

# Knowledge, attitudes and behaviors of medical faculty students about family medicine

✉Eyyup Kala<sup>1</sup>, ✉Raziye Sule Gumustakim<sup>2</sup>, ✉Celal Kus<sup>2</sup>, ✉Adem Doganer<sup>3</sup>

<sup>1</sup>Department of Family Medicine, Tunceli Ovacik District Health Directorate, Tunceli, Turkey

<sup>2</sup>Department of Family Medicine, Faculty of Medicine, Kahramanmaraş Sutcu Imam University, Kahramanmaraş, Turkey

<sup>3</sup>Department of Biostatistics, Faculty of Medicine, Kahramanmaraş Sutcu Imam University, Kahramanmaraş, Turkey

Copyright © 2020 by authors and Annals of Medical Research Publishing Inc.

## Abstract

**Aim:** It was aimed to determine the knowledge levels of medical faculty students about the family medicine discipline, their approach to primary care, their interest in the family medicine career and the factors affecting it.

**Material and Methods:** The universe of our study was 713 people, and the sample size was calculated as 250 people in 5% margin of error and 95% confidence interval. A questionnaire included 62 questions which were about the knowledge, attitudes and behaviors of medical students about family medicine. In the variables with normal distribution, the comparisons of the two groups were carried out with two independent samples t test. In non-normally distributed variables, comparisons of the two groups were examined by Mann-Whitney test. Categorical variables were examined with Chi-Square test. Statistical significance was accepted as  $p < 0.05$ . The data were evaluated in IBM SPSS version 22 program.

**Results:** 50.4% of the participants were male, 49.5% were female and the mean age was  $22.00 \pm 2.46$ . The rate of those who had never been to a family physician in the last year was 41.1%. 28.5% of the participants stated that they mostly applied to the family physician except to the emergencies and the most common reason for going to the family physician (63.8%) was new health problems. The majority of the participants (79.3%) wanted the referral system to be implemented. When the answers of the participants about the duties of family physicians were examined, the three most common known propositions were: "Family physician vaccinates infancy, childhood and adulthood" (90.2%), "In the practice of family medicine, dressing, injection and wound care services are provided" (%87.0), and "Family physician can give health report" (%84.1).

**Conclusions:** The majority of medical faculty students apply to secondary or tertiary health care providers when they experience any health problems. The fact that almost half of the participants stated that they have never been to be a family physician in the last year shows numerically how grave the situation is. First of all, people should be informed to adopt family health centers as the first health institution to be consulted.

**Keywords:** Family medicine; family physician; medical education; primary care

## INTRODUCTION

Medical education is a lifelong education that starts with entry to medical school and continues until retirement (1). The World Health Organization (WHO) and the World Family Physicians Association (WONCA) include the following statements in the summary section of the conference they organized in Ontario-Canada in 1994:

"The family physician should have a central role in achieving quality, social justice, efficiency and low cost in healthcare systems. In order to fulfill this responsibility, the family physician; should be competent in patient care and should deal with individual and social health care as a whole"(2).

Family medicine practice within the framework of Health Transformation Program (SDP) as of December 2010 all have been implemented in Turkey.

"Family physician who is obliged to provide preventive health services and primary care diagnosis, treatment and rehabilitative health services to each person in a specific and continuous manner, regardless of age, gender and disease, providing mobile health services to the extent necessary and working on a full-day basis specialist or who received the trainings envisaged by the Ministry of Health is defined as a physician (3) in Family Practice Law in Turkey's.

Received: 07.05.2020 Accepted: 16.07.2020 Available online: 24.08.2020

Corresponding Author: Raziye Sule Gumustakim, Department of Family Medicine, Faculty of Medicine, Kahramanmaraş Sutcu Imam University, Kahramanmaraş, Turkey E-mail: sulesu82@gmail.com

## Objective

The purpose of our study; to determine the knowledge level of medical faculty students', who will be actively providing healthcare services shortly after completing their medical education, about family medicine discipline, which should have a central role in achieving quality, social justice, effectiveness and low cost in the health service systemsto identify students' approach to primary care, their interest in family medicine career and the factors affecting it, to investigate the opinions of students about the effect of family medicine practice on health presentation.

## MATERIAL and METHODS

### Research design

The research was conducted as one-centered among Kahramanmaraş Sutcu Imam University Medical Faculty 1, 2, 3, 4, 5 and 6th grade students who agreed to participate in the study. It was a cross-sectional and descriptive study with analytical features. Approval was obtained from the Kahramanmaraş Sutcu Imam University Medical Faculty Clinical Research Ethics Committee for the study that there was no ethical and scientific objection in conducting the study with the decision number 05 dated 20.03.2019. The students who participated in the study voluntarily were informed verbally about the study before the study.

### Sampling

The universe of the study was 713 people and consists of 1, 2, 3, 4, 5 and 6th grade students of Kahramanmaraş Sutçu Imam University Medical Faculty in 2018-2019 academic year. The sample size was calculated as 250 people with 5% error margin and 95% confidence interval by random sampling method. Approximately 300 people were filled in the questionnaire. Then a total of 246 questionnaires, randomly equal from each class and 41 people, were evaluated for the study.

### Data Sources of the Research

In data collection, a questionnaire form containing demographic and medical education factors prepared based on the literature was used. The questionnaire included 62 questions, 6 of them were related to the sociodemographic characteristics of the students and 56 of them were measured the knowledge, attitudes and behaviors of the medical students about family medicine. The questionnaire, starting from the 22nd question to the 32nd question, contains 10-point Likert scale, which includes the opinions of the students about the education, primary care and family medicine expertise they received at the medical faculty; "Absolutely agree" 5 points, "agree" 4 points, "no idea" 3 points, "disagree" 2 points and "absolutely disagree" 1 point, and the maximum score to be taken was calculated as 50 and a minimum score of 10. In addition, in the last part of the questionnaire form consisting of 18 proposals that measure the level of knowledge of the participants about the duties of the family physician; The participants were presented with

three choices: "yes", "no", "I have no idea", and 1 (1) answer for "yes" response, 0 (zero) points for "no" and "no idea" responses were evaluated. The total maximum score was calculated as 18, and the minimum score as 0 (zero). 0-6 points were considered as "insufficient knowledge level", 7-12 points as "intermediate level of knowledge" and 13-18 points as "good level of knowledge".

