ATATURK UNIVERSITY PUBLICATIONS

Journal of Medical Education and Family Medicine

Volume 01 • Issue 01 • April 2024

EISSN 3023-7793
https://dergipark.org.tr/tr/pub/jmefm

Journal of Medical Education and Family Medicine

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Journal of Medical Education and Family Medicine

ABOUT

Journal of Medical Education and Family Medicine is a peer reviewed, open access, online-only journal published by the published by Atatürk University.

Journal of Medical Education and Family Medicine is published triannual in English in April, August, and December.

Journal of Medical Education and Family Medicine aims to publish studies of the highest scientific and clinical value in medical education and family medicine.

Journal of Medical Education and Family Medicine publishes research article, review article, rare case reports, and letter to the editor articles that will contribute to the medical education and family medicine. The main purpose of the journal is to disseminate the scientific knowledge produced in the field of medical education and family medicine to a wide platform.

Medical Education: The journal covers a broad spectrum of topics related to medical education, the developments in teaching approach, including innovative teaching methodologies, curriculum development, assessment strategies, and educational technology in medical training. Articles may explore the challenges and advancements in undergraduate and postgraduate medical education, as well as continuing professional development for healthcare practitioners.

Family Medicine: The scope extends to various aspects of family medicine, encompassing primary care, preventive medicine, and the management of common health conditions within the context of family and community settings. Research on patient-centered care, chronic disease management, and interdisciplinary collaboration in family medicine is encouraged.

The target audience of the journal includes academicians, clinical researchers, medical/health professionals, students, and related professional and academic bodies and institutions.

https://www.icmje.org/recommendations/browse/publishing-and-editorial-issues/clinical-trial-registration.html

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Journal of Medical Education and Family Medicine

Editors's Note

Dear Readers,

We are pleased to present you with the inaugural issue of Journal of Medical Education and Family Medicine (JMEFM). Medical education is a cornerstone of medical faculties, while family medicine holds a unique position in both training specialists for primary healthcare services and in the medical education provided at medical faculties. Taking a step forward to bring together research in these two disciplines, we have launched the JMEFM journal. We are delighted to contribute to the literature in the fields of medical education and family medicine with four original articles and one review in our first issue. We are indebted to the authors and reviewers who have contributed to the publication of this issue. Additionally, we would like to extend our gratitude to Assist. Prof. Dr. Mehmet Akif Nas, for his invaluable pre-review of each submitted article, and to Mr. Mustafa Çelik for his diligent work during the typesetting process. We also express our sincere thanks to Mr. Gökhan Çimen for his continuous guidance and support throughout the entire process.

We wish all our readers enjoyable reading in this inaugural issue of our journal, and we emphasize that your contributions in the forthcoming issues are highly valued.

Editors

Prof. Dr. Yasemin ÇAYIR *Assoc Prof. Esra ÇINAR TANRIVERDİ*

Journal of Medical Education and Family Medicine

CONTENTS

ATATÜRK ÜNİVERSİTESİ YAYINLARI
ATATURK UNIVERSITY PUBLICATIONS

Research Article DOI: 10.5281/zenodo.11103667

Comparative Evaluation of Rational Antibiotic Use in Non-Physician Healthcare Professionals and Laypersons

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ABSTRACT

Objective: Antibiotic resistance is a serious public health problem caused by the incorrect and excessive use of antibiotics. The aim of this study is to compare the habits, knowledge and attitudes towards antibiotic use among non-physician healthcare professionals and lay people

Methods: This cross-sectional study, conducted in a family medicine clinic between November 2023 and January 2024, involved 329 participants aged 18-65 years, including non-physician healthcare workers and people visiting the clinic for various reasons. Participants were given a 13-item questionnaire to assess antibiotic use and a 19-item "Antibiotic Use Scale".

Results: The mean age of the participants was 37.89±11.16 years. It was found that demographic characteristics such as gender, age, marital status, education level, income level, and tobacco and alcohol consumption had no significant effect on attitudes towards antibiotic use. The study showed that healthcare workers and people who preferred to visit a healthcare facility for upper respiratory tract infections tended to have more negative attitudes towards antibiotic use ($p=0.021$ and $p<0.001$ respectively).

Conclusion: The results highlight the need for healthcare professionals to be more cautious in the use of antibiotics and underline the importance of comprehensive education and awareness programs for the general population. Considering that demographic characteristics do not have a significant impact on attitudes towards antibiotic use, educational efforts in this area should be accessible and effective for everyone.

