

Gender Difference and Specialty Preference in Medical Career Choice

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Purpose: We are entering a new era of medicine in which an equal number of men and women are becoming doctors. Many factors combine in complex and poorly understood ways to influence a medical student's career and choice of specialty. This study investigated the preferences of medical students with regard to specialty and examined differences between genders.

Methods: We administered a survey to medical students at the end of their third- or fourth-year clinical clerkships. In addition to demographic data and specialty choice, medical students selected factors that were importance to their choice of specialty.

Results: One hundred forty-one medical students completed the survey (81 males, 57%). For medical students who had chosen a specialty, the most common specialty was internal medicine (20.5%). Significant gender differences were observed in choosing orthopedic surgery and family medicine—17 male students chose orthopedic surgery (10.5%) versus 3.3% of female students ($p = 0.02$), and 11 females (9.2%) were drawn toward family medicine compared with 4 male students (2.5%). More female medical students chose lower workloads (19.9%) and low-risk work (14%) than male students ($p < 0.05$). Lifestyle and income have become more important to medical students regarding their choice of specialty.

Conclusion: There were significant gender differences concerning the choice of medical specialty. Controllable lifestyle remains an important factor for female medical students who are choosing a specialty. We must begin to make meaningful and thoughtful changes in medical center policies that affect a balance between work and home.

Key Words: Medical students, Specialty, Career, Gender

INTRODUCTION

Female students have become a growing part of medical schools in Korea [1]. The number of female medical students also increased to the extent that women made up approximately one-half of every medical school class in Western country [2]. Current trends indicate that the profession of medicine will be composed of equal

numbers of men and women over the next generation.

Choosing a specialty is a complex process and may be influenced by several factors. There were some changes in the career choices of medical students. Interest in some specialties like surgery, pediatrics, and obstetrics & gynecology declined [3]. But the popularity of controllable lifestyle fields such as radiology, psychiatry, dermatology, and ophthalmology has been increased [4]. Controllable lifestyle specialties have been defined as

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those that allow more personal time free for rest, leisure, and family. With the increase of women into medicine has come the concern that women are responsible for a growing interest in medical specialties with controllable lifestyles and decreased interest in primary care specialties [5,6]. Despite the increasing representation of women in medicine, little has been known about how gender has affected specialty choice.

Career choice has generally been believed to be influenced by many factors including income, intellectual stimulation, role models, and prestige. Both men and women have been shown to select specialties based on some common factors like individual aptitude, personality, and positive clerkship experiences, while men place greater emphasis on prestige, income and manual dexterity skills than women [7]. Although women have traditionally preferred specialties like pediatrics and obstetrics & gynecology, it has been supposed that the preferences of a specialty with a controllable lifestyle such as radiology, psychiatry, and rehabilitation medicine are more appealing to women who want to balance family and career responsibilities [8,9]. If we do not change the system to encourage and enable women to contribute maximally to their profession, academic specialties can lose a major source of potential talent. The relatively stable work qualities of specialties in comparison with other medical disciplines would seem likely to appeal to female students or doctors.

In order to prevent the miss match of doctors by specialty, factors influencing choice and preference of specialty by doctors and medical students should be identified [10]. The goal of our research is to define the factors most important to medical students in choosing a career and to analyze these data to determine gender difference in specialty preference.

SUBJECTS AND METHODS

We carried out the survey between September and October 2011. We made a questionnaire designed to determine the common factors most important to medical students choosing a career. The survey was administered to third- and fourth-year medical students. All of them have finished academic study curriculum and in the middle of clerkships. Self-administrated questionnaires were distributed and collected. Ethics approval of this study was done by education center of medical school. The survey took approximately 5 days to complete. Information collected included gender, year of study, the specialty they are interested in and factors that influenced this choice in considering specialty. The participants offered also the following list of specialties: general, orthopedic surgery, neurosurgery, internal medicine, pediatrics, obstetrics & gynecology, rehabilitation medicine, psychiatry, radiology, anesthesiology, pathology, ophthalmology, and basic science. The students allowed selecting two specialties.