### Statistical analysis

In the evaluation of the data, the suitability of the variables to normal distribution was examined with the Kolmogorov-Smirnov test. In the variables with normal distribution, two group comparisons of two independent samples t tests were performed with more than two group comparisons using one way variance analysis (Anova). In non-normally distributed variables, two group comparisons were examined with the Mann-Whitney U test and three or more group comparisons were examined with the Kruskal-Wallis H test. Distribution relation in categorical variables were examined with Chi-Square test and exact test. Statistical significance was accepted as  $p < 0.05$ . The data were evaluated in IBM SPSS version 22 program.

## RESULTS

### Fungistatic and fungicidal effects of biocides

Of the participants in our study, 50.4% (n: 124) were male and 49.5% (n: 122) were female. The average age of the participants was  $22.00 \pm 2.46$ . The distribution of the students participating in our study according to their socio-demographic characteristics is shown in Table 1.

**Table 1. Distribution of participants according to their sociodemographic characteristics**

| Sociodemographic characteristics |                                   | Number (n) | Percent (%) |
|----------------------------------|-----------------------------------|------------|-------------|
| Gender                           | Man                               | 124        | 50.4        |
|                                  | Woman                             | 122        | 49.5        |
| Marrital status                  | Married                           | 8          | 3.2         |
|                                  | Single                            | 238        | 96.7        |
|                                  | Social Security Institution (SSI) | 131        | 53.2        |
| Social assurance                 | Pension fund                      | 79         | 32.1        |
|                                  | Private insurance                 | 11         | 4.4         |
|                                  | None                              | 25         | 10.1        |
|                                  | Low                               | 19         | 7.7         |
| Monthly income                   | Middle                            | 212        | 86.1        |
|                                  | High                              | 15         | 6.1         |
|                                  | High school                       | 6          | 2.4         |
|                                  | Vocational high School            | 3          | 1.2         |
|                                  | Anatolian High School             | 128        | 52.0        |
| Other                            | Science high school               | 82         | 33.3        |
|                                  | Other                             | 27         | 10.9        |

Considering the most important reasons for students to prefer medical school; in the question marking more than one option, the most preferred reason was "job guarantee" with 61% (n: 161) and "willingness to help society" with 55.3% (n: 136), 43.5% (n: 107) "Financial gain" was followed by 41.5% (n: 102) "Social status", 29.7% (n: 73) "Degree", 29.3% (n: 72) "Family and environmental pressure". The ratio of those who marked the "Other" option was 11.0% (n: 27).

While the majority of the participants (95.5%) plan to specialize after completing the medical school, very few of them, (4.5%) did not. The rate of those who thought to prefer family physician expertise in the Specialization Exam in Medicine (TUS in Turkish) was 34.6% (n: 85), while the rate of those who did not think of choosing was 65.4%

(n: 161). The other opinions of the participants about the education, primary care and specialist preferences they received at the medical school are shown in table 2.

The information source about family medicine practice was questioned, the teachers in the medical faculty were ranked first with 61.0% (n: 150), 28.0% (n: 69) family physicians, 26.4% (n: 65) television, newspaper and internet, 24.8% (n: 61) the immediate environment and at least 6.1% (n: 15) followed other options.

The education that students receive at the medical school, family medicine expertise and primary care thoughts are shown in table 3, and in our study, the mean score of the students was calculated as  $38.56 \pm 4.37$  and it was observed that it focused on above average, that is, "strongly agree" and "agree" options.

**Table 2. Opinions of the participants about the education they received at the medical school, primary care and specialist preferences**

| Student opinions  |         | Number (n) | Percent (%) |
|---|---------|------------|-------------|
| Want to specialize  | Yes     | 235        | 95.5        |
|   | No      | 11         | 4.5         |
| Asking for more information about primary care management | Yes     | 227        | 92.3        |
|   | No      | 19         | 7.7         |
| Specialization of physicians serving in primary care      | Yes     | 186        | 75.6        |
|   | No      | 41         | 16.7        |
|   | No idea | 19         | 7.7         |
| Teaching the primary care approach in medical school      | Yes     | 126        | 51.2        |
|   | No      | 120        | 48.8        |
| To want to work as a family physician                     | Yes     | 89         | 36.2        |
|   | No      | 157        | 63.8        |
| Choosing family medicine expertise                        | Yes     | 85         | 34.6        |
|   | No      | 161        | 65.4        |
| Satisfaction of the physician to work in primary care     | Yes     | 65         | 26.4        |
|   | No      | 181        | 73.6        |
| Encouraging primary care specialization                   | Yes     | 45         | 18.3        |
|   | No      | 201        | 81.7        |
| <b>Why do you want to specialize?</b>                     |         |            |             |
| Professional satisfaction                                 | Yes     | 177        | 72.0        |
|   | No      | 69         | 28.0        |
| To be beneficial to people                                | Yes     | 134        | 54.5        |
|   | No      | 112        | 45.5        |
| Financial gain  | Yes     | 107        | 43.5        |
|   | No      | 139        | 56.5        |
| Degree  | Yes     | 99         | 40.2        |
|   | No      | 147        | 59.8        |
| Social rank   | Yes     | 98         | 39.8        |
|   | No      | 148        | 60.2        |
| Family and environmental pressure                         | Yes     | 20         | 8.1         |
|   | No      | 226        | 91.9        |