Keywords: Antibiotic resistance, antibiotic use, attitudes of healthcare professionals, cross-sectional studies

Received 25.02.2024
Accepted 04.04.2024
PublicationDate 02.05.2024

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Cite this article: Vatansever M., Gürsoy E., Comparative Evaluation of Rational Antibiotic Use in Non-Physician Healthcare Professionals and Laypersons. *J Med Educ Family Med*. 2024;27(1):1-6

INTRODUCTION

Antibiotic resistance, which results from the inappropriate and excessive use of antibiotics, is one of the greatest challenges facing modern medicine.[1] Research shows that the unnecessary prescription of antibiotics and their inappropriate use by patients leads to microorganisms developing resistance to these drugs.[2] This situation leads to insufficient efficacy in the treatment of disease and poses a serious risk to public health, while also placing an economic burden on healthcare systems.[3] Therefore, the rational use of antibiotics is a critical issue that requires a multidisciplinary approach involving the education and awareness of both healthcare professionals and the general public. An effective awareness and education program can help in the treatment of disease and in the reduction of public health risks.[3]

The first step in the fight against this global problem is, of course, prescribing the right antibiotic to the right person, but only when necessary. In particular, doctors can develop strategies to prevent the unnecessary use of antibiotics by reviewing their prescribing practices.[4] On the other hand, healthcare professionals in the community should take the lead on antibiotic use and prioritize educational activities. These professionals play a crucial role in promoting the correct use of antibiotics both in the healthcare sector and among the general public. Through education and awareness programs, healthcare professionals can reduce the resistance problem caused by the incorrect use of antibiotics and achieve more effective health outcomes.[5] Healthcare professionals play a critical role in patient care and are often the first point of contact with patients. This group serves as an important bridge on issues such as patient education, medication management and disease prevention strategies. However, unlike physicians who prescribe antibiotics, healthcare professionals are among the recipients of antibiotics, similar to the general population. Consequently, the knowledge, attitudes and practices of this group in relation to antibiotic use can have a significant impact on overall health outcomes. As role models, healthcare professionals are primarily responsible for educating the population by demonstrating proper antibiotic use themselves.

The aim of our study is to compare the habits, knowledge and attitudes of non-physician healthcare professionals with regard to the use of antibiotics with those of people who are not healthcare professionals.

MATERIALS AND METHODS

Research design and location

This study was conducted from November 2023 to January 2024 at the Family Medicine Clinics of Mengücek Gazi Training and Research Hospital and Maçka Ömer Burhanoğlu State Hospital. Participants included volunteers aged 18-65 years who were cognitively able to read and understand the survey questions and who had visited the clinic for any reason, as well as non-physician healthcare professionals. Physicians and individuals who refused to participate in the study were excluded.

Data collection instruments

Participants were given a 13-item questionnaire on demographic information and antibiotic use prepared by the researchers following a literature review, and the 19-item "Antibiotic Use Scale", developed by Atik and colleagues, in face-to-face interviews in their own language. The Antibiotic Use Scale is a Likert scale with 19 items and three sub-dimensions (attitude, subjective norm and intention). The maximum score that can be achieved with the scale is 95, and a higher score indicates a negative attitude towards antibiotic use. The Cronbach alpha reliability coefficients of the scale were .90 for the total scale, .70 for the attitude sub-dimension, .91 for the subjective norm sub-dimension and .86 for the intention sub-dimension.

Sample size

The sample size calculation was based on the study "Sample size in factor analysis" by MacCallum and colleagues. The total of 32 questions in the survey was based on 10 participants per question. It was planned to interview at least 320 participants in total.

Ethical approval and informed consent of participants

The study was approved by the Ethics Committee for Clinical Research of the University of Erzincan Binali Yıldırım with decision number 2023-19/2. In addition, verbal and written informed consent was obtained from participants prior to participation in the study.

Data analysis

Data analysis was performed using IBM SPSS Statistics 23 (IBM SPSS Corp., Armonk, NY, USA). The normal distribution was tested using the Kolmogorov-Smirnov test and descriptive statistics were calculated. Statistical tests used included the Mann-Whitney U test and the Kruskal-Wallis test. The level of statistical significance was set at $p<0.05$.

RESULTS

A total of 329 participants were included in the study, of whom 48.9% (n=161) were non-physician healthcare professionals and 51.1% (n=168) were lay people. The mean age of the participants was 37.89±11.16, with 53.5% (n=176) male and 46.5% (n=153) female. Further demographic data of the participants can be found in Table 1.

