


House Officers' Choice of Family Medicine Specialty amid the Implementation of the New Universal Health Insurance Law

Journal of Primary Care & Community Health
Volume 12: 1–7
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DOI: 10.1177/21501327211018940
journals.sagepub.com/home/jpc


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Abstract

Background: The new Egyptian Universal Health Insurance Law is introduced through family-oriented primary health care. Increasing the number of recent graduates who specialized in family medicine is considered a national need to overcome family physicians' shortage. **Aim:** To explore the factors affecting the house officers' choice of Family Medicine as a future career amid the implementation of the new Universal Health Insurance Law in Egypt. **Methods:** This is a cross-sectional study conducted on house officers during their training in Cairo university hospitals from the first of March 2020 to February 2021. The researchers offered an anonymous self-administered questionnaire to all house officers at the beginning of their 2-week family medicine training (1170 house officers). **Results:** A total of 1052 completed the questionnaire (response rate 90%). Family medicine as a specialty was considered by 53.6% (n=564) of participants, while only 23.4% (n=246) of participants had an obvious intention to choose family medicine. Multivariate (adjusted) logistic regression model revealed that factors significantly associated with intention to choose family medicine were marital status, knowledge about governmental advantages for family medicine offered to the specialized recent graduates, and previously encountered with family practice as customers. **Conclusions:** The choice of family medicine specialty is increasing among house officers. This could be attributed to the growing interest in family medicine in Egypt, especially after implementing the new insurance law's first phase in several Egyptian governorates.

Keywords

family medicine, house officers, Egypt, future career

Dates received 4 March 2021; revised 1 May 2021; accepted 2 May 2021.

Introduction

Family medicine (FM) is a cornerstone for maintaining the health status of individuals and improving their quality of life.¹ Having well-qualified family physicians became widely acknowledged in health care systems to ensure health equity and guarantee to provide cost-effective health service in a comprehensive and patient-centered care manner.² In Egypt, Family medicine is considered a new specialty and is not well known to all Egyptians. Family medicine as an academic specialty was first established in The Faculty of Medicine, Suez Canal University (FOM, SCU). This was followed by the establishment of the family medicine department at Menoufia and Cairo universities.³

There is a growing interest in FM in Egypt. The new Universal Health Insurance Law is introduced through family-oriented primary health care, including family medicine units and centers.⁴ The Egyptian Family Medicine

Program aims to provide comprehensive and continuous health care to all the population. This is done by developing more than 2500 family medicine units and centers and offering technical and administrative training to family physicians.^{5,6} Incentives were offered to them based on regular performance indicators, especially for those working in rural areas.⁷

The career choices of junior doctors are of great concern to ensure the right balance of physicians and covering the needs of the populations.⁸ Choosing a future career in

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family medicine is a multifactorial and complex process. Several factors influence junior doctors and house officers' decision in choosing family medicine as their future career, including the absence of social recognition and role models, pioneering personality, income, familiarity with the family medicine concept, short residency program, and lack of training systems. Those factors can have positive or negative influences on career choice.^{9,10}

The shortage of Family physicians is considered a global problem in developed and developing countries.¹¹ In Egypt, it is also considered a significant problem for the health sector, as it represents an obstacle in implementing the new Universal Health Insurance Law. Therefore, it was crucial to determine the factors that affect the choice of family medicine as a future career in an attempt to bridge the gap and find a solution for the shortage of family physicians in Egypt.

This study aims to explore the factors affecting the house officers' choice of Family Medicine as a future career amid the implementation of Universal Health Insurance Law on their choice. The research hypothesis was that the increased governmental interest in family medicine would affect the house officers' choice of family medicine as a future career.

