Pasick RH, D'Onofrio CN, Otero-Sabogal R. Similarities and differences across cultures: questions to inform a third generation for health promotion research. *Health Educ Q.* 1996;23(1):S142-S161.
27. Dzikowski L, Sobolewska J, Szewczyk M, Włodarczyk J, Sobolewska A, Włodarczyk M. Comfort During Digital Rectal Examination - Patient Preference. *Przeegląd Chirurgiczny.* 2015;87(9):453-458.
28. Janssen SM, Lagro-Janssen AL. Physician's Gender, Communication Style, Patient Preferences and Patient Satisfaction in Gynecology and Obstetrics: a Systemic Review. *Patient Educ Couns.* 2012;89(2):221-6.
29. Shin DW, Roter DL, Roh YK, Hahn SK, Cho B, Park HK. Physician Gender and Patient Centered Communication: the moderating effect of psychosocial and biomedical case characteristics. *Patient Educ Couns.* 2015;98(1):55-60.
30. Nicolai J, Demmel R. The impact of gender stereotypes on the evaluation of general practitioners' communication skills: An experimental study using transcripts of physician-patient encounters. *Patient Educ Couns.* 2007;69:200-5.
31. Street RL. Gender differences in health care provider-patient communication: are they due to style, stereotypes, or accommodation? *Patient Educ Couns.* 2002;48:201-6.
32. Hojat M, Gonnella JS, Nasca TJ, Mangione S, Vergare M, Magee M. Physician empathy: definition, components, measurement, and relationship to gender and specialty. *Am J Psychiatry.* 2002;159:1563-9.
33. Toussant L, Webb JR. Gender differences in the relationship between empathy and forgiveness. *J Soc Psychol.* 2005;145:673-85.
34. Bylund CL, Makoul G. Empathic communication and gender in the physician-patient encounter. *Patient Educ Couns.* 2002;48:207-16.
35. DiMatteo MR, Hays R. The significance of patients' perceptions of physician conduct: a study of patient satisfaction in a family practice center. *J Community Health.* 1980;6:18-34.
36. Barnsley J, Williams AP, Cockerill R, Tanner J. Physician characteristics and the physician-patient relationship. *Can Fam Physician.* 1999;45:935-42.
37. Munoz Sastre MT, Sorum PC, Mullet E. Breaking Bad News: the patient's viewpoint. *Health Commun.* 2011;26(7):649-55.
38. Elsesser K, Lever J. Does gender bias against female leaders persist? Quantitative and qualitative data from a large-scale survey. *Hum Relat.* 2011;11(12):1555-78.
39. Siu JY. Communicating under medical patriarchy: gendered doctor-patient communication between female patients with overactive bladder and male urologists in Hong Kong. *BMC Women's Health.* 2015;15:44.

APPENDIX A**SURVEY INSTRUMENT****Patient Preference for Physician Gender in Emergency Medicine: Factors and Influences**

1. What is your gender?
 - Male
 - Female

2. What is your race/ethnicity?
 - White
 - Black
 - Asian
 - Pacific Islander
 - Hispanic/Latino
 - Other (describe):

3. What is your age?
 - 20 years or younger
 - 21-30 years
 - 31-40 years
 - 41-50 years
 - 51-60 years
 - 61-70 years
 - 71 years or older

4. Please select the highest level of education that you completed.
 - Elementary school (Kindergarten – 5th grade)
 - Middle/junior high school (6th-8th grade)
 - High school (9th-12th grade)
 - 2-year technical/associates degree
 - 4-year college degree
 - Master's level graduate degree
 - Post-graduate degree (eg: MD/PhD)

5. Below, please record the state and country in which you lived the longest.
 - State:
 - Country:
 - Number of years lived in this State/Country:

6. What is your current relationship status?
 - Single
 - Committed relationship
 - Married
 - Divorced

7. For routine/non-emergency medical visits, which gender do you prefer your doctor to be?
 - Male
 - Female
 - No preference
8. For medical emergencies, which gender do you prefer your doctor to be?
 - Male
 - Female
 - No preference
9. Regarding “sensitive” medical issues (genital problem, OB/GYN problem or sexual problem), which gender would you prefer your doctor to be?
 - Male
 - Female
 - No preference
10. If you required a minor medical procedure (draining an abscess or stitches), which gender would you prefer your doctor to be?
 - Male
 - Female
 - No preference
11. If a physician needed to deliver “bad news” (diagnosis of a life-threatening illness or notification about the unexpected death of a family member), which gender would you prefer your doctor to be?
 - Male
 - Female
 - No preference
12. Which physician-characteristic is most important to you?
 - Gender
 - Race/Ethnicity
 - Age/experience