Table 1. *Demographic Data of Participants*

		n	%
Where he/she lives	Provincial Center	188	57.1
	District center	105	31.9
	Village	36	10.9
Marital status	Married	223	67.8
	Single	100	30.4
	Divorced	6	1.8
Education	Primary	28	8.5
	Highschool	83	25.2
	University	218	66.3
Perceived income level	Bad	18	5.5
	Intermediate	230	69.9
	Good	81	24.6
Smoking status	Yes	96	29.2
	No	214	65.0
	Quit	19	5.8
Alcohol use status	Yes	18	5.5
	No	299	90.9
	Quit	12	3.6
Presence of chronic disease	Yes	69	21.0
	No	260	79.0

Table 2. *Comparison of independent variables and participants' scores from the antibiotic use scale*

		n	Mean	Std. Error	p
Gender	Male	176	74.70	15.69	0.470*
	Female	153	77.30	11.59	
Where he/she lives	Provincial Center	188	75.99	13.48	0.589**
	District center	105	76.10	15.27	
	Village	36	74.92	12.83	
Marital status	Married	223	76.73	13.45	0.254**
	Single	100	74.28	15.16	
	Divorced	6	72.50	11.36	
Education	Primary	28	73.61	14.59	0.414**
	Highschool	83	73.58	17.38	
	University	218	77.09	12.26	
Perceived income level	Good	81	77.85	12.42	0.271**
	Intermediate	230	75.45	14.45	
	Bad	18	73.00	14.20	
Smoking status	Yes	96	75.33	14.68	0.933**
	No	214	76.15	13.65	
	Quit	19	76.11	14.58	
Alcohol use status	Yes	18	74.44	14.78	0.894**
	No	299	76.16	13.65	
	Quit	12	71.92	20.45	
Presence of chronic disease	Yes	69	75.20	14.60	0.799*
	No	260	76.10	13.83	
Profession	Medical staff	161	79.58	11.19	<0.001*
	Other	168	72.39	15.43	

*Mann Whitney U test, **Kruskal Wallis test

The mean score obtained by the participants on the antibiotic use scale was 75.91±13.98. The item with the highest score was 4.45±0.84 for "I would accept antibiotics from a friend for cold, flu and sinusitis" and the item with the lowest score was 3.66±1.11 for "My parents think it is right to take antibiotics for cold, sinusitis and flu to get well" (Figure 1).