Methods

This was a cross-sectional study conducted on house officers during their training in Cairo university hospitals from the first of March 2020 to February 2021

Study Tool

All house officers trained in the family medicine department from the first of March 2020 to February 2021 were approached. An anonymous self-administered questionnaire was offered to all of them at the beginning of their 2-week family medicine training (1170 house officers). A total of 1052 completed the questionnaire with a response rate of 90%. The questionnaire was adapted from a study conducted by AlKot et al.¹² It consisted of 4 parts:

- The first part included sociodemographic data (age, sex, residence, marital status, and history of traveling abroad).
- The second part assessed the factors that affect their future career choice, including income, needed skills, career reputation, and intellectual challenge. Also, it evaluated whether they plan to choose FM as their future career. This included 2 questions; 1 inquired about if they ever considered choosing FM as their future career, and the other assessed their true intention in choosing FM.
- The third part assessed their knowledge and attitude toward FM speciality, including the importance of implementation of FM to the health care system in

Egypt and the advantages offered by the government to family physicians. They were asked to evaluate their knowledge regarding family medicine speciality, whether it was low, average, or high.

- The fourth part inquired about their experience in visiting a family health center as a patient or having a family physician in his family and whether they plan to practice FM abroad.

Ethical Approval

Approval was obtained from the scientific council of the Family Medicine department. Ethical approval was obtained from the research ethics committee of the faculty of medicine. Participation in the study was voluntary, and written consent was obtained from all participants. The study followed the principles of the Declaration of Helsinki.

Statistical Analysis

This study was statistically analyzed using Stata statistical software version 16. The variables were presented in number and percent. Bivariate associations between the outcome variable (intention to specialize in Family medicine) and independent variables were done using the Chi-square test. Univariate and multivariate logistic regression (after controlling for marital status, having a family physician relative, knowledge of FM, Knowledge of governmental advantages for family physicians, and previously visiting a PHC or family physician) was done for identification outcome predictors.

Results

A total of 1052 completed the survey, and their responses were analyzed (response rate 90%). As shown in Table 1, the age ranged between 23 to 37 years, and the mean (\pm SD) was 25 (\pm 1) years. Females were slightly greater in proportion compared to males (53%, $n=561$). Most of the responders were living in greater Cairo (85.8%, $n=903$), single (91%, $n=958$), and graduated from Cairo University (91.9%, $n=967$). More than half of the participants had an experience of traveling abroad (57.2%, $n=602$), participated in regular volunteering activities (62.4%, $n=656$), or had a relative who is a family doctor (24.8%, $n=261$).

Regarding the factors that might influence the choice of medical speciality, the intellectual challenge of the speciality was important for 71.6% ($n=753$) of responders, followed by the "type of patients dealt with" in 66.8% ($n=703$). The greater proportion of responders (59.5%, $n=626$) reported wages as a factor, while 61.6% ($n=648$) consider the speciality based on prestige and reputation. Career lifestyle, progression, and learned skills were factors in 65.1% ($n=685$), 50.5% ($n=531$), and 45% ($n=474$); respectively.

Table 1. Socio-Demographic Characteristics of Study Participants (n = 1052).

| | Total n (%) | Intension to specialize in Family medicine | | P value* |
|---|-------------|--|-------------|----------|
| | | No | Yes | |
| | | n (%) | n (%) | |
| Gender | | | | |
| Female | 561 (53.33) | 420 (74.87) | 141 (25.13) | .152 |
| Male | 491 (46.67) | 386 (78.62) | 105 (21.38) | |
| Residence | | | | |
| Greater Cairo | 903 (85.84) | 689 (76.30) | 214 (23.70) | .838 |
| City outside Cairo | 102 (9.70) | 80 (78.43) | 22 (21.57) | |
| Village outside Cairo | 47 (4.47) | 37 (78.72) | 10 (21.28) | |
| Marital status | | | | |
| Single | 958 (91.06) | 742 (77.45) | 216 (22.55) | .041 |
| Married | 94 (8.94) | 64 (68.09) | 30 (31.91) | |
| Training university | | | | |
| Cairo university | 967 (91.92) | 745 (77.04) | 222 (22.96) | .270 |
| 6 October university | 85 (8.08) | 61 (71.76) | 24 (28.24) | |
| Previous traveling abroad | | | | |
| No | 602 (57.22) | 457 (75.91) | 145 (24.09) | .534 |
| Yes | 450 (42.78) | 349 (77.56) | 101 (22.44) | |
| Participation in regular volunteer work | | | | |
| No | 656 (62.36) | 515 (78.51) | 141 (21.49) | .062 |
| Yes | 396 (37.64) | 291 (73.48) | 105 (26.52) | |
| Having a family physician relative | | | | |
| No | 791 (75.19) | 619 (78.26) | 172 (21.74) | .029 |
| Yes | 261 (24.81) | 187 (71.65) | 74 (28.35) | |

