

## EFFECT OF FAMILY MEDICINE TRAINING PROGRAM ON HOUSE OFFICER'S PERCEPTION OF FAMILY MEDICINE SPECIALTY IN EGYPT

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### ABSTRACT

The Egypt's commitment to universal health coverage has emphasized the growing need for well-trained family physicians. Nonetheless, Family Medicine remains underrated as a career choice for medical students. Therefore, efforts to enhance the perception of the Family Medicine specialty among medical students are a necessity. This study aims to investigate the impact of a training program on house officers' perceptions of Family Medicine as a specialty and a future career choice. We hypothesized that at the end of the training, participants would have increased knowledge of the Family Medicine specialty.

This was a pre/post-test quasi-experimental study conducted in the Family Medicine department, Faculty of Medicine, Cairo University. House officers enrolled in the Family Medicine Training Program from March 2020 to February 2021 were invited to complete anonymous self-report pre/post-questionnaires.

A total of 1,170 house officers completed the pre-questionnaire, while 689 completed the post-questionnaire (response rate 58.9%). There was a statistically significant increase between pre/post-questionnaires in the percentage of house officers who reported an increase in their knowledge about Family Medicine (from 86% to 95%,  $P=0.000$ ), and in those who reported their intent to choose Family Medicine as a future career (from 23% to 31%,  $P=0.001$ ). In conclusion, medical schools in Egypt should provide more Family Medicine training programs that aim to debunk myths and improve knowledge about the specialty.

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### 1. Introduction

It Family Medicine is the core of any successful healthcare system. Family physicians are gatekeepers to most medical services, they provide comprehensive, holistic care to their patients and help bridge the gap between primary and secondary care. (1) Moreover, Egypt's commitment to universal health coverage has emphasized the growing need for a well-trained force of family physicians. On the other hand, Family Medicine remains underrated as a career choice for medical students. (2) This discrepancy between increased need and deficient supply of family physicians has highlighted the importance of investing in efforts that aim to enhance the image of Family Medicine among medical students and their knowledge about that specialty. (3&4)

Unfortunately, Family medicine training programs face different challenges. (5) As regards recipients, the scope of family medicine is not well defined. In many countries, medical graduates reported having limited exposure to family medicine. Clinical experience is critical in understanding the positive aspects of family medicine. (6) On the other hand, the lack of a definite undergraduate curriculum and the limitation of human resources about student numbers and short training periods, imposed difficulties on training programs. (7) To practice as a family physician to face the obstacles of prevention and integrated comprehensive health care. So, educational training programs have to be promoted to cope with the urgent osmosis among different health physicians. (8)

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Until recently, the Faculty of Medicine - Cairo University medical students were not obliged to undertake Family Medicine training. They were usually introduced to the general concept of the Family Medicine specialty in their fourth-year Community Medicine curriculum. However, this brief theoretical introduction may not have adequately improved their understanding of the role and importance of family physicians in the healthcare system. (9) Therefore, it was integral to develop an intensive Family Medicine training program that blends both clinical and theoretical teaching to enhance medical graduates' understanding of the specialty.

A two-week compulsory Family Medicine Training Program has recently been incorporated into the one-year House Officer training program. This program aims to enhance house officers' understanding of the Family Medicine specialty, application of clinical reasoning skills, and development of evidence-based management plans for the most common cases presenting in primary healthcare centers in Egypt. Additionally, the COVID-19 pandemic has urged the need for the use of online and blended teaching platforms as a safer alternative to more traditional platforms. Hence, this program was delivered via different online platforms, including webinars, online discussions of challenging cases, and virtual training sessions. (10)

This study aims to investigate the impact of a training program on house officers' perceptions of Family Medicine as a specialty and a future career choice. We hypothesized that at the end of the training, participants would have increased knowledge of the Family Medicine specialty.

## 2. Material and methods

This was a pre/post-test quasi-experimental study conducted in the Family Medicine department, Faculty of Medicine, Cairo University. All house officers enrolled in the Family Medicine Training Program from March 2020 to February 2021 were invited to complete anonymous self-report pre/post-training questionnaires. Out of a total of 1,170 house officers, 689 completed both the pre-and post-training questionnaires with a response rate of 58.9%.

The used questionnaire was a modified version of the questionnaire previously developed by Alkot and colleagues who developed a nationwide survey about the medical student's attitude towards the Family Medicine specialty in Egypt. (11) It included questions on the respondents' sociodemographic characteristics, their intention to choose Family Medicine as a future career, their perception of the importance of Family Medicine to the Egyptian health care system, the governmental advantages offered to Egyptian family practitioners and the extent to which the training program may help them with other specialties of interest. The questionnaire included both binary (i.e. yes/no) and 5-point Likert scale questions. Participants were asked to fill out the questionnaire just after entering the family medicine department and after ending the training program. The study protocol was reviewed and approved by the scientific council at the Family Medicine department and the research ethics committee at the Faculty of Medicine - Cairo University (IRB: N-28 2021).

