

RESEARCH ARTICLE

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*Bu araştırma makalesi 20-23 Nisan
 2013 - Antalya "3. Multidisipliner
 Aile Hekimliği Kongresi'nde"
 poster olarak sunulmuştur.*

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Konuralp Tıp Dergisi
 e-ISSN1309-3878
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Analysis of Opinions Regarding Medical Specialty Selection Examination and Career Choices of 5th and 6th Grade Medical Students from Düzce University, Turkey

ABSTRACT

Objective: In this study, it was aimed that analyzing career choices of Students of Medical Faculty and their opinions regarding Medical Specialty Selection Examination.

Methods: At 2012-2013 education terms, 101 medical students from Düzce University participated in this cross sectional study. 58 (57,4%) of them were at 5th grade and 43 (42,6%) of the participants were at 6th grade. Career Choices, affecting factors, training course satisfaction, some demographic factors (age, gender, grade, type of high school graduated from), thoughts regarding to Medical Specialty Selection Exam and foreign language examination scores were questioned via the questionnaire based survey.

Results: 41(40.6%) of the 101 participants who filled up the questionnaire based survey were male, 60(59.4%) of them were female. Their mean age was 23.6±0.9 years and most of them (n=50; 49.5%) had graduated from Anatolian High Schools. It is reported that top 5 training course according to student satisfaction as follows Emergency Medicine (n=16; 15,8%), Dermatology (n=16; 15.8%), Cardiology (n=11; 10.9%), Brain Surgery (n=9; 8.9%) and Pediatrics (n=7; 6.9%) (p<0.0001). It is also reported that top 5 areas according to the choices on Medical Specialty Selection Examination are as follows; Otolaryngology (n=11; 10.9%), Dermatology (n=9; 8.9%), Internal Medicine (n=8; %7.9), Plastic Surgery (n=8; 7.9%) and Psychiatry (n=8; 7.9%) (p<0.0001). If we compare male and female students, male students prefer sports medicine (n=5; 12.2%), whereas female students prefer Otolaryngology (n=9; 15.0%) in the first rank of their choices.

Conclusion: It is reported that regarding to Medical Specialty Selection Examination choices; in addition to gender differences, "impacts on family and private life and properties of academic career" are also the most affecting factors.

Key Words: Medical Specialty Selection Examination, Family Medicine, Medical Students.

Düzce Üniversitesi Tıp Fakültesi 5. ve 6. sınıf Öğrencilerinin Branş Tercihleri ve Tıpta Uzmanlık Sınavı'na Bakışlarının İncelenmesi

ÖZET

Amaç: Bu çalışmada, Düzce Üniversitesi Tıp Fakültesi öğrencilerinin branş tercihleri ve Tıpta Uzmanlık Sınavı (TUS)'na bakışlarının incelenmesi amaçlanmıştır.

Yöntem: Bu kesitsel çalışmaya, 2012-2013 döneminde Düzce Üniversitesi Tıp Fakültesinde eğitim gören 5. sınıftan 58 (%57,4) ve 6. sınıftan 43 (%42,6) öğrenci olmak üzere toplam 101 öğrenci katılmıştır. Çalışmada aile hekimliğinden bir öğretim üyesi gözetiminde 3 intern öğrenci tarafından yüz yüze görüşülerek, bazı demografik faktörler (yaş, cinsiyet, sınıf, mezun olduğu lise), branş tercihleri, etkileyen faktörler, staj memnuniyetleri ve TUS sınavı hakkındaki duygu ve düşünceleri ile yabancı dil sınavı (YDS) puanları sorgulanmıştır.