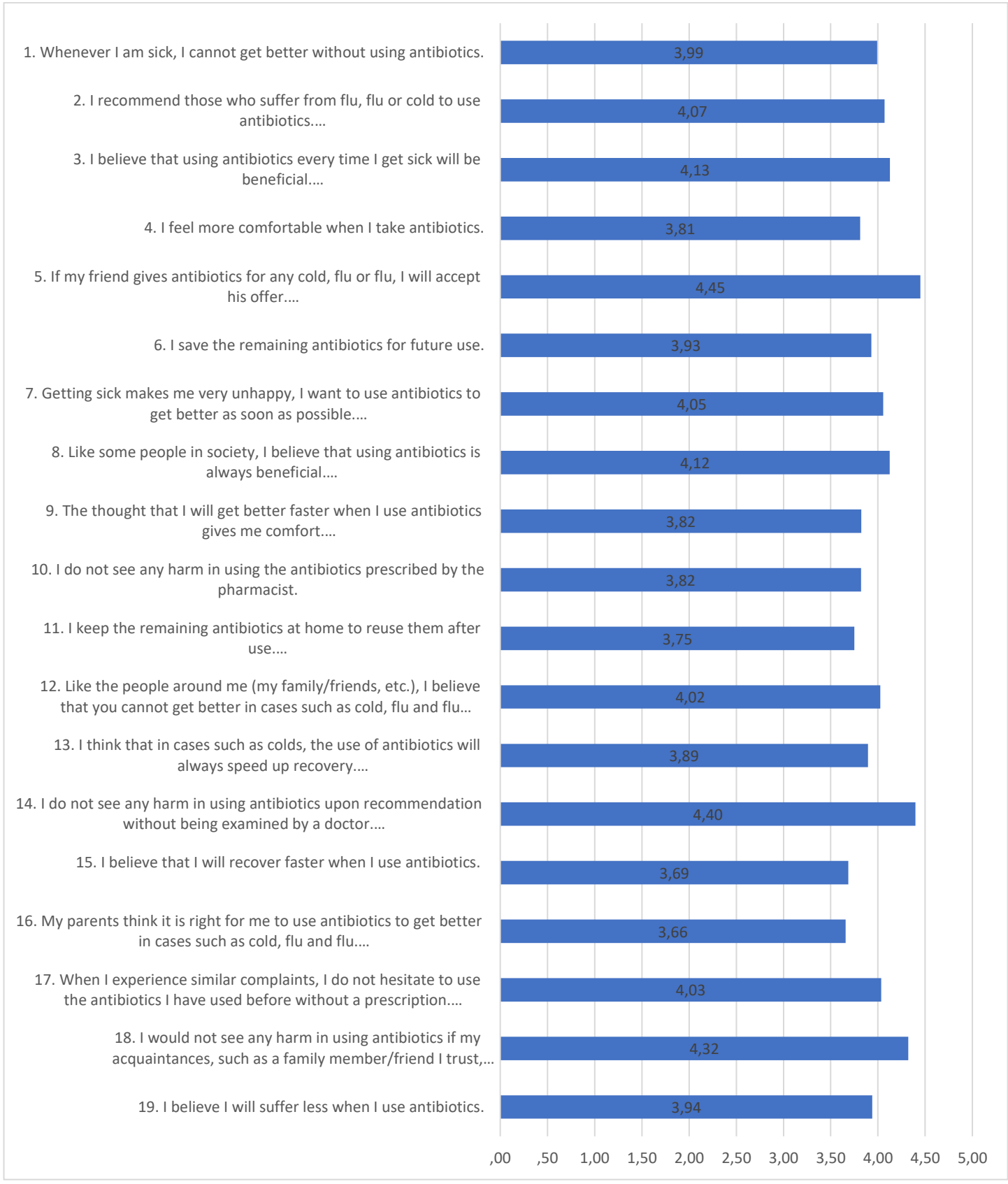

Figure 1. *Participants' answers to the Antibiotic Use Scale items*

Participants were asked if they would seek medical advice for colds, sinusitis or flu. 49.2% (n=162) said no, while 50.8% (n=167) said yes. The mean score on the antibiotic use scale was 73.66 in the group that said no and 78.23 in the group that said yes, and a statistically significant difference was found between them (p = 0.021). A comparison of the scores obtained on the scale with other independent variables is shown in Table 2. No significant association was found between participants' demographics, chronic disease status, smoking and alcohol consumption and the score they received on the antibiotic use scale. Only healthcare professionals scored significantly higher on the scale than lay people (p<0.001).

DISCUSSION

This study compared the habits, knowledge and attitudes towards antibiotic use between non-healthcare professionals and non-healthcare workers. The results indicate that healthcare workers have a more negative attitude towards the use of antibiotics. This contradicts the widespread assumption that healthcare professionals know more about antibiotics and are more cautious about their use.

The rather negative attitude of healthcare staff towards the use of antibiotics could indicate that the training and information they receive on the subject is inadequate. This situation calls for more effective implementation of educational programs and awareness-raising activities in this group. Although it is expected that healthcare professionals will be more aware of the prescription and use of antibiotics, the results of this study contradict this expectation. This is consistent with the findings of Salsgiver and colleagues, who also found that healthcare professionals have inadequate knowledge and misconceptions about antibiotic use.[7] In addition, the study by Morgan and colleagues (2017) emphasizes the need to educate healthcare professionals about the incorrect and unnecessary use of antibiotics.[8]

Another reason for the negative attitude of healthcare workers towards antibiotic use observed in our study could be due to professional relationships and interactions within the healthcare sector. The close relationships that healthcare workers have with physicians and the convenience that these relationships provide could influence antibiotic prescribing. This could mean that it is easier for healthcare professionals to obtain antibiotic prescriptions than the general public and that more interactions occur. Indeed, such dyadic relationships and interactions could contribute to inappropriate use of antibiotic prescriptions and consequently to negative attitudes. This issue has been highlighted in the literature, suggesting that easier access to physicians by healthcare professionals may lead to more frequent and sometimes unnecessary antibiotic prescribing.[9]

When examining the results of the antibiotic use scale, a significant difference was found between those who visited a doctor and those who did not (p=0.021). This suggests that access to healthcare services can influence people's attitudes towards antibiotic use. Misconceptions and expectations about antibiotic use can increase the demand for antibiotics and lead to more visits to the doctor.[10] Addressing this challenge for physicians includes educating patients, improving their own attitudes and knowledge, effective communication skills, and active participation in antibiotic stewardship programs. These approaches can help to change patients' negative attitudes towards antibiotic use and combat antibiotic resistance.