We asked all students to rank several factors important in choosing a medical specialty. The students responded to "Which factors influenced your choice of the specialty?" And they were asked to choose two most important factors. These several factors were income, prestige, lower work load, time controllable, intellectual stimulation, low risk of work, the influence of the doctor's mentor and family on their choice of clinical specialty, competitiveness of the residency selection process and training period.

For each factor, the number of medical students choosing it and the corresponding percentages were calculated. We compared that of men and women for each factor. Chi-square test used to evaluate gender differences as well as compare between factors influen-

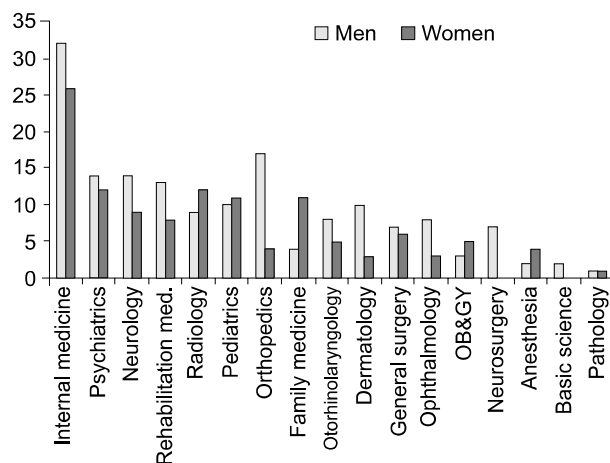
cing choice of specialties. The p-values less than 0.05 were considered statistically significant.

RESULTS

One hundred fifty-four students were given the questionnaire. One hundred forty-one students (92%) responded and completed the survey. Eighty-one of the respondents were men (57%) and 60 were women (43%). For students who had chosen a medical specialty, the most common specialties were internal medicine (21%), psychiatrics (9%), and neurology (8%). The other commonly chosen specialties listed in Table 1. Male students preferred orthopedics, neurology, and rehabilitation medicine. Female students preferred radiology, pediatrics, family medicine, obstetrics & gynecology, and anesthesia than male students (Fig. 1). Significant gender differences were observed in the choice of orthopedic

surgery and family medicine ($p < 0.05$). Seventeen male students chose orthopedic surgery at a percentage of 11% while only 3% of female students chose it ($p = 0.02$). On the other hand, 11 female students were found to be

Fig. 1. Gender Difference in Specialty Choices of Medical Students



A greater number of male respondents had a preference for surgery and its subspecialties. Female respondents had a preference for radiology, pediatrics, family medicine, obstetrics & gynecology, and anesthesia.

Table 1. Specialties Chosen by Medical Students

Specialty	Total		Men		Women		p-value
	Rank	No.(%)	Rank	No. (%)	Rank	No. (%)	
Internal medicine	1	58 (20.5)	1	32 (19.7)	1	26 (21)	0.69
Psychiatrics	2	26 (9.2)	3	14 (8.6)	2	12 (10)	0.70
Neurology	3	23 (8.1)	3	14 (8.6)	5	9 (7.5)	0.73
Rehabilitation medicine	4	21 (7.4)	5	13 (8)	6	8 (6.7)	0.67
Radiology	4	21 (7.4)	8	9 (5.6)	2	12 (10)	0.16
Pediatrics	4	21 (7.4)	6	10 (6.2)	4	11 (9.2)	0.34
Orthopedics	4	21 (7.4)	2	17 (10.5)	10	4 (3.3)	0.02*
Family medicine	8	15 (5.3)	13	4 (2.5)	4	11 (9.2)	0.02*
Otorhinolaryngology	9	13 (4.6)	9	8 (4.9)	8	5 (4.2)	0.76
Dermatology	9	13 (4.6)	6	10 (6.2)	12	3 (2.5)	0.15
General surgery	9	13 (4.6)	11	7 (4.3)	7	6 (5.1)	0.79
Ophthalmology	12	11 (3.9)	9	8 (4.9)	12	3 (2.5)	0.30
Obstetrics & gynecology	13	8 (2.8)	14	3 (1.8)	8	5 (4.2)	0.25
Neurosurgery	14	7 (2.4)	11	7 (4.3)		0	-
Anesthesia	15	6 (2.1)	15	2 (1.2)	10	4 (3.3)	-
Basic science	16	2 (0.7)	15	2 (1.2)		0	-
Pathology	16	2 (0.7)	16	1 (0.6)	14	1 (0.8)	-
Total		282		162		120	