Bulgular: Anket formlarını dolduran 41'i erkek (%40,6), 60'ı kız (%59,4) toplam 101 öğrencinin yaş ortalaması 23.6±0.9 yıl olup, çoğunluğu anadolu lisesi mezunuydu (n=50, %49,5). Öğrencilerin staj döneminde memnun oldukları ilk 5 staj, acil tıp (n=16; %15,8), dermatoloji (n=16; %15,8), kardiyoloji (n=11; %10,9), beyin cerrahisi (n=9; %8,9) ve pediatri (n=7; %6,9) idi (p<0.0001). Öğrencilerin TUS'ta tercih ettikleri ilk 5 bölüm ise, KBB (n=11; %10,9), dermatoloji (n=9; %8,9), dahiliye (n=8; %7,9), plastik cerrahi (n=8; %7,9) ve psikiyatri (n=8; %7,9) idi (p<0.0001). Erkek ve kız öğrenciler karşılaştırıldığında, TUS'ta erkekler en fazla spor hekimliğini (n=8; %7,9), kız öğrenciler ise KBB'yi (n=11; %10,9) ilk sırada tercih edeceklerini bildirmişlerdir.

Sonuç: TUS tercihlerinde cinsiyet farkı ile birlikte, en fazla etkili olan faktörlerin seçecekleri dalın "aile ve özel yaşam üzerine etkileri ve akademik kariyer açısından özellikleri olduğu" belirlenmiştir.

Anahtar kelimeler: Tıpta Uzmanlık Sınavı, Aile Hekimliği, Tıp Öğrencileri.

INTRODUCTION

Nowadays, Medical Knowledge is growing so fast, so anyone who practicing medicine cannot be sure whether the information he is using is enough for serving an average health service, or not. Proficiency of a doctor means not to stop learning in the end of normal period of residency, but problem of these days are complexity, division and having inflexible residency program standards (1). Educating doctors of the future is not only a privilege, but also an obligation of the medical profession (so of the doctors). During 6 years of medical training, medical students develop abilities, which are named as fine skills, like ethics, attitude and communication (2).

Several regulations were made and new methods were explored since the early years of the Turkish Republic. Regulations suitable for the realities of Turkey were made, especially with The Law Regarding to Socialization of Health Services in 1961. Especially after 1983, Family Medicine became one of the important agenda of Turkey. Until now, several arrangements were tried to be done by the governments and most of the time those arrangements stayed ineffective (3). As a part of the Health Transformation Policy, practice of Family Medicine started in Düzce in 2005 with the Law Regarding to Pilot Practice of Family Medicine (Date 12/9/2004, numbered 5258, published in the Official Newspaper numbered 25665 (4,5).

It is known that, during selecting their careers, medical students are influenced by various factors. It is reported that, main factors affecting selection of Family Medicine are quality of medical school, personal communication, lifestyle preferences, personal compatibility, labor factors, prestige, and amount of expected income, task availability, permanent care characteristics and the need of the society (6).

In this study, it was aimed to investigate the specialty preferences and opinions regarding to Medical Specialty Selection Examination (TUS) of Düzce University Medical.

METHODS

In 2012-2013 education term, 58(57.4%) Düzce University medical students from 5th grade, 43 (42.6%) students from 6th grade, totally 101 medical students participated in this study. It was reached to 58 out of 60 (96.7%) from 5th grade and 43 out of 54 (79.6%) from 6th grade medical students currently studying in Düzce University Faculty of Medicine. 41 (40.6%) of the students who filled up questionnaire were male, 60 (59.4%) were female.

Career Choices (top 5), affecting factors, training course satisfaction, some demographic factors (age, gender, grade, type of high school graduated from), thoughts regarding to Medical Specialty Selection Exam (TUS) and foreign language examination

(YDS) scores were questioned via the questionnaire based survey by three Intern doctors under observation of an academican from Department of Family Medicine. This cross sectional study is compatible with Helsinki II and Guidelines of Good Clinical Practice. Participation of this study is voluntary.

Statistical analysis: SPSS (Statistical Package for Social Sciences) 11.5 PC software was used in statistical analysis. In the analysis of Categorical variables, Chi-square test (and/or Fisher's exact test) was used. Results were given as percentage and frequency for categorical values, Mean±SD for quantities. $p < 0.05$ was accepted as statistically significant.