In our study, no significant association was found between demographic characteristics such as gender, place of residence, marital status, education level, income level, smoking or alcohol consumption, chronic diseases and antibiotic use scale scores. This result indicates that attitudes towards antibiotic use are shaped independently of these demographic factors. This result is consistent with the study by Taylor et al. (2016), which found that attitudes towards antibiotic use are similar across a wide range of demographics. Furthermore, these results suggest that demographic characteristics do not play a decisive role in antibiotic use and that a more general societal awareness or lack of education could be influential. This observation was also made in the study by Wells et al. (2018), which mentioned that demographic factors have a limited influence on attitudes towards antibiotic use. The results of this study underline the need for a general approach, independent of demographic characteristics, to improve attitudes and awareness of antibiotic use.

While there are studies in the literature that suggest that demographics influence attitudes towards antibiotics, there are also studies that show no

effect.[11-13] The reasons for this could include differences in the scales used and differences in healthcare systems between countries. Our study points to the need for comprehensive antibiotic awareness and education programs targeting the entire population, regardless of demographic characteristics.

Our study has some limitations. Firstly, due to its cross-sectional design,the generalizability of the findings is limited. Therefore, further studies in populations with different geographical or socio-economic conditions are required. Secondly, the study being conducted in a healthcare institution and the self-selection of patients may have introduced biases. Community-based studies that include healthy volunteers could be more informative.

CONCLUSION

This study compared the attitudes and knowledge levels regarding antibiotic use among non-physician health personnel and individuals not working in health care. The more negative attitudes towards antibiotic use among health personnel suggest a need to enhance the effectiveness of current education and awareness programs. The findings reveal that demographic factors do not have a decisive impact on attitudes towards antibiotic use, highlighting the need for a general societal awareness and education. This study can aid in developing strategies to improve attitudes and awareness levels regarding antibiotic use and contribute to the fight against antimicrobial resistance.

Ethics Committee Approval: The study was approved by the Erzincan Binali Yıldırım University Clinical Research Ethics Committee with decision number 2023-19/2.
Informed Consent: Verbal and written consent was obtained from participants prior to their participation in the study.
Peer-review: Externally peer-reviewed.
Author Contributions: Concept – M.V., E.G.; Design - M.V., E.G; Supervision - E.G.; Resources - M.V., Materials - M.V., Data Collection and/or Processing - M.V., Analysis and/or Interpretation E.G.; Literature Search - M.V., E.G; Writing Manuscript - M.V., E.G; Critical Review - E.G.;
Declaration of Interests: The authors have no conflicts of interest to declare.
Funding: The authors declared that this study has received no financial support.

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ATATÜRK ÜNİVERSİTESİ YAYINLARI
ATATURK UNIVERSITY PUBLICATIONS

Research Article DOI: 10.5281/zenodo.11097843

Experiences of Undergraduate Nursing Students Learning Psychomotor Skills During the Covid-19 Pandemic: A Qualitative Study

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ABSTRACT

Objective: This study aimed to examine the experiences of nursing students learning psychomotor skills during the COVID-19 pandemic, the problems they experienced in this process, and their feelings and needs.

Methods: This was a qualitative phenomenological study. The research was analyzed descriptively and thematically. The research was conducted in Erzurum in January 2022. The population of the study consisted of 2nd-year students studying at the Atatürk University Faculty of Nursing in the fall semester of the 2021–2022 academic year. The sample consisted of four second-year undergraduate nursing students selected by the criterion sampling method. The research data were collected with an 'Introductory Information Form' and a 'Semistructured Questionnaire'. The content analysis method was used to evaluate the qualitative data.

Results: Four themes and three subthemes were identified as a result of the analysis of the data obtained from the interviews with the students. The main themes are inefficiency, expectations from the instructor, emotions, and active learning. It was determined that inefficiency was categorized under the subthemes of "Problems experienced in online education and the limitation of online education in terms of learning psychomotor skills" and "Reasons for inefficiency". It was determined that there were no subthemes in the themes of expectations from the instructor and emotions. Active learning was found to be under the subtheme of "Getting more efficiency from homework rather than what the instructors teach".

Conclusions: The online education process was inadequate for learning the psychomotor skills of nursing students.