### Statistical analysis

All completed questionnaires were assessed for completeness and consistency. Pre-coded data were digitalized using the Microsoft Office Excel Program for Windows, 2010. Data were then double-checked and transferred to the Statistical Package of Social Science, Version 21 (SPSS-V 21).

The variables of interest were reported in absolute numbers and percentages. The difference in perception and knowledge of family medicine using different variables before and after family medicine training was examined using the Chi-Square test. The p-value is considered significant if  $<0.05$ .

## 3. Results

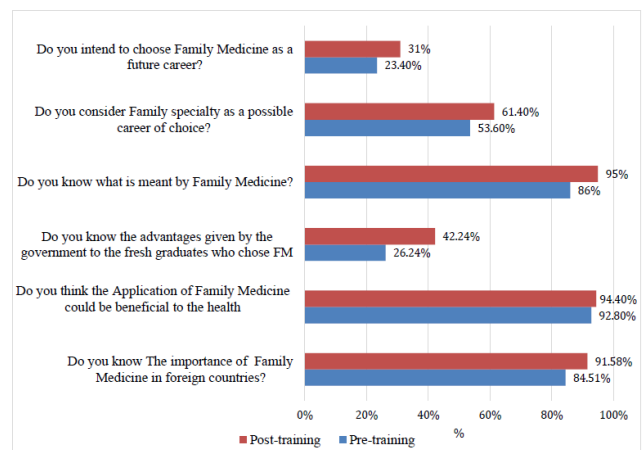
A total of 689 house officers completed the questionnaire after completion of the family medicine training program. 52% (n=358) of them were female, 86% (n=592) were living in Greater Cairo & 93% (n=643) of them were single. Figure 1 illustrates the knowledge items after completion of the training program, and it was surprising that 94% (n=651) of the house officers think that the application of Family Medicine could be beneficial to their health. Figure 2 displays the overall knowledge scale of the house officers after the training, and it shows that 41% (n=280) of the house officers responded by a Likert scale of 4 on a scale of 5.

Figure 1 also shows the comparison of house officers' knowledge and perception before and after the training program. Knowledge items improved following the training program in comparison to pre-training. For example, before the training, only 26% (n= 276) of the house officers had an idea about the advantages given by the government to the fresh graduates who chose family medicine, this was found to be 42% (n=291) after the training (P<0.001).

Moreover, 23% (n=246) of house officers intended to choose Family Medicine as a future career before the training and this percentage rose to 31% (n=213) after the training (P<0.001). Also, there was a significant increase in the percentage of their knowledge about family medicine from 86% to 95% after the training (P= 0.000).

Figure 3 displays the house officers' overall knowledge about Family Medicine by a Likert scale as a comparison between pre-training and post-training and it shows a significant increase after the training (p-value for knowledge scale difference <0.001)

Figure 4 illustrates how much the house officers were helped in other specialties by their rotation at the family medicine department and it shows that 40% (n=25) of the house officers responded by Likert scale 4 on a scale of 5.



**Figure 1. Comparison of house officer's knowledge between pre and post training.**

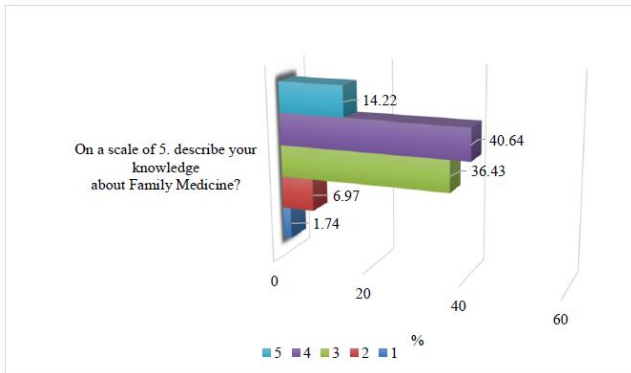


Figure 2. Visual summary of the responses to knowledge Likert scale.

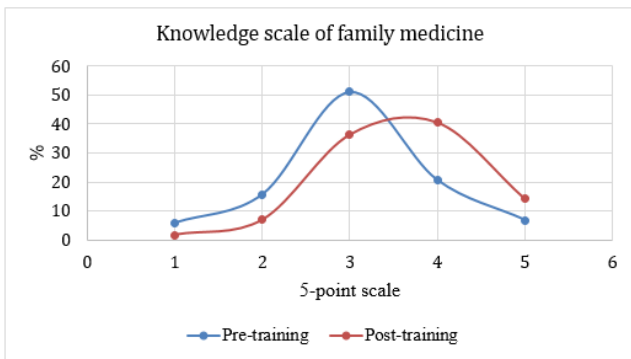


Figure 3. Comparison of knowledge Likert scale between pre and post training.