**Table 3. The students' thoughts about the education they receive at the medical school, family medicine expertise and primary care**

| Propositions  | Opinion           | Number (n) | Percent (%) |
|---|-------------------|------------|-------------|
| I believe that the level of education I received at the medical school is sufficient to treat the patient in primary care                   | Strongly disagree | 21         | 8.5         |
|   | Don't agree       | 47         | 19.1        |
|   | No idea           | 48         | 19.5        |
|   | Agree             | 105        | 42.7        |
|   | Strongly Agree    | 25         | 10.2        |
| My knowledge and skills resulting from the education I received at the medical school met my initial expectations                           | Strongly disagree | 37         | 15.0        |
|   | Don't agree       | 64         | 26.0        |
|   | No idea           | 62         | 25.2        |
|   | Agree             | 72         | 29.3        |
|   | Strongly Agree    | 11         | 4.5         |
| The patient's first place of application should be primary health care facilities   | Strongly disagree | 2          | 0.8         |
|   | Don't agree       | 7          | 2.8         |
|   | No idea           | 12         | 4.9         |
|   | Agree             | 54         | 22.0        |
|   | Strongly Agree    | 171        | 69.5        |
| There is a need for a specialist area that handles the patient as a whole in all aspects  | Strongly disagree | 8          | 3.3         |
|   | Don't agree       | 14         | 5.7         |
|   | No idea           | 17         | 6.9         |
|   | Agree             | 61         | 24.8        |
|   | Strongly Agree    | 146        | 59.3        |
| It is important to know his family and the environment he lives in for the treatment of the patient   | Strongly disagree | 2          | 0.8         |
|   | Don't agree       | 3          | 1.2         |
|   | No idea           | 12         | 4.9         |
|   | Agree             | 67         | 27.2        |
|   | Strongly Agree    | 162        | 65.9        |
| The primary care, which should be the first entry point of the patient; quality modern and cost effective structure                         | Strongly disagree | 3          | 1.2         |
|   | Don't agree       | 4          | 1.6         |
|   | No idea           | 12         | 4.9         |
|   | Agree             | 41         | 16.7        |
|   | Strongly Agree    | 186        | 75.6        |
| I believe that primary care physicians use material resources such as examination and prescription correctly during diagnosis and treatment | Strongly disagree | 18         | 7.3         |
|   | Don't agree       | 40         | 16.3        |
|   | No idea           | 74         | 30.1        |
|   | Agree             | 76         | 30.9        |
|   | Strongly Agree    | 38         | 15.4        |
| I do not have enough information about family medicine specialist   | Strongly disagree | 17         | 6.9         |
|   | Don't agree       | 52         | 21.1        |
|   | No idea           | 57         | 23.2        |
|   | Agree             | 81         | 32.9        |
|   | Strongly Agree    | 39         | 15.9        |
| Family medicine specialist is not sufficiently recognized in the community  | Strongly disagree | 4          | 1.6         |
|   | Don't agree       | 18         | 7.3         |
|   | No idea           | 33         | 13.4        |
|   | Agree             | 84         | 34.1        |
|   | Strongly Agree    | 107        | 43.5        |
| Family medicine specialization is not a respected specialty in the society  | Strongly disagree | 15         | 6.1         |
|   | Don't agree       | 24         | 9.8         |
|   | No idea           | 55         | 22.4        |
|   | Agree             | 82         | 33.3        |
|   | Strongly Agree    | 70         | 28.5        |

When asked how many times the family physician was visited in the last year, the highest response was "I have never been" with 41.1% (n: 101), and "six-ten times" with a minimum of 0.9% (n: 1). While the rate of those who went "only once" was 24.8% (n: 61), the ratio of those who went "two or five times" was 30.9% (n: 76) and the rate of those who went "more than ten times" was 2.8% (n: 7).

When the satisfaction of the participants from their family physicians was questioned and they were asked to give a score between 1-5, with the lowest "1" score and the highest "5" score, the average score of the participants was found to be  $3.26 \pm 1.20$ . In comparing the number of participants going to the family physician in the last year and their satisfaction with the family physicians; the average score of those who have never gone to a family physician was 3.04, the average score of those who have gone at least once was 3.05, the average score of those who have gone two or five times was 3.60, and that of those who have gone more than ten times was 3.75. As the number of visits to family physicians increased, a statistically significant increase was observed in the average of satisfaction score (p: 0.026).

Considering the purpose of which the participants applied to the family physician; the most common responses respectively was minor health problems 63.8% (n: 157), the medical reports with 43.9% (n: 108) and medication printing with 38.2% (n: 94), preventive services with 25.2% (n: 62), dressing-needles with 18.3% (n: 45).

When there was a health problem other than emergencies, primarily applied healthcare services of participants were respectively; the family health centers were 28.5% (n: 70), university hospitals were 24.0% (n: 59), state hospitals were 20.0% (n: 51), private hospitals were 11.0% (n: 27), training and research hospitals were 10.2% (n: 25) and at least any family physician were 5.7% (n: 14).

"With which causes do you to apply to the family physician before going to the hospital?" when we asked, the students were able to list more than one reason. In the first rank, "The family health center is closer to my home" 46.3% (n: 114), while "I do not want to wait too much in the hospitals" 38.6% (n: 95), "Because I want a physician to follow me all the time" 19.1% (n: 47), "I don't want to pay extra examination contribution" 17.5% (n: 43), "Physicians in the hospital are not as interested in me as my family physician" 15.9% (n: 39) and "Other" 3.7% (n: 7) options followed. In addition, the rate of those who said that I did not apply to the family physician was 26.4% (n: 65).

When the reasons of the participants not going to the family physician were examined, they were able to list more than one reason. The three most common answers were "because I was examined at the medical faculty hospital where I received education" with 53.7% (n: 95), "I want to be examined by a specialist physician" with 28.8% (n: 51) and "Insufficient opportunities for diagnosis and examination" with 27.1% (n: 48); 14.7% (n: 26) of them because they are "remote in terms of location", "Not suitable for my working hours" 11.3% (n: 20), "Because I

don't trust" 9.6% (n: 17), "I don't like my family physician" 8.5% (n: 15) and "Other" 9.6% (n: 17) followed.