Keywords: COVID-19, pandemic, online education, psychomotor skills, nursing students

Received 01.03.2024
Accepted 22.04.2024
Publication Date 02.05.2024

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Cite this article: Yıldız G. N, Demiral Uzan M, Çiftçi B. Experiences of undergraduate nursing students learning psychomotor skills during the COVID-19 pandemic: A qualitative study. *J Med Educ Family Med*. 2024;27(1):7-14

INTRODUCTION

Nursing, which has roles such as caregiver, educator, researcher, manager and coordinator, decision maker, rehabilitator, comforting, and therapeutic in society, is a health discipline that is based on theoretical and scientific knowledge bases and includes practical skills to fulfill these roles.[1] Psychomotor skills play a very important role in fulfilling these roles. Psychomotor skills are taught face-to-face in nursing undergraduate programs when there is no compulsory distance education due to the coronavirus pandemic, and time and practice are required for learning.[2,3]

Nurses are taught psychomotor skills during their professional education. Nursing students struggle to learn and improve their psychomotor skills.[4] Learning psychomotor skills, which require complex learning, requires being available for different subjects, such as correct chronology, basic knowledge, the sequencing of actions, certain strengths and dexterity.[5] Examples of practices that require psychomotor skills in nursing practice include hand washing, wearing gloves, oral care, bathing practices, changing positions, counting respirations, counting pulses, measuring blood pressure, cold application, hot application, injection applications, blood collection, and drug administration.[6] To acquire these skills in online education, educators are asked to think and implement creative ways of skill-requiring applications in the online learning environment.[4]

Due to the coronavirus pandemic, which has shaken the world, face-to-face education has been replaced by online education, and it has become difficult to provide education that requires skills.[4] In a study examining nursing students' perceptions of learning psychomotor skills, it was determined that 6 themes were formed: "peers are important; practice on real people; lecturers are important; environment is important; patients need my skills; and anxiety is always present". [7] According to the literature, there are few studies on the psychomotor skills of nurses, and there are few studies on nurses' experiences during the COVID-19 pandemic.[8] Only one study has examined nurses' experiences learning psychomotor skills during the COVID-19 pandemic [8], and there are no studies in the national literature. With nursing students, Aldridge et al. (2021) determined that the methods used before the pandemic process were insufficient for learning, so students had to find their own way to learn. Moreover, it was determined that being a student during the pandemic, both the stress of the risk of contracting the disease and the stress of not being able to learn made the process difficult. This study aimed to examine nursing students' experiences with learning psychomotor skills during the COVID-19 pandemic, the problems they experienced in this process, and their feelings and needs.

Research question

What are the experiences of nursing students learning psychomotor skills online?

METHODS

Research design

The research is qualitative phenomenological. The reason for conducting the research in a phenomenological way is that the experiences of nursing students during the pandemic can be measured in the most appropriate way.

Study population and sample

The study was conducted in x in January 2022. The population of the study consisted of second-year students studying at the Atatürk University Faculty of Nursing in the fall semester of the 2021–2022 academic year. The sample consisted of four second-year undergraduate nursing students selected by the criterion sampling method.

Participant selection

The participants of this study consisted of four second-year nursing students. Participation in the study was completely voluntary. Before the interviews started, an article about the purpose of the study was shared by BÇ in the WhatsApp communication group of second-year nursing students studying at the university where the

study would be conducted. The WhatsApp group link created for those who wanted to participate in the study was shared. Students who wanted to participate in the study were asked to be included in this group. Before starting the research, the course content of the nursing department was examined, and it was determined that psychomotor skills were especially concentrated in the first year, but due to the pandemic, this training was given at the beginning of the second year. Students received online training in the first year, received face-to-face training in the laboratory for 3 weeks at the beginning of the second year, and then continued their training face-to-face and face-to-face at Atatürk University Research Hospital. Therefore, second-year nursing students were included in the study. Two of the students were female, and two were male. The students were 19-22 years old. The data collection process was terminated by the researchers after data saturation was reached.

Data collection and analysis

The interviews and data analysis were conducted by GNY, a doctoral-level nurse educator trained in qualitative methodology, who was also the researcher. The nurse educator was working at a different university from the university where the students were studying and interviewed for the first time. Before the interviews started, the purpose of the research was explained to the students. Meetings were held with the students on the Zoom platform. Permission was obtained from the students for audio and video recording. Research data were collected in the first week of January. The data were collected by recording the meeting on the Zoom platform. A semi structured interview guide consisting of 8 open-ended questions was created for data collection. The interviews were organized with the students on the Zoom platform, taking into account the hours when the researcher (GNY) was available. During the data analysis process, Colaizzi's (1978) analysis stages were followed. [9] Audio and video recordings of the meeting were recorded with the permission of the students. Field notes were also kept by the interviewer. After ensuring that data saturation was reached in the interviews with the students, the audio recordings were repeatedly recorded. The audio recordings were also transferred to a Word file using Google Docs. The audio recordings were compared with the Word files to prevent any errors. The students' words were transferred word by word to the Word file. The NVivo package was used for analysis. The analysis of the research was performed via descriptive and thematic analysis. While analyzing the data, preliminary codes were first created. New codes were added during the analysis. At the end of the analysis, 130 codes were created. These codes were categorized into categories that were thought to be related to each other. Themes were created at the end of the voice recordings, field notes, codes and categories.