*P value of Chi square test and is considered significant if $<.05$.

Finally, 56.9% (n=598) would choose the speciality that is perceived as “important” (Table 2).

Figure 1 shows that family medicine as a speciality was considered by 53.6% (n=564) of participants, but only 23.4% (n=246) of participants say they have an obvious intention to choose family medicine. Figure 2 shows the perceived knowledge of family medicine specialty, where 27% of participants perceived themselves as having a high knowledge of family medicine.

The bivariate association between demographic, career choice, knowledge of family medicine, planning to practice abroad, and being a customer to family medicine variables and the outcome variable of considering family medicine as a speciality are shown in Tables 1 and 2. The chi-square test shows a significant association between aspiring family medicine and marital status, having a family doctor relative, knowledge about FM, and the governmental advantages for FM specialized recent graduates.

Factors that were significantly associated with intention to choose family medicine in the test of association were entered into univariate and multivariate (adjusted) logistic regression models to explore significant predictors for FM speciality choice. Table 3 shows that: of these factors, the

odds (OR, 95%CI) for choosing FM were less in non-married house-officers (0.62, 0.38-0.98) compared to married. Participants with knowledge about governmental advantages for FM specialized recent graduates, and past utilization of family health center as customers had *higher* odds of (OR 1.52, CI 1.11-2.10) and (OR 1.42 CI: 1.06-1.92); respectively, to choose family medicine.

Discussion

This is a cross-sectional study conducted in Cairo university hospitals from the first of March 2020 till February 2021 to explore the factors affecting the house officers' choice of Family Medicine as a future career amid the implementation of the new Universal Health Insurance Law. In the faculty of medicine, Cairo University, family medicine was introduced in the undergraduate curriculum in the academic year 2018/2019. Unfortunately, house officers who graduated in 2019 were not exposed to family medicine during their undergraduate studies. They recognized the importance of implementing family medicine while studying public health in their fourth year in medical school. But this was not enough to understand and

Table 2. Factors Influence Career Choice and Perception of Family Medicine (FM) (n = 1052).