The opinions of the students about family medicine were examined according to the classes and are given in table 4. There was a statistically significant relationship with parameters such as having a family medicine internship, knowing the duration of the internship, wanting to have more information about the primary care approach, wanting to work as a family physician and family medicine specialist, and there is a correct proportion between these parameters with the increase of the class (Table 4).

In this section, which consists of 18 questions that measure the level of knowledge of the participants about the duties of the family physician; The participants were presented with three choices as "yes", "no", "I have no idea" and 1 point for the answer "yes", 0 points for the answers "no" and "no idea". When all questions are answered correctly, 18 points will be obtained. In our study, the average knowledge level of the students about the duties of the family physicians was found as  $12.03 \pm 4.42$  and it was determined that they had a medium level of knowledge. The distribution of the responses of the participants to the questions is shown in table 5.

When the responses of the participants regarding the duties of the family physicians were examined, the three suggestions that they know the most were as follows: "The family physician vaccinates infancy, childhood and adulthood" 90.2% (n: 222), "Dressing, injection and wound care services are provided in family medicine practice." 87.0% (n: 214) and "Family physician can give health report". (Driver's License, recruitment, shotguns, sports license, rest reports etc.) 84.1% (n: 207).

Three suggestions, which were the least known, or least scored, about the duties of family physicians by the students were as follows: "The family medicine specialist can issue a drug report for continuous drug use" 43.9% (n: 108), "The family physician provides mobile health services." 49.6% (n: 112) and "Family physician scans for colo-rectal, breast and cervical cancer" 54.1% (n: 133).

Considering the average of knowledge of the classes about the duties of the family physician; it was observed that while the 1st grade is at least with 10 points (7-14), 11 points (8-14) of the 2nd grade, 13 points (9-16) of the 3rd grade, 11 points (8-15) of the 4th grade, 15 points (10-17) of the 5th grade, and the 6th grade had the highest score with 16 points (13-18) and in general, from the 1st grade to the 6th grade, the knowledge levels of the classes about the duties of the family physician increased and the difference between the classes was statistically significant (p: 0.003).

It was observed that those who said that they had knowledge about family medicine practice and that they received the information from the Medical Faculty teachers had higher mean knowledge levels ( $13.11 \pm 3.90$  and  $13.23 \pm 4.10$  points) regarding the duties of the family physician and this was statistically significant (p: 0.001).

**Table 4. The distribution of the thoughts of students about family practice internship, education received in medical school, primary care and family medicine specialization by periods**

| Student opinions  |            | GRADES            |                   |                   |                   |                   |                   | X <sup>2</sup> | p      |
|---|------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|--------|
|   |            | 1. grade<br>n (%) | 2. grade<br>n (%) | 3. grade<br>n (%) | 4. grade<br>n (%) | 5. grade<br>n (%) | 6. grade<br>n (%) |                |        |
| Having a family medicine internship                     | Yes        | 26 (63.4)         | 32 (78.0)         | 38 (92.7)         | 40 (97.6)         | 41 (100.0)        | 41 (100.0)        | 44.815         | 0.001* |
|   | No         | 15 (36.6)         | 9 (22.0)          | 3 (7.3)           | 1 (2.4)           | 0 (0)             | 0 (0)             |                |        |
| Duration of the family medicine internship              | One month  | 1 (2.4)           | 2 (4.9)           | 3 (7.3)           | 12 (29.3)         | 27 (65.9)         | 19 (46.3)         | 161.420        | 0.001* |
|   | Two month  | 1 (2.4)           | 1 (2.4)           | 8 (19.5)          | 18 (43.9)         | 4 (9.8)           | 22 (53.7)         |                |        |
|   | Don't know | 39 (95.1)         | 38 (92.7)         | 30 (73.2)         | 11 (26.8)         | 10 (24.4)         | 0 (0)             |                |        |
| Specialization of physicians serving in primary care    | Yes        | 30 (73.2)         | 26 (63.4)         | 33 (80.5)         | 32 (78.0)         | 32 (78.0)         | 33 (80.5)         | 6.322          | 0.788  |
|   | No         | 7 (17.1)          | 11 (26.8)         | 5 (12.2)          | 5 (12.2)          | 7 (17.1)          | 6 (14.6)          |                |        |
|   | No idea    | 4 (9.8)           | 4 (9.8)           | 3 (7.3)           | 4 (9.8)           | 2 (4.9)           | 2 (4.9)           |                |        |
| Teaching the primary care approach                      | Yes        | 20 (48.8)         | 16 (39.0)         | 23 (56.1)         | 25 (61.0)         | 17 (41.5)         | 25 (61.0)         | 7.614          | 0.179  |
|   | No         | 21 (51.2)         | 25 (61.0)         | 18 (43.9)         | 16 (39.0)         | 24 (58.5)         | 16 (39.0)         |                |        |
| Asking for more information about primary care approach | Yes        | 34 (82.9)         | 36 (87.8)         | 35 (85.4)         | 41 (100.0)        | 40 (97.6)         | 41 (100.0)        | 17.396         | 0.004* |
|   | No         | 7 (17.1)          | 5 (12.2)          | 6 (14.6)          | 0 (0)             | 1 (2.4)           | 0 (0)             |                |        |
| Encouraging primary care specialization                 | Yes        | 8 (19.5)          | 8 (19.5)          | 9 (22.0)          | 7 (17.1)          | 4 (9.8)           | 9 (22.0)          | 2.856          | 0.722  |
|   | No         | 33 (80.5)         | 33 (80.5)         | 32 (78.0)         | 34 (82.9)         | 37 (90.2)         | 32 (78.0)         |                |        |
| To want to work as a family physician                   | Yes        | 11 (26.8)         | 15 (36.6)         | 11 (26.8)         | 17 (41.5)         | 11 (26.8)         | 24 (58.5)         | 14.031         | 0.015* |
|   | No         | 30 (73.2)         | 26 (63.4)         | 30 (73.2)         | 24 (58.5)         | 30 (73.2)         | 17 (41.5)         |                |        |
| Asking to specialize                                    | Yes        | 38 (92.7)         | 41 (100.0)        | 39 (95.1)         | 39 (95.1)         | 39 (95.1)         | 39 (95.1)         | 2.760          | 0.737  |
|   | No         | 3 (7.3)           | 0 (0)             | 2 (4.9)           | 2 (4.9)           | 2 (4.9)           | 2 (4.9)           |                |        |
| Choosing family medicine expertise                      | Yes        | 8 (19.5)          | 12 (29.3)         | 12 (29.3)         | 21 (51.2)         | 10 (24.4)         | 22 (53.7)         | 18.641         | 0.002* |
|   | No         | 33 (80.5)         | 29 (70.7)         | 29 (70.7)         | 20 (48.8)         | 31 (75.6)         | 19 (46.3)         |                |        |