RESULTS

Mean age of the total 101 students who filled up questionnaire was 23.6 ± 0.9 years and majority of them had graduated from Anatolian High School (a type of high school requires good scores for entry and educates one year of foreign language preparation) ($n=50$, 49.5%). Students' mean Foreign Language Examination (YDS) score is 59.1 ± 10.6 points. However, 50 (50.5%) of students have not enough points (>50 points) from Foreign Language Examination (Table 1).

It is reported that top 5 training course according to student satisfaction as follows Emergency Medicine ($n=16$; 15.8%), Dermatology ($n=16$; 15.8%), Cardiology ($n=11$; 10.9%), Brain Surgery ($n=9$; 8.9%) and Pediatrics ($n=7$; 6.9%) ($p < 0.0001$). It is also reported that top 5 areas according to the choices on Medical Specialty Selection Examination (TUS) are as follows; Otolaryngology ($n=11$; 10.9%), Dermatology ($n=9$; 8.9%), Internal Medicine ($n=8$; 7.9%), Plastic Surgery ($n=8$; 7.9%) and Psychiatry ($n=8$; 7.9%) ($p < 0.0001$). If we compare male and female students, male students prefer sports medicine ($n=5$; 12.2%), whereas female students prefer Otolaryngology ($n=9$; 15.0%) in the first rank of their choices (Table 2).

It was also reported that Family Medicine wasn't among Top 5 satisfying training course, however 6 students (5.9%) stated Family Medicine among their Top 10 specialty area in Medical Specialty Selection Exam (TUS) choices. It is reported that regarding to Medical Specialty Selection Examination (TUS) choices "impacts on family and private life" and "properties of academic career" are also the most affecting factors. It is suggested that, students tend to prefer three largest metropolitans, most frequently Istanbul. Students think that studying for Medical Specialty Selection Examination (TUS) has psychological and sociological side effects. Although they think that exam is not beneficial for career and academically; they do not think that as an unfair exam (Table 3).

Table 1. Comparison of students' certain demographical results.

	<i>n</i> (%)	p
Gender		
<i>Male</i>	41 (40.6%)	>0.05
<i>Female</i>	60 (59.4%)	
Grade		
<i>5th grade</i>	58 (57.4%)	>0.05
<i>6th grade</i>	43 (42.6%)	
Foreign Language Exam (YDS) score (categorical)		
<50	8 (7.9%)	<0.0001
50-60	21 (20.8%)	
>60	21 (20.8%)	
<i>No</i>	51 (50.5%)	
Type of High School Graduated From		
<i>Anatolian High School</i>	50 (49.5%)	
<i>Science High School</i>	19 (18.8%)	<0.0001
<i>Super High School</i>	11 (10.9%)	
<i>Anatolian Teacher School</i>	9 (8.9%)	
<i>Private High School</i>	8 (7.9%)	
<i>Community High School</i>	4 (4.0%)	
Significant Success in High School		
<i>Yes</i>	20 (19.8)	<0.0001
<i>No</i>	81 (80.2)	
Attendance to Olympics (Math. and Physics etc.)		
<i>Yes</i>	24 (23.8)	<0.0001
<i>No</i>	77 (76.2)	

Table 2. Training course satisfaction and Medical Specialty Selection Examination (TUS) choices of students based on gender.