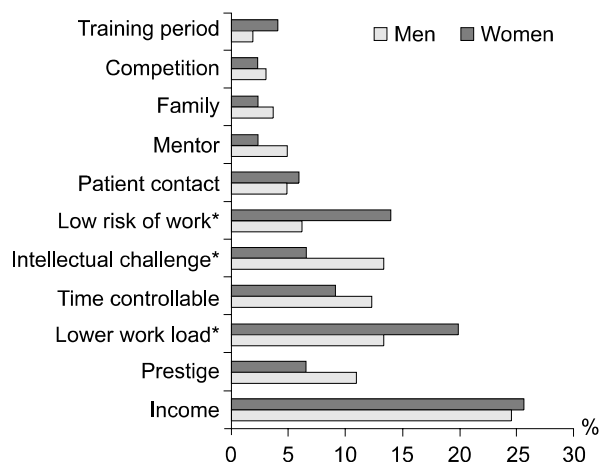
* $p < 0.05$.

Table 2. Main Motivating Factors of Medical Students in Specialty Choices

Motivation	Total		Men		Women		p-value
	Rank	No. (%)	Rank	No. (%)	Rank	No. (%)	
Income	1	71 (25.2)	1	41 (25.3)	1	30 (25.6)	0.86
Lower work load	2	46 (16.3)	3	20 (12.3)	2	26 (19.9)	0.04*
Time controllable	3	31 (11.4)	3	20 (12.3)	4	11 (9.1)	0.39
Intellectual challenge	3	31 (11.4)	2	23 (14.1)	5	8 (6.6)	0.04*
Low risk of work	5	27 (9.6)	6	10 (6.2)	3	17 (14.2)	0.03*
Prestige	6	26 (9.6)	5	18 (11.1)	6	8 (6.6)	0.19
Patient contact	7	15 (5.3)	7	8 (4.9)	7	7 (6.0)	0.39
Mentor ^{a)}	8	11 (3.5)	7	8 (4.9)	8	3 (2.4)	0.29
Family ^{a)}	9	9 (3.2)	9	6 (3.7)	8	3 (2.4)	0.56
Competition	10	8 (2.6)	10	5 (3.1)	8	3 (2.4)	0.76
Training period	10	8 (2.6)	11	3 (1.9)	11	5 (4.1)	0.25

^{a)} Influence of the doctor’s mentor and family on their choice of clinical specialty.
 *p<0.05.

Fig. 2. Gender Difference in Main Motivating Factors of Medical Specialty Choices



As a motivating factor in the choice of specialty, female respondents chose lower workload and low-risk work, but male respondents chose intellectual stimulation and prestige.
 *p<0.05.

attracted towards family medicine and male students only four (p=0.02). Both male and female medical students gravitate to specialties in which a considerable amount of direct patient care be provided.

Factor considered most important in medical career choice of medical students was income. High income attracted both male and female students. In order of

importance, these factors were income (25%), lower workload (16%), intellectual stimulation (11%), time controllable (11%) and low risk of work (10%). More male medical students choose prestige (11%), time controllable (12%), intellectual stimulation (13%), and mentor (5%) than female students as a motivating factor in specialty choice. More female medical students choose lower workload (20%) and low risk of work (14%) than male students. There was a statistically significant difference between men and women. For women who had chosen specialty as a career, lower workload (p=0.04) and low risk of work (p=0.03) were more important motivating factors. For men intellectual stimulation (p=0.04) and prestige were more important factor than women (Table 2). Chi-square tests applied to show the significant differences in the responses with respect to the gender. Fig. 2 shows the details of influencing factors of medical students in specialty choice easily.

DISCUSSION

Increasing number of women have been entering and

graduating medical schools in Korea [1]. Women's advancement in higher education is the underlying factor in increasing number of female medical students. Female medical students constitute close to half presently and they will soon form a majority of the medical career. Therefore not only professors of medical school but also school deans, chancellors, university administrators, and politicians need to pay more attention to the fact that women have become numerous in medicine. This study aimed at determining specialty preferences and factors influencing these choices among male and female medical students.