Chi-Square test; exact test; p: 0.05; \* distributional difference between groups is statistically significant

**Table 5. Distribution of the responses of the participants to the questions about the duties of the family physician**

| Student opinions   | Yes<br>n (%) | No<br>n (%) | No Idea<br>n (%) |
|--|--------------|-------------|------------------|
| Infancy and childhood vaccinations   | 222 (90.2)   | 7 (2.8)     | 17 (6.9)         |
| Providing injection, dressing, wound care services                             | 214 (87.0)   | 8 (3.3)     | 24 (9.8)         |
| Making a health report   | 207 (84.1)   | 20 (8.1)    | 19 (7.7)         |
| Making newborn screening-examination   | 183 (74.7)   | 23 (9.4)    | 39 (15.9)        |
| Reproductive health-family planning services                                   | 180 (73.2)   | 22 (8.9)    | 44 (17.9)        |
| Follow up the elderly  | 177 (72.0)   | 23 (9.3)    | 46 (18.7)        |
| Making periodic health examinations  | 173 (70.3)   | 34 (13.8)   | 39 (15.9)        |
| Providing adolescent health care   | 162 (66.4)   | 18 (7.4)    | 64 (26.2)        |
| Providing home health care services to elderly. disabled and bedridden persons | 161 (65.0)   | 36 (14.6)   | 49 (19.9)        |
| Chronic disease monitoring and follow-up                                       | 160 (65.0)   | 37 (15.0)   | 49 (19.9)        |
| Antismoking and cessation  | 160 (65.0)   | 26 (10.6)   | 60 (24.4)        |
| Obesity tracking and nutritional counseling                                    | 157 (63.8)   | 35 (14.2)   | 54 (22.0)        |
| Examination and follow-up of pregnant women                                    | 152 (61.8)   | 52 (21.1)   | 42 (17.1)        |
| Premarital counseling and marriage report                                      | 147 (59.8)   | 29 (11.8)   | 70 (28.5)        |
| Updating records once a year   | 144 (58.5)   | 32 (13.0)   | 70 (28.5)        |
| Cancer screening   | 133 (54.1)   | 57 (23.2)   | 56 (22.8)        |
| Providing mobile healthcare  | 122 (49.6)   | 45 (18.3)   | 79 (32.1)        |
| Family medicine specialist can issue drug report                               | 108 (43.9)   | 61 (24.8)   | 77 (31.3)        |

## DISCUSSION

In our study, when we look at the most important reasons for students to prefer medical school; "job guarantee" (61.0%) was the most preferred reason. In the work of Yener (1), "social status" ranks first with 47.5%, while in the study conducted by Canbaz and his friends, "his own will" was 76.8%, "the guidance of family and relatives" was 50.0%, "the thought of having a job guarantee" was 32.1% (4). When we look in general, we saw that students prefer medical faculty because of their job guarantee, financial gain and social status. Although it is known that medical education is difficult due to the fact that most of the university graduates are unemployed, the medical faculty is preferred in the first place.

In our study, the vast majority of the participants (95.5%) thought to specialize after graduating from the medical school and 34.6% of them became a family medicine specialist. In Yener's study, 97.8% of the students wanted to specialize (1). Likewise, in a study conducted on 717 first-year students from Turkey's four medical schools between 2004-2006, 99.6% of students reported that want to specialize (5). In a study conducted in Japan in 2004, 52.0% of students preferred primary care (6). In a study conducted with the students of 2 Medical Faculty in Spain, students who took family medicine courses in the 2nd and 6th grades were examined and 69.3% of the students wanted family medicine expertise at the end of the 2nd grade, while this rate decreased to 40.3% at the end of the 6th year (7). In a study conducted with 5th and 6th grade students at Oxford University in England, it was determined that 40.0% of students consider family medicine as an attractive career choice, but only 14.0% of them prefer family medicine (8). In the study of Martin Zurro et al., who received the opinions of the 1st and 5th graders from 22 Medical Schools in Spain, it was found that the interest in family medicine increased gradually over the years and this is in accordance with our study (9). In our study, a rise was observed in the rates of interest in family medicine from grade 1 to grade 6.

These results can be considered as an important indicator in terms of the situation of general practitioners and primary care in our country. The army of general practitioners, who undertake most of the health services, are unhappy with being considered as "unsuccessful" physicians, as they do not gain expertise and do what "every physician can do" as much as negative working conditions, occupational dissatisfaction, deficiencies and ambiguities related to primary care. Therefore, after a difficult training phase, they tend to obtain material and moral satisfaction by specializing. All these findings are not suitable for the needs of our country.