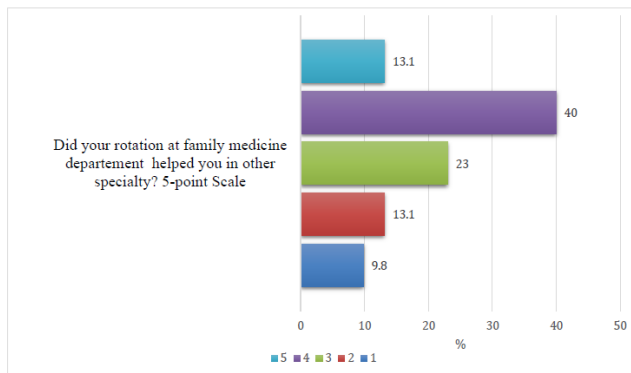


Figure 4. Visual summary of responses about importance of family medicine rotation in other specialties.

#### 4. Discussion

Our Worldwide, family medicine has grown as a main specialty of medical science in Egypt, and among house officers; the choice of family medicine specialty is also growing. (12&9) The specialty of Family medicine was first introduced in Egypt in the early 80s with the urgent need for a well-trained physician who could prevent service fragmentation and incoordination.

By 1995, the Supreme Council of Universities recommended that each university should have a training program for Family Medicine. Currently, there is a structured family medicine curriculum in 6 universities in Egypt. (13) The Family Medicine Department at Cairo University has been providing a postgraduate training program since 2000. while the undergraduate training program started to be applied and introduced in the academic year 2018/2019.

Family medicine specialty is experiencing a desperate shortage of physicians in developing as well as developed countries. The choice of medical specialty in postgraduate students is influenced by factors such as previous experiences, specialty enthusiasm, and consideration of working conditions. (14) It is important to provide adequate training that can change the attitudes towards family medicine specialty leading to more recruitment of postgraduate students. (15)

In the current study, the percentage of house officers who said they intend to choose family medicine as a future career significantly increased after completing the family medicine rotation from 23.4% to 31% with p p-value 0.001. This was compatible with the study carried out by Rabadán & Hidalgo (16); who studied changes in the Knowledge and attitudes towards family medicine after completing a primary care course among medical students as 38.6% of students said they would like to become a family physician in the future; this changed to 70.4% after completing the course (P value 0.001).

On the other hand, our results were the opposite of a study carried out in Saudi Arabia by Alyousefi in 2017 (3) who concluded that medical students' decision to pursue a career in family medicine was not influenced by their experience of the clinical rotation and the knowledge gained about family medicine does not affect medical students' career decisions, this may be explained by the already well-established attitude of the medical students towards family medicine specialty in Saudi Arabia.

About 53.6% of house officers in this study considered family medicine specialty as a possible career of choice, this percentage significantly increased to 61.4% after their rotation at the family medicine department. This was against Rabadán & Hidalgo (16), who found in their study that only 11.4% considered primary care to be their first career choice, both before and after the primary care course, this may be due to the need for more than a single course to increase students' interest in a primary care career.

There is a significant increase in the knowledge about what is meant by family medicine pre and post-family medicine rotation among house officers from 86% to 95%, this is consistent with the study carried out by Thai and his colleagues in 2020 (17); who found that a 2- week family medicine rotation for fifth-year medical students is effective in improving their knowledge, attitude, and skills. This was also in line with Elkhawaga and his colleagues (18), who concluded that a 1-day orientation training for house officers at Mansoura University in Egypt increased the number of House officers who would pursue Family Medicine as a career from 15.8% pre-orientation to 50.4 % post-orientation. This shift occurred as a result of a lack of knowledge about this profession highlighting that improper knowledge affects family medicine as a career choice.

Lee and his colleagues in 2019 (19) presented that satisfaction after family medicine training was high as in the present study.

Also, higher family medicine career satisfaction was a result of family medicine training programs. In hand with the current study, Scott and his colleagues (6) concluded that medical schools should provide early and precise family medicine training.

The provided training may increase the chance that students will think about the specialty of family medicine.

Family medicine training programs should be introduced in the training years of the medical students as early as possible because early exposure to the specialty and its working circumstances may positively affect its choice of being a future specialty of medical students thus solving the problem of shortage of family physicians in developing countries as Egypt.

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