| | Total (%) | Intension to specialize in Family medicine | | P value* |
|--|-------------|--|-------------|----------|
| | | No | Yes | |
| | | n (%) | n (%) | |
| Factors influence career choice | | | | |
| Income | | | | |
| No | 426 (40.49) | 324 (76.06) | 102 (23.94) | .724 |
| Yes | 626 (59.51) | 482 (77.00) | 144 (23.00) | |
| Prestige and career reputation | | | | |
| No | 648 (61.60) | 485 (74.85) | 163 (25.15) | .086 |
| Yes | 404 (38.40) | 321 (79.46) | 83 (20.54) | |
| Career progression | | | | |
| No | 521 (49.52) | 399 (76.58) | 122 (23.42) | .980 |
| Yes | 531 (50.48) | 407 (76.65) | 124 (23.35) | |
| Intellectual challenge | | | | |
| No | 753 (71.58) | 577 (76.63) | 176 (23.37) | .989 |
| Yes | 299 (28.42) | 229 (76.59) | 70 (23.41) | |
| Lifestyle | | | | |
| No | 367 (34.89) | 290 (79.02) | 77 (20.98) | .178 |
| Yes | 685 (65.11) | 516 (75.33) | 169 (24.67) | |
| Needed skills | | | | |
| No | 578 (54.94) | 437 (75.61) | 141 (24.39) | .393 |
| Yes | 474 (45.06) | 369 (77.85) | 105 (22.15) | |
| Type of the patients dealing with | | | | |
| No | 703 (66.83) | 542 (77.10) | 161 (22.90) | .600 |
| Yes | 349 (33.17) | 264 (75.64) | 85 (24.36) | |
| Importance of the speciality | | | | |
| No | 454 (43.16) | 343 (75.55) | 111 (24.45) | .477 |
| Yes | 598 (56.84) | 463 (77.42) | 135 (22.58) | |
| Knowledge and perception of FM speciality | | | | |
| FM importance in foreign countries | | | | |
| No | 163 (15.49) | 131 (80.37) | 32 (19.63) | .218 |
| Yes | 889 (84.51) | 675 (75.93) | 214 (24.07) | |
| Beneficence of FM to healthcare system in Egypt | | | | |
| No | 75 (7.13) | 63 (84.00) | 12 (16.00) | .117 |
| Yes | 977 (92.87) | 743 (76.05) | 234 (23.95) | |
| Governmental advantages for FM specialized fresh graduates | | | | |
| No | 776 (73.76) | 615 (79.25) | 161 (20.75) | .001 |
| Yes | 276 (26.24) | 191 (69.20) | 85 (30.80) | |
| Knowledge about FM | | | | |
| No | 148 (14.07) | 123 (83.11) | 25 (16.89) | .044 |
| Yes | 904 (85.93) | 683 (75.55) | 221 (24.45) | |
| FM knowledge scale | | | | |
| Low | 226 (21.48) | 183 (80.97) | 43 (19.03) | .215 |
| Average | 537 (51.05) | 406 (75.61) | 131 (24.39) | |
| High | 289 (27.47) | 217 (75.09) | 72 (24.91) | |
| Visited family physician or PHC as a consumer | | | | |
| No | 665 (63.21) | 531 (79.85) | 134 (20.15) | .001 |
| Yes | 387 (36.79) | 275 (71.06) | 112 (28.94) | |
| Planning to practice FM abroad | | | | |
| No | 322 (30.61) | 248 (77.02) | 74 (22.98) | .838 |
| Yes | 730 (69.39) | 558 (76.44) | 172 (23.56) | |

*P value of Chi square test and is considered significant if <.05.

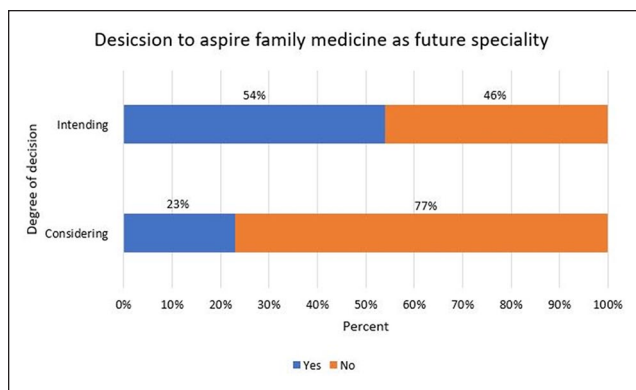


Figure 1. Percentage of participants intending and considering family medicine as a speciality.

differentiate Family Physicians' roles in providing a preventive and curative service.