In our study, the rate of those who have never applied to a family physician in the past year was 41.1%, making up about half of the participants. The number of physicians per capita annual application significantly (approximately 3-fold) increased in the last 15 years in Turkey even though the change in the share of primary health care in

this application is remarkable. According to the statistics of the Ministry of Health, the frequency of applying to primary care, which was 36.0% in 2002, was 40.0% in 2011, was 33.0% in 2015 and 34.0% in 2018 (10). In the study of Canpolat (11), the rate of those who have never applied to a family physician in the last year was 45.5%, and in the study of Oyan (12), this rate was found to be 42.1% and was compatible with our study. In the study conducted with patients who applied to outpatient clinics at Gazi University, 23.9% of the participants stated that they did not apply to the family physician and this rate is low compared to our study (13).

In our study, it was observed that as the number of visits to family physicians increased, satisfaction with family physicians increased. This situation can be interpreted as the number of visits to the family physician increases, the level of satisfaction increases, and as a result, the number of visits increases gradually as the level of satisfaction and knowledge increases, that is, as the services offered by the family physician are known and satisfied. In a study conducted with patients who applied to outpatient clinics at Gazi University, 54.0% of the participants stated that they were satisfied with the system, while the most stated reasons for satisfaction were; not waiting in line for examination (58.0%), easy access to FHC (45.0%), solving problems (45.0%) and physicians being more relevant (26.0%). The most stated reasons for dissatisfaction were; The physical and technical conditions of FHCs are insufficient (78.0%), family physicians are considered insufficient (47.0%), problems are not solved (28.0%) (13). In a study conducted in Ankara (2005), the satisfaction rate of participants who applied to the outpatient clinics of a medical faculty, was found 73%, and in the same study, 60% of them thought that the problems could be solved without going to the hospital (14). According to the results of two studies conducted 10 years apart in very similar conditions in the same province, there is no improvement in the opinions of the applicants to the university hospital polyclinics about the primary health care system. In studies conducted for ASMs and healthcare providers, it was observed that the satisfaction level from the family medicine system was between 79-87.0% in studies conducted in many different cities between 2009 and 2014 (15-19). According to the Ministry of Health, while general satisfaction from health services was 40.0% in 2003, it is now 70.4% (10). However, since the beginning of family medicine system to be implemented in all of Turkey (2010) is also noteworthy that the increasing percentage of satisfaction (10). According to the results of this study, the satisfaction of the current family medicine system decreases with decreasing age, increasing ASM's distance to home, inadequate family physician and increasing income. This is consistent with our result that satisfaction increases as family medicine in our study increases.

In our study, the participants stated that they mostly went (63.8%) to deal with minor health problems as a reference to the family physician. Again, when looking at the reasons for applying to a family physician before going to the

hospital, the most common response was the closeness of the Family Health Centers (FHC) to home (46.3%). In the UK, ranked first among the reasons for applying to a family physician was child examination (20). In the study of Canpolat (11), the most common reason for choosing a family physician was the closeness in terms of location, and responses were taken in the form of solving minor health problems in FHC and it was found compatible with our study.

"When there is any health problem, the institution applied for the first time other than emergency" when asked, in our study; the most common response was the "Family Physician I Registered" option with 28.5%, followed by "University Hospital" with 24.0%. In the study conducted by Canpolat (11) on health workers in 2017, the proportion of those who went to the family physician or any family physician to whom they were registered was 18.3%, when approximately half of the participants had a health problem, when they applied to the training and research hospital for the first time outside the emergency. In the study conducted by Oyan on the patients who applied to the Istanbul Medical Faculty in 2013, the State Hospital was ranked first with 38.0%, while the University Hospital was followed by 35.0% (12). In a study conducted in patients who applied to FHCs in 2011 in Kayseri province, it was observed that approximately half of the people preferred the primary care in their health problems (17). The conclusion we draw from these; there was a parallelism between the place where the studies were carried out and the institution to be applied for the health problem. However, it would not be correct to generalize this situation across the country.

In our study, when the reasons of the participants not going to the family physician were examined; the most common answer was "I was examined in the medical school hospital where I received education" (53.7%), and in a study with healthcare workers, it was "I did not go because it was not suitable for my working hours" (44.5%) (11). In another study conducted on applicants to a medical faculty hospital, individuals; they reported that they did not prefer family physicians because there was always another physician they went to (12). Considering that our study was carried out on 1, 2, 3, 4, 5 and 6th grade students of medical faculty, it was expected that the medical faculty hospital where they received education was the first place. Also, considering the working hours of family physicians; it may be thought that medical students who spend almost all of their days in hospital or faculty due to their education do not have the appropriate time to go to the family physician.

When we look at the status of the participants to know the duties of family physicians; it was determined that the family physician's duties on performing periodic health examinations, screening for newborns, vaccinating infancy, childhood and adult vaccines, giving reproductive health services, providing health reports, following the conditions and diseases of the old age, dressing, injection

wound care services they gave correct answers ranging from 70.0-90.0% and that they had sufficient knowledge about these issues (21,22).

Among the participants, the family physician evaluates the persons registered to him at least once a year and updates his records, struggles with tobacco and addictive substances, provides healthy nutrition counseling and obesity monitoring and treatment, conducting cancer screenings, giving consultancy and marriage reports before marriage, examination and follow-up of pregnant women. to do, to follow chronic diseases, to provide mobile health services, to provide home health services to disabled, elderly, bedridden people who have problematic follow-up at home the percentage of those who know their duties correctly was less and varies between 49.0-66.0% (21,22).

In our study, when the knowledge level of the classes about the duties of the family physician was examined; it was seen that 1st grade was at least with 10 points (7-14), 2nd grade was 11 points (8-14), 3rd grade was 13 points (9-16), 4th grade was 11 points (8-15), 5th grade was 15 points (10-17) and 6th grade had the highest score with 16 points (13-18). In a study conducted on the 2nd grade students of the medical faculty in Spain; while 34.1% of the students could define the duty of the family physician before the family medicine internship, this rate was 97.7% after seeing the family medicine internship (23). Generally, from the 1st grade to the 6th grade, it was thought that this situation, which increased the level of knowledge about the duties of the family physician, may be related to the theoretical family medicine courses taken by the students in the 2nd and 3rd grades and the 1-month family practice internship they received in the 6th grade.