	Male n (%)	Female n (%)	Total n (%)	p
Top 5 training course based on satisfaction				
1. <i>Emergency Medicine</i>	9 (22.0%)*	7 (11.7%)	6 (15.8%)	
2. <i>Dermatology</i>	3 (7.3%)	13 (21.7%)*	16 (15.8%)	
3. <i>Cardiology</i>	3 (7.3%)	8 (13.3%)	11 (10.9%)	
4. <i>Brain Surgery</i>	4 (9.8%)	5 (8.3%)	9 (8.9%)	
5. <i>Pediatrics</i>	3 (7.3%)	4 (6.7%)	7 (6.9%)	
6. <i>Others</i>	19 (46.3%)	23 (38.3%)	42 (41.6%)	
Top 5 specialties based on TUS* choices				
1. <i>Otolaryngology</i>	2 (4.9%)	9 (15.0%)*	1 (10.9%)	
2. <i>Dermatology</i>	2 (4.9%)	7 (11.7%)	9 (8.9%)	
3. <i>Internal Medicine</i>	3 (7.3%)	5 (8.3%)	8 (7.9%)	
4. <i>Plastic Surgery</i>	1 (2.4%)	7 (11.7%)	8 (7.9%)	
5. <i>Psychiatry</i>	3 (7.3%)	5 (8.3%)	8 (7.9%)	
6. <i>Radiology</i>	2 (4.9%)	5 (8.3%)	7 (6.9%)	
7. <i>Cardiology</i>	3 (7.3%)	3 (5.0%)	6 (5.9%)	
8. <i>Family Medicine</i>	2 (4.9%)	4 (6.7%)	6 (5.9%)	
9. <i>Physical Therapy & Rehab.</i>	1 (2.4%)	4 (6.7%)	5 (5.0%)	
10. <i>Sports Medicine</i>	5 (12.2%)*	-	5 (5.0%)	
11. <i>Others</i>	17 (41.5%)	11 (18.3%)	28 (26.7%)	
Total	41 (100)	60 (100)	101 (100)	

* TUS: Medical Specialty Selection Examination in Turkey.

Table 3. Students' opinions regarding to TUS* and factors affecting TUS choices.

	<i>n</i> (%)	p
Top 3 cities to prefer for residency		
<i>Istanbul</i>	40 (39.6%)	<0.0001
<i>Ankara</i>	12 (11.9%)	
<i>Izmir</i>	10 (9.9%)	
<i>Others</i>	39 (38.6%)	
Top 5 factors affecting TUS* choices		
<i>Impacts on family and private life</i>	49 (48.5%)	<0.0001
<i>Properties of academic career</i>	14 (13.9%)	
<i>Work circumstances</i>	9 (8.9%)	
<i>Properties of risk and responsibility</i>	8 (7.9%)	
<i>Entertaining, interesting or monotone, boring properties</i>	4 (4.0%)	
<i>Others</i>	17 (16.8%)	
Best studying environment for TUS* preparation		
<i>Alone</i>	49 (48.5%)	<0.0001
<i>With family</i>	18 (17.8%)	
<i>With friends</i>	17 (16.8%)	
<i>Dormitory</i>	3 (3.0%)	
<i>Others</i>	14 (13.8%)	
Selection of residents by TUS* is enough?		
<i>Yes</i>	22 (21,8)	<0.0001
<i>No</i>	79 (78,2)	
Selection of residents by TUS* is fair?		
<i>Yes</i>	42 (41.6%)	>0.05
<i>No</i>	59 (58.4%)	
TUS contributes to your medical practice?		
<i>Yes</i>	28 (27.7%)	<0.0001
<i>No</i>	73 (72.3%)	
Studying for TUS* affects your social life?		
<i>Yes</i>	95 (94.1%)	<0.0001
<i>No</i>	6 (6.0%)	
Studying for TUS* affects your psychology?		
<i>Yes</i>	98 (97.0%)	<0.0001
<i>No</i>	3 (3.0%)	
Have you ever used antidepressant while studying for TUS? *		
<i>Yes</i>	5 (5.1%)	<0.0001
<i>No</i>	96 (94.9%)	

* TUS: Medical Specialty Selection Examination in Turkey.

DISCUSSION

Increasing women employees number in medicine and service area changes show that, lifestyle and amount of income remain important factors in the choices of students (7). In 1970s, 13% of the medical students in the America were female; however this number increased to 49% in 2007 (8). In addition, recent researches found out, feminization tendency of health employees and this situation will cause changes in clinical practices of modern medicine. The specialties chosen by male students in the past, nowadays being occupied by female students (9,10). Gender influences specialty choices, it is reported that 88.2% of the future pediatricians, 81.9% of the gynecologists and 76.7% of the GPs (General Practitioner) will be female ($p<0.05$). In addition, males prefer surgical specialties more. A study had made in 169 students from Toronto University reported that males (27%) prefer surgical specialties more than females (10%) ($p=0.01$) (11). A study from America showed that, female students keen on primary care specialties and pediatrics than males (12).