The new Universal Health Insurance Law is introduced through primary health care, resulting in a growing interest in FM in Egypt. The universal health insurance system aims to cover all the Egyptian governorates by the year 2032. It was crucial to strengthen the Egyptian health system focusing on core components including financing, health workforce, and service delivery in primary health care.⁴

Therefore, it was crucial to assess the factors that affect house officers' choice of family medicine as their future career and detect whether the growing governmental interest in family medicine has influenced their choice. The current study found that 23.4% of the house officers reported having an intention to choose FM as their future career, and more than half of them considered FM as their future career choice. This is regarded as a promising result compared to another Egyptian study conducted in 2015 by AIKot et al,¹² where only 4.7% of the house officers intended to pursue a career in Family medicine. This is because of the growing interest in FM in Egypt after implementing the first phase of the new insurance law in several Egyptian governorates, which positively impacted the attitude of house officers toward the family medicine speciality. This was also clear in our study, as 92.9% of the house officers have perceived family medicine as an essential speciality to Egypt's health system, even though they were not introduced to family medicine in their undergraduate studies.

In our study, factors that influence medical specialty choice included the intellectual challenge of the specialty, type of patients, income, prestige, and reputation. While in a study conducted in Egypt in 2015, the nature of the speciality and its perceived importance was the most critical factors. This was different from a study conducted in Pakistan in 2021, where the most reported factors for choosing any specialty were interest in the subject, peer pressure, high income, and flexible working hours.¹³ There was no statistical difference regarding the factors that influence a

career choice between house officers who intend to choose family medicine as their future career and those with no intention. This differs from a study conducted by Gill et al,¹⁴ where students who prefer family medicine as a future career were influenced by prestige and income, and research. The difference may be attributed to the difference in the study sample being medical students.

A study conducted in Sinclair et al¹⁵ concluded that the reasons stated for choosing to practice family medicine were the continuity of care, doctor-patient solid relationship, dealing with all age groups, and the diversity of the encountered medical conditions. This was not the case in our study, where marital status, knowledge about governmental advantages for FM offered to the specialized fresh graduates, and previously encountered with family practice as customers were considered predictors for choosing family medicine as a future career. Other studies concluded that exposure to FM role models in undergraduate studies, the scope of practice, and lifestyle are the most critical factors for choosing a career in family medicine.^{16,17} This is also different from a study conducted in Egypt in 2015 by Elkhawaga et al,¹⁸ where rural residence and low grades in public health were independent predictors of choosing FM as a career. The difference is related to the fact that the house officers enrolled in our study didn't study family medicine in their undergraduate years and are not acquainted with the different components of family practice.

The current study has shown that married house officers were more likely to select family medicine as a career choice. This may be since they had more obligations and need more time to care for their own families. In contrast to what was commonly believed, there was no statistical difference between male and female house officers regarding their intention to choose family medicine as a future career. This is in concordance with a study done in Morocco in 2020.¹⁹ Another study conducted in 2004 by Ward et al²⁰ concluded that male participants were less likely to become family physicians.

There is no doubt that a robust primary health care system is the cornerstone for the implementation of the health insurance system. Developing the family health centers' infrastructure and improving the delivered services were crucial to accomplish the comprehensive health insurance system and effectively improve health outcomes. This was reflected in our study, where house officers with past utilization of family medicine as consumers were more likely to have FM as the intended career choice. This is similar to a study conducted by AIKot et al¹² and reflects the good medical experience encountered as a patient in primary health care.