In our study, it was seen that the participants who stated that they had knowledge about family medicine practice had higher mean knowledge levels ( $13.11 \pm 3.90$  points). In addition, when the students' knowledge about family medicine practice and their level of knowledge about the duties of the family physician were compared; it was seen that those who said "I obtained the information from my teachers at the medical faculty" had higher mean knowledge levels ( $13.23 \pm 4.10$  points) regarding the duties of the family physician. We can attribute the fact that students have more information about the duties of the family physician, especially having a 1-month family medicine internship in the final year. The average of 6th grade students' knowledge level about the duties of the family physician (16 points) supports this situation.

In our study, approximately half of the participants (48.8%) stated that they did not have enough knowledge about family medicine expertise, while 77.6% thought that family medicine expertise was not recognized enough in the society. In addition, 61.8% of the participants were of the opinion that family medicine specialty was not a respected specialty in the society. In studies conducted with medical students in the UK, it was concluded that family medicine is devoid of prestige and difficulties and



is a branch of specialization that is not respected between physicians and the public (24,25). In the research carried out at Oxford University, 63% of the students were found to have a lower status than family specialties, and 49% of them thought that the general culture of the medical faculties had a negative effect on their views on family medicine (8). Although the participants of the Chellappah and Garnham study conducted with medical students in 2014 had a positive attitude towards family medicine in general, they reported that they regarded family medicine as a less prestigious career than hospital specialties (26). Considering the fact that, the family medicine system started at 2010 in Turkey; this result can be attributed to the new practice of family medicine in our country. Also, the low number of family medicine specialists working in our country and FHCs may have contributed to this situation. However, considering that this is also the case in Western countries in general, and the same problems are experienced in many places, we believe that more efforts should be made to give the value that family medicine deserves and to understand its importance.

Health services provided in primary care have an important place in our country as well as all over the world. We saw in our study and in many studies in this field that the vast majority of people refer to upper-level healthcare providers when they have any health problems, rather than first referring to the family physician. This situation significantly increases both the cost and workload of upper-level health institutions and makes all attempts and expenses towards strengthening the primary level meaningless (27,28).

In our study and in many studies, the fact that about half of the participants stated that they did not go to any family doctor. In our study and many studies, the fact that approximately half of the participants stated that they have never applied to a family physician last year shows how terrible the situation was. In both our study and other studies that support our study, almost all of the participants were registered in the family medicine system and considering that they were aware of the majority of the services provided in FHC; we thought that it will be beneficial to use family medicine practice more effectively by making certain arrangements by the government to use the step system in health services.

It will be necessary to interpret this research with some limitations. First, the research results can not be generalized to all of Turkey, just as it was applied only to the relevant medical faculty. It should be borne in mind that the impact of conditions such as the medical faculty received training and the location of the city on the functionality of FHC may vary locally. On the other hand, the fact that students who have never been to the FHC and have not yet completed their family practice internship take part in the research, although their numbers are few, may be considered as a limitation.

The strengths of our study are that it allows us to see the change in the level of knowledge of the students about

family medicine and their views on family medicine, in all classes of the Faculty of Medicine. In addition, such a comprehensive study has not been done before, and studies abroad focused more on the reasons why students prefer their family medicine career. In our study, besides career preferences, their knowledge levels were also questioned.

## CONCLUSION

The success of the Family Medicine Practice being carried out in our country can only be possible by employing well-trained physicians who will carry out the tasks specified in the definition of duty and responsibility competently, taking into consideration the patient's expectations and increasing the awareness of the practice in the individuals. Rational and realistic studies should be conducted in order to train the number of Family Medicine specialists targeted for 2023, and arrangements should be made to encourage the existing Family Medicine specialists to be directed to the primary care.

## Suggestions

The following conclusions and recommendations can be drawn from our research:

- Family medicine internship should be embedded in the medical education curriculum from early on, in order for the students of the Faculty of Medicine to be informed about primary care and family medicine practice and to be able to approach health problems with holistic and comprehensive approach.
- In-service training programs such as seminars and courses should be organized at regular intervals in order to increase the knowledge and skills of physicians working in primary care and update their knowledge. In this way, physicians will be provided more competent. Since health service delivery is a teamwork, personal communication and vocational training programs should be organized for the auxiliary healthcare professionals.
- Regulations should be made by the government to restrict people's applications directly to 2nd and 3rd level health institutions.
- In order to make the health services provided in family health centers more comprehensive, health personnel such as dentists, physiotherapists, dieticians, psychologists, marriage counselors and sociologists should be provided.

*Conflict of interest: The authors declare that they have no competing interest*

*Financial Disclosure: There are no financial supports.*

*Ethical approval: Approval was obtained from the Kahramanmaraş Sutcu Imam University Medical Faculty Clinical Research Ethics Committee for the study that there was no ethical and scientific objection in conducting the study with the decision number 05 dated 20.03.2019.*