Interview questions

1- Could you introduce yourself?
2- Can you provide information about the psychomotor skills you learned during the online training process? What kind of skills did you learn?
3- Can you share your experiences in acquiring psychomotor skills in the courses you took online with me?
4. How do you evaluate your e-learning experience in learning psychomotor skills during the COVID-19 pandemic?
5- How did you learn how to insert an intravenous catheter during the online education process in COVID-19? Can you tell us about it?
6- How do you evaluate the process and method of teaching psychomotor skills during the COVID-19 pandemic?
7- How do you evaluate the results of teaching psychomotor skills during the COVID-19 pandemic process in terms of your implementation skills?
8. Is there anything you have not yet mentioned or would like to share?

Ethical dimension of the research

The necessary ethical permission was obtained from the Muş Alparslan University, Scientific Research and Publication Ethics Committee (Date: 26.11.2021, 30780-12-42). Institutional permission was obtained from the institution where the research was conducted. The students participating in the study were informed about the purpose, design, etc., of the study both before participating in the study and during the Zoom meeting before data collection. After the students agreed to participate in the study, interviews were started with the students.

RESULTS

In this study, the experiences of four second-year nursing students in learning psychomotor skills through distance education during the pandemic were investigated, and 4 main themes were identified through thematic analysis. These themes are given in Table 1.

Table 1. *There are 4 main themes and 3 subthemes in this research.*

Number	Themes	Subthemes
1	Inefficiency	Problems in online education and the limitations of online education in terms of learning psychomotor skills
		Reasons for inefficiency
2	Expectations from the instructor	No
3	Emotions	No
4	Active Learning	Getting more efficiency from homework assignments rather than lectures by instructors

Theme 1: Inefficiency

The students participating in this study expressed that they could not learn psychomotor skills through distance education and that they could not obtain efficiency from this process. All of the students stated that they could not learn psychomotor skills and that they could not achieve any efficiency in terms of learning psychomotor skills through online education due to reasons such as not using active learning methods sufficiently in this process, internet problems, etc. Therefore, they stated that psychomotor skills cannot be learned online. The feedback received from the students supported this situation. In teaching psychomotor skills in an online learning environment, instructors are expected to think of creative methods. Considering this situation, the students were asked, "Were you able to learn psychomotor skills in an online learning environment? Did you get efficiency?" The question was asked during the interview. The students expressed that they could not achieve efficiency and stated that they thought that psychomotor skills could be taught in an online learning environment where active learning methods could be used more, that applications requiring psychomotor skills should be tried and taught repeatedly in laboratories, etc., under the supervision of trainers by touching materials such as models, etc., and for this reason, they thought that they could not be taught in an online learning environment. Some of the statements supporting that students cannot obtain efficiency from teaching psychomotor skills in online education are as follows:

S1: "I could not get any efficiency from this process. We need to put it into practice for this to happen."

S3: "I think it was not efficient at all. Because we were at home and the lessons were online, we were not participating enough in the lessons. It was not efficient at all."

Subtheme: Problems in online education and the limitations of online education in terms of learning psychomotor skills

The main idea of this subtheme was the reasons for students' inefficiency in online education and the limitations of the process. While teaching psychomotor skills requires a difficult and complex process, the difficulties and limitations of online education should not be ignored. As a result of the interviews, it can be seen that online education causes comfort and a decrease in the severity of the course due to the presence of the students in their homes. One of the students stated, "Honestly, I didn't listen to the lesson much. It is online anyway; the teacher does not see me. Therefore, I didn't pay attention to it." The student expressed that s/he could not take the lesson as seriously as s/he should. In addition, some problems experienced in online education caused problems in students' focusing on and participating in the lessons. For example, S3: " had a lot of problems, either the courses were not launched or we were thrown out of the course (due to systemic problems). Sometimes there were internet problems. Sometimes the system could throw us out of the live lesson. There could be systemic problems. When too many people entered the class, the system would throw them out of class...". S1 expressed some of the problems he experienced as follows: "...There were sometimes internet-related problems... I did not get any efficiency when the instructor read it in a straightforward way." As can be understood from these statements, the fact that psychomotor skills that need to be taught in the laboratory environment have to be taught with lectures or classical methods shows that this is one of the problems experienced by the students during the pandemic process.