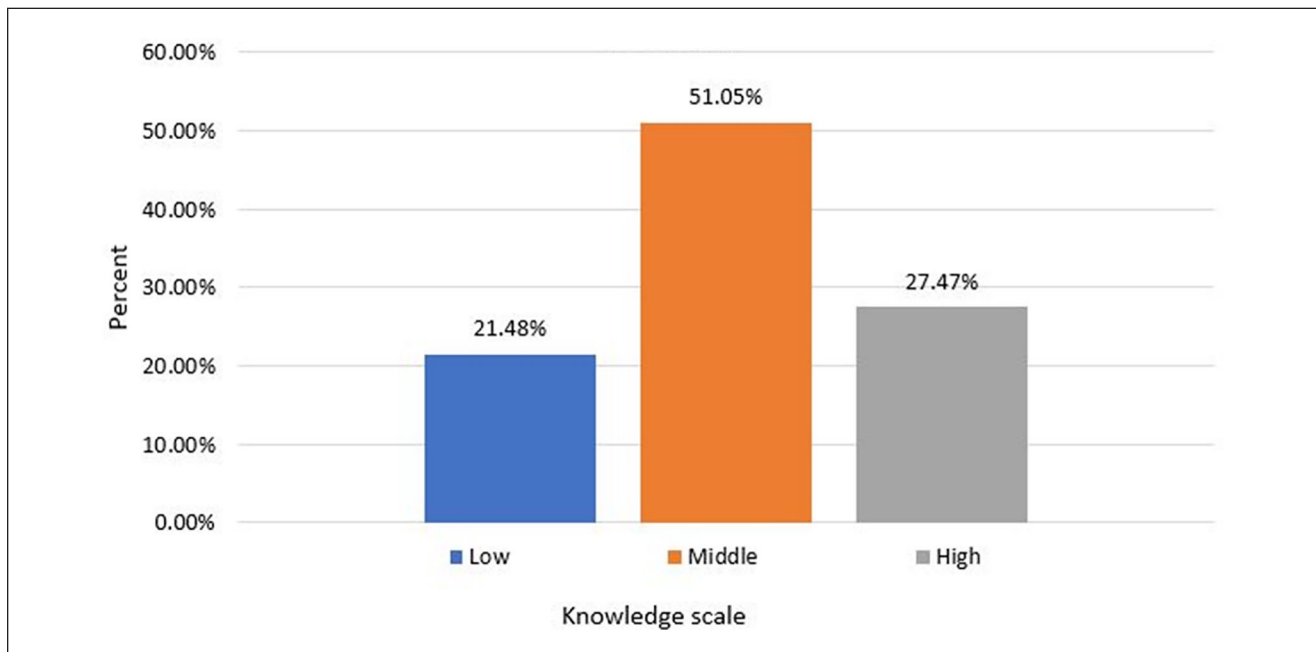
The human component was given the utmost importance during the implementation of the universal health insurance system. The Egyptian government had provided financial and academic incentives to encourage junior physicians to

Table 3. Logistic Regression Analysis.

| | Unadjusted regression | | Adjusted regression | |
|--|--------------------------|----------|---------------------|---------|
| | OR (95% CI) [^] | P value* | OR (95% CI) | P value |
| Marital status | | | | |
| Single | 0.62 (0.39-0.98) | .042 | 0.61 (0.38-0.98) | .041 |
| Having a family physician relative | | | | |
| Yes | 1.42 (1.04-1.96) | .029 | 1.31 (0.95-1.82) | .101 |
| Governmental advantages for FM specialized fresh graduates | | | | |
| Yes | 1.70 (1.25-2.31) | .001 | 1.52 (1.11-2.10) | .010 |
| Knowledge about FM | | | | |
| Yes | 1.59 (1.01-2.51) | .046 | 1.37 (0.86-2.18) | .181 |
| Visited family physician or PHC as a consumer | | | | |
| Yes | 1.61 (1.21-2.16) | .001 | 1.42 (1.06-1.92) | .020 |

[^]OR odds ratio, 95% CI, 95% confidence interval.

*P value is considered significant if <.05.

**Figure 2.** House officers' perceived knowledge of family medicine speciality.

pursue a career in family medicine. This was obvious in our study, where knowledge about governmental advantages for family physicians was one of the predictors for choosing family medicine as a future career. In addition to all these incentives, it is of utmost importance to expose undergraduate students in all Egyptian medical schools to Family Medicine early besides providing obligatory family medicine clinical training to house officers.

Conclusion

The growing interest in FM in Egypt had a positive impact on house officers' attitude toward the family medicine specialty, especially after implementing the first phase of the new insurance law in several Egyptian governorates. Governmental advantages offered to family physicians positively impact the house officers' intention in choosing

family medicine as a future career. Also, the comprehensive care provided in family practice in Egypt and the development of the health care units had made the past utilization of family health centers as customers an essential factor for choosing family medicine as a future specialty.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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