If we consider the specialties, which Chronic Fatigue Syndrome is frequently seen, it should be kept in mind that dialogue of interns with residents and their observations of residents may affect their specialty choices. It is suggested that, in health services working at night, night shifts, calling at night etc may precipitate psychosocial problems in health care staff (13). A thesis which explores residents from Düzce University Medical Faculty about the condition of depression and Chronic Fatigue Syndrome (CFS) (14); 56.5% of CFS cases belong to surgical specialties. 35% of the participants from surgical specialties have CFS, 35% of them have Idiopathic Chronic Fatigue (ICF). Our study shows that popularity of Family Medicine is not enough, in addition it remains in the same level compared to the previous study. It can be observed that Practice of Family Medicine, which has been put in to practice as a consequence of Health Transformation Policy, doesn't generate demand in the desired level. A study made in the USA by Hauer et al reports that elder population is increasing steadily and the number of the doctors who choose Internal Medicine and Family Medicine which deal with this elder population is decreasing. It is predicted that although elder population is increasing, decrease in the selection of these specialties will cause serious problems in the future. It is stated that, having old patient profile is the main reason of the medical students not to prefer these specialties (15). However a study from the USA showed that, between 1996-2003 male and female interns prefer specialties, which has controllable lifestyle, especially specialties without night shifts such as Family Medicine (16).

It is reported in the study of Dorsey et al, in 2003, 70% of graduate medical students who chose pediatrics were women, as were 80% who chose

obstetrics and gynecology. The factors that make pediatrics and obstetrics-gynecology more attractive to women despite their perceived uncontrollable lifestyles are uncertain and likely extend well beyond lifestyle considerations. Researchers have suggested that women have not entered other uncontrollable lifestyle specialties, such as the surgical specialties, in part due to the lack of available role models and perceptions of male bias (16). According to the research of Emül et al, female students think if they choose psychiatry, they will be unprotected compared to males (17). Seetharaman et al. were reports that statistically significant gender differences were noted in the choices of surgery, orthopaedics (more males) and Obstetrics & Gynecology (more females) (18). Similar trends have been reported in various earlier studies from Pakistan (19), Japan (20), Jordan (21) and Trinidad (22).

In 2012-2013 education term, 58(57.4%) Düzce University medical students from 5th grade, 43(42.6%) students from 6th grade, totally 101 medical students participated in this study. Our study has strong correlation with the literature too. Mean age of the total 101 students who filled up questionnaire was 23.6 ± 0.9 years and majority of them had graduated from Anatolian High School ($n=50$, 49.5%). Students' mean Foreign Language Examination (YDS) score is 59.1 ± 10.6 points. It is reported that top 5 training course according to student satisfaction as follows Emergency Medicine ($n=16$; 15.8%), Dermatology ($n=16$; 15.8%), Cardiology ($n=11$; 10.9%), Brain Surgery ($n=9$; 8.9%) and Pediatrics ($n=7$; 6.9%) ($p<0.0001$). It is also reported that top 5 areas according to the choices on Medical Specialty Selection Examination (TUS) are as follows; Otolaryngology ($n=11$; 10.9%), Dermatology ($n=9$; 8.9%), Internal Medicine ($n=8$; 7.9%), Plastic Surgery ($n=8$; 7.9%) and Psychiatry ($n=8$; 7.9%) ($p<0.0001$). Lifestyle considerations have become so central to specialty choice that U.S. medical students have nicknamed "lifestyle" specialties the "E-ROAD," an acronym for emergency medicine, radiology, ophthalmology, anesthesiology, and dermatology (16). If we compare male and female students, male students prefer sports medicine ($n=5$; 12.2%), whereas female students prefers Otolaryngology ($n=9$; 15.0%) in the first rank of their choices. Having the fact that, specialties like Dermatology, Physical Therapy&Rehabilitation, Radiology and Biochemistry have low quota and need high scores or champion of 2011 TUS Exam was a female and chose Otolaryngology (ENT) may became a role model. It is also reported that Family Medicine wasn't among Top 5 satisfying training course, however 6 students (5.9%) stated Family Medicine among their Top 10 specialty area in Medical Specialty Selection Exam (TUS) choices.