## REFERENCES

1. Yener ÖF. Tıp Fakültesi 6. sınıf öğrencilerinin aile hekimliği ile ilgili düşünceleri ve mezuniyet öncesi tıp eğitiminde aile hekimliği stajının yerinin değerlendirilmesi. Medical Specialty thesis, Samsun Ondokuz Mayıs University, Samsun, 2011.
2. Making medical practice and education more relevant to people's needs. WHO- WONCA joint conference. WHO-WONCA. Ontario, Canada, 6-8 Nov 1994.
3. T.C Sağlık Bakanlığı. (2013). Aile Hekimliği Uygulama Yönetmeliği. Ankara: Resmi Gazete (28539 sayılı).
4. Canbaz S, Sünter AT, Aker S, et al. Tıp fakültesi son sınıf öğrencilerinin kaygı düzeyi ve etkileyen faktörler. Genel Tıp Dergisi. 2007;17:15-9.
5. Dikici MF, Yarış F, Topsever P, et al. Factors affecting choice of specialty among first-year medical students of four universities in different regions of Turkey. Croat Med J 2008;49:415-20.
6. Saigal P, Takemura Y, Nishiue T, et al. Factors considered by medical students when formulating their specialty preferences in Japan: findings from a qualitative study. BMC Med Educ 2007;7:31.
7. Ayuso-Raya MC, Escobar-Rabadan F, Lopez-Torres-Hidalgo J, et al. Predictors for choosing the specialty of Family Medicine from undergraduate knowledge and attitudes. Sao Paulo Med J 2016;134:306-14.
8. Barber S, Brettell R, Perera-Salazar R, et al. UK medical students' attitudes towards their future careers and general practice: a cross-sectional survey and qualitative analysis of an Oxford cohort. BMC Med Educ 2018;18:160.
9. Zurro AM, Villa JJ, Hajar AM, et al. Medical student attitudes towards family medicine in Spain: a statewide analysis. BMC Fam Pract 2012;13:47.
10. T.C Sağlık Bakanlığı. Sağlık İstatistikleri Yıllığı 2018.
11. Canpolat ES. Hastanemiz sağlık çalışanlarının aile hekimliğiyle ilgili bilgi, tutum ve davranış özelliklerinin incelenmesi. Medical Specialty thesis, İstanbul, 2017.
12. Oyan NK. Tıp fakültesi hastanesine başvuran hastaların aile hekimliği uygulaması ile ilgili bilgi ve düşünceleri, Tıpta Uzmanlık Tezi, İstanbul, 2013. Access date: 21.08.2019
13. Güven EA, Aycan S. Ankara'da bir üniversite hastanesine başvuranların mevcut aile hekimliği sistemi ve sevk uygulaması hakkında düşünceleri. ESTÜDAM Halk Sağlığı Dergisi 2018;3:25-36.
14. Aydoğan Ü. Aile Hekimliğinde hasta memnuniyeti. uzmanlık tezi. Genelkurmay Başkanlığı Gülhane Askeri Tıp Akademisi Askeri Tıp Fakültesi, Ankara, 2005. Access date:09.06.2020
15. Mete B, Pehlivan E, Tekin Ç ve ark. Malatya il merkezinde aile hekimliği hizmetinden yararlanan yetişkinlerin memnuniyet düzeyleri ve etkileyen faktörler. Med Sci 2015;4:2721-31.
16. Gürfidan C. Aile hekimliğine ilişkin bilgi beklenti ve memnuniyet kırklareli ilmerkezi örneği. yüksek lisans tezi beykent üniversitesi sosyal bilimler enstitüsü işletme yönetimi anabilim dalı, İstanbul, 2014. Access date: 09.06.2020
17. Çetinkaya F, Baykan Z, Naçar M. Yetişkinlerin aile hekimliği uygulaması ile ilgili düşünceleri ve aile hekimlerine başvuru durumu. TAF Prev Med Bull 2013; 12:417-24.
18. Cengiz R, Gezgin MF. Aile Hekimliği uygulaması ve hasta memnuniyeti (edirne il merkezi örneği). beykent üniversitesi sosyal bilimler enstitüsü yüksek lisans tezi, İstanbul, 2014. Access date: 09.06.2020
19. Ağdemir H. Sağlık sektöründe aile hekimliği yeri ve önemi ile hizmetten yararlananların ve hizmet sunanların memnuniyet durumu konusunda bir araştırma. Çağ Üniversitesi Sosyal Bilimleri Enstitüsü Yüksek Lisans Tezi, Mersin, 2012.
20. Green LA, Phillips RL, Fryer GE. The Nature of Primary Medical Care. In: Jones R, Britten N, Culpepper L, Gass D, Grol L, Mant D, Silagy C, eds. Oxford Textbook of Primary Medical Care. 1st ed. New York: Oxford University Press; 2004. p. 3-10.
21. T.C Sağlık Bakanlığı. 5258 Sayılı Aile Hekimliği Uygulaması Hakkında Kanun. 2004. Ankara: Resmi Gazete (25665 sayılı).
22. Resmi gazete tarihi:25.01.2013 resmi gazete sayısı:28539 aile hekimliği uygulama yönetmeliği madde 4-(1). [http://www.tb.org.tr/mevzuat/index.php?option=com\\_content&view=article&id=942:ale-hekml-uygulama-yoenetmel&catid=2:ymelik&Itemid=33](http://www.tb.org.tr/mevzuat/index.php?option=com_content&view=article&id=942:ale-hekml-uygulama-yoenetmel&catid=2:ymelik&Itemid=33) Access date: 20.08.2019
23. Escobar F, Lopez-Torres J. Changes in the knowledge of and attitudes toward Family Medicine after completing a Primary Care course. Fam Med 2010;42:35-40.
24. Reid K, Alberti H. Medical students' perceptions of general practice as a career; a phenomenological study using socialisation theory. Education for Primary Care 2018;29:208-21.
25. Merrett A, Jones D, Sein K, et al. Attitudes of newly qualified doctors towards a career in general practice: a qualitative focus group study. Br J Gen Pract 2017;67:253-9.
26. Chellappah M, Garnham L. Medical students' attitudes towards general practice and factors affecting career choice: a questionnaire study. London J Prim Care 2014;6:117-23.
27. Dagli, GH. Health sector construction in Turkey. Ankara, Turkey: MA Ankara University. 2006.
28. Üstü Y, Uğurlu M. Bir analiz: aile hekimliği ülkemizde etkin kullanılıyor mu?. Ankara Med J 2015;15:244-248.