There are few studies on female medical students' viewpoints on factors that influence specialty choice. Schwartz et al. [11] found that students were most inclined to choose specialties that had fewer numbers of practice work hours per month, allowed adequate time for leisure, and seemed to have a smaller number of emergency calls. Dorsey et al. [12] reported study results obtained from a large group of medical students. They found that a controllable lifestyle accounted for the increased number of applicants to radiology and anesthesiology. Even though internal medicine was the most popular area among both male and female students, the second most popular specialties of male students were orthopedics, psychiatry, and neurology in our study. Psychiatry and radiology were the second most popular specialties of the female students in our study.

Prestige and lifestyle friendliness have emerged as significant factors for medical students when they choose a medical specialty. Occupational prestige is the personal value most considered to affect the career choice of medical students. Prestige might be the most important predictor for students choosing surgery. Prestigious specialties often bring material rewards.

Medical lifestyle rankings refer to the rating of specialties in terms of their potential for work/life

balance, which includes the availability of practice-free time that can be spent with family and friends, and on leisure pursuits. The personal values encompassing lifestyle preferences have become more important for all doctors generally, which is reflected in a growing preference for female doctors to work more manageable hours [12]. Many physicians continue to work long and irregular hours, and medical students are increasingly considering how friendly their chosen specialty will be to their lifestyle when making decisions regarding their future. Understanding that prestige and lifestyle perceptions differ among students, and that these perceptions can be ordered hierarchically, will assist those providing counseling and advice to medical students deciding on a specialty path.

Our study has revealed differences in specialty preferences and factors influencing these choices among male and female students. Specialty preference among the students can correspond to the specialist doctor distribution in the future. We found significant gender differences in the choice of orthopedic surgery and family medicine. Male students had a special liking for orthopedic surgery while their female counterparts preferred family medicine. Previous studies have also reported similar gender differences in specialty choices of medical students [10,13].

Some factors such as control of lifestyle and work balance have been identified and related to women specialty preferences [14]. Other studies have further shown that women are likely to integrate family responsibilities with a career, and they consider flexibility of work and opportunity for part time working in their choice of specialties [15,16]. These facts correlate with the results of our survey. Even though in our study both male and female students preferred controllable lifestyle specialties, there was a higher likelihood female students selecting a controllable life-

style specialty such as psychiatry and radiology.

Our survey results show that male medical students consider income (24.6%) and intellectual stimulation (14.2%) as the most important factors in deciding on a career. And female medical students consider income (25%) and lower work load (21.6%) the most important factors. For both men and women, income was the most desirable parts in specialty choosing and influenced students to enter the specialty.

Female students are discouraged from specialties such as surgery as there are few female surgeons to look up to as mentors [17]. Mentors counseling women to consider specialty as a career should help qualified candidates to overcome their reservations about risk of failure. These female students turn to other specialties that have more female senior doctors such as pediatrics or family medicine. They also considered specialty's gender distribution. Studies have also shown that female doctors suffer more gender discrimination than males [18]. But with the increasing number of female medical students and graduates, some female students can be a resident of surgical specialties that were previously male dominated areas. We have to take into consideration the important social changes that already have occurred and those that are still awaiting acceptance and implementation, such as mutual gender support, maternity leave, and equality in compensation. To attract women to authoritative specialties and ensure that they will have successful careers, we must begin immediately to make thoughtful, meaningful, and even bold changes in academic medical center policies that affect work and home balance. There is a pool of talented women, and it is our responsibility as leaders to find those individuals and groom them for success.

Our study had several limitations. We cannot investigate the influence of other detailed personal factors such as age, family circumstances, personality or

debt because of ethical problem. There are more issues associated with choosing the specialty as well as issues of burnout in medicine and satisfaction with work-life-balance that has not been discussed. Choosing specialties tends to be a very deliberate process. And the surveys were conducted in one medical private school. Thus, the results may not be generalized to the entire medical school. More large scaled studies are needed. But this study serves as a pilot for future and would contribute in understanding new generation of medical students. Helping medical students choose a career pathway consistent with their values will generate a better fit between students and their work environments and lead to more satisfying and productive medical careers.

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