According to Leduc et al, (23) students in Canada don't perceive Family Medicine as an intellectual

specialty or attractive for academic career. It is suggested that, not having a role model in the specialty of Family Medicine causing this. As a solution of this, medical students should spend more time in specialties about primary care and have more rotations in rural and suburb areas also suggested in the same study. In our study, it is reported that regarding to Medical Specialty Selection Examination (TUS) choices “impacts on family and private life” and “properties of academic career” are also the most affecting factors.

Seetharaman et al (18) reports that, primary factors in career planning are respectively as follows; personal interest and passion about a specialty (45.3%), economical satisfaction (43.5%) and family effect (35.8%). It is reported in the studies of Eze et al. (24) and Seetharaman et al. (18) personal ability and future of the specialty are leading factors in specialty choices. Dorsey et al (16) observed that, most important factor in specialty choice is impact on family and private life, as we observed in our research too. There is no difference observed between male and female in this subject. There is no difference observed in our research either.

According to our study, it is suggested that, students tend to prefer three largest metropolitans, most frequently Istanbul. There is correlation between our study and Seetharaman et al. (18), as it is also popular in India to prefer metropolitans than rural areas. It is suggested in our study that most important factors in city choice are “having good residency education program” and “desire for being together with the family”. It is reported in the study of Emül et al. (17) from Turkey, students who participated in the study care about having good residency program and living in metropolitan.

Students think that studying for Medical Specialty Selection Examination (TUS) has psychological and sociological side effects. Although they think that exam is not beneficial for career and academically; they do not think that as an unfair exam. It is stated in the study of Kutanis et al. (25) by questioning academicians and residents face to face, although TUS is a fair exam but method of the exam, content of the exam and having exam by two sessions are incorrect. It is also found in our research that, 65.3% of the students think that having two sessions in the same day is affecting their performance negatively. Kutanis et al. (25) from Turkey reported that questions of TUS are unelaborated according to their analyses. In our study, students stated that questions of TUS require excessive detailed information. According to Kutanis et al. (25), both academicians and residents pointed out TUS preparation and TUS training courses has negative effect on internship

period which medical practice is being educated. It is reported in our study that, most important factor to prevent students from preparing for TUS is night shifts (40.1%). In our study, 78% of students think that the education received from faculty is insufficient for TUS preparation. Research of Özyıldırım et al. is also has correlation with this outcome (26).

In our research, it is thought that attending a TUS preparation course is necessary (65%). Özyıldırım et al. also found out similar results (26). Study of Seetharaman et al. (18) from India showed that, 90% of interns are attending a preparation course. In our country instead of spending time on practical abilities, most of the time in internship is spent on TUS preparation courses. It is found that, 79% of students think that TUS training courses causing inequality of opportunity.

77% of students think that questions of TUS containing extremely detailed unnecessary information. The study of Özyıldırım et al has correlation with our study (26). Even though Turkey has a large shortage of General Practitioner, being a GP not much popular. A similar situation like this is reported by Seetharaman et al in India (18). Medical students in Canada don't give attention to being a GP, so it became a problem of the health system (23).

If we keep in mind that elder population is increasing continuously, it will reveal the need of Internal Medicine and Family Medicine. The doctors especially who gets the job in Family Health Center, get a good income and social status don't endeavor for any specialty; whereas residents who works for years with low income and busy night shifts schedule and tough social circumstances; as it was reported above in the thesis, exposed to depression and CFS, and fellows are sent to the every place where they don't want to go; and being exposed to variety of social, psychological and occupational assault; sacrificing ethical values of the medical profession for various political arguments are revealed as major obstacles of residency education.

As a conclusion, according to present study, it is suggested that regarding to Medical Specialty Selection Examination (TUS) choices; in addition to gender differences, “impacts on family and private life and properties of academic career” are also the most affecting factors.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the authorship and/or publication of this article.

Funding

The authors received no financial support for the research and/or authorship of this article

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