Subtheme reasons for inefficiency

The main idea of this subtheme was why students could not learn psychomotor skills and could not obtain efficiency from the training. The theoretical background of the students was created through online education. Therefore, it is important to question the reasons for not receiving efficiency from online education. All of the

students stated that they could not obtain efficiency from online education for many reasons. Some of the statements supporting the students' reasons for not attaining efficiency are as follows:

S1: "The only thing that was efficient for us was working on the videos given; these were efficient, and then it was not efficient at all. We got efficiency from the videos, and it was neither remembered nor we made an attempt.... For this to happen, we need to put it into practice first; we need to try it ourselves. Since there was no trial, we got zero efficiency."

S2: "We watched a video from a book with a video. However, still, of course, everything was left in the air, so we couldn't understand much."

S4: "It was not permanent. After all, there were no patients, models, etc. Materials were also missing. Therefore, it was not permanent. It was not efficient either." The fact that some of the students found the video education efficient while others found it abstract may have resulted from the change in the learning styles of the students. However, all of the students stated that psychomotor skills cannot be learned in an online learning environment.

Theme 2: Expectations from the instructor

The main idea of the theme included the nursing students' expectations from the instructor during the pandemic process. The students stated that they expected the instructor to encourage them to research, explain the lesson more clearly, perform different activities during the course, be more open in terms of communication, conduct the lessons in the laboratory, give more homework, keep the student active in the lesson, use active learning methods in the lesson, be a guide, and be active as a guide. The students whose expectations from the instructors were to encourage research, to explain the lesson more clearly, to perform different activities during the lesson, to keep the students active in the lesson, and to use active learning methods in the lesson said the following: "We start to learn the subjects that the instructors encourage us to research better... there was a straight narration, they could have supported it with different materials. It was like our lessons where we were given homework, you know, they involved us in the lesson, like them. Since it was online, we were starting the lesson, sometimes we had chores since we were at home, we were doing housework or doing different things, we could not actively participate in the lesson." The students, whose expectations from the instructors were that they should be guiding and that the instructors should be active, said, "It is also very important for us that the instructors who are our guides are active".

The students, whose expectations from the instructors were that they should explain the lesson more clearly and that the applications requiring psychomotor skills are more feasible and that providing motivation in this direction would encourage them to learn more and understand better, said, "There is also such a situation. When we are made to look at something as difficult, we perceive it as if it is impossible. We were taught that psychomotor skills are very difficult to do. In fact, if they say that it is a normal thing, if they explain it more easily, that is, it is a very normal thing to do, and the teaching style of doing it in this way would be much more efficient."

Theme 3: Emotions

The main idea of this theme was the students' feelings while learning psychomotor skills in the online education process. The students stated that learning psychomotor skills online made them feel bad when they did not understand the lesson, bored with the lesson, not feeling the need to do any research, anxious, not being confident, not trusting themselves in their skills, afraid of not learning, not feeling that they were students, reluctant to learn, stressed and feeling inadequate, and that they did not take the lesson seriously because the training was online. The students made the following statements about their feelings. Those who experienced stress, anxiety and fear said, "I was feeling stress. Anxiety, fear, not learning... As I mentioned at the beginning, we were not learning.". The student who felt bad, unsure of himself/herself, not confident in his/her skills, and feeling inadequate said the following: "First, I felt very inadequate, because everything is already from a distance... How will I treat my patients, will I be enough for them, will I provide adequate care, will I be able to treat them? I was aware that I could not learn." Students who felt anxious and did not feel the need to do research said, there was anxiety, it was like this, I will go and graduate before the school opens without learning anything.... You don't want to do much because of the comfort of online education. We do not want to do research either".

Theme 4: Active learning

The main idea of this theme was that the students stated that the homework given to them and the

homework of video shooting were more effective in learning than the lectures. This is an active learning method. Some statements supporting that students obtain more efficiency from active learning methods are as follows:

S1: "The only thing that is productive for us is the work on the given videos and the videos we shoot ourselves. These were productive; then, they were not productive at all. We benefited from the videos; the rest were neither remembered nor attempted."

S2: "I remember most clearly coughing exercises, breathing exercises, heart rate counting, respiratory counting. Because they asked us to do them in video, it was more permanent in my mind because we did it ourselves."

S2: "In the clinical skills course, the teachers gave 3 homework. I only have 3 assignments in my mind right now. In fact, we were doing patient training last week, because I remembered the breathing exercises from there, I gave that training to my patient because I remember him from the last period."

DISCUSSION

Learning psychomotor skills requires being equipped in different areas, such as correct chronology, basic knowledge of the sequence of actions, a certain strength and dexterity. These skills can be directly related to the quality of theory education and the efficiency of theoretical education. Students learn psychomotor skills, especially the correct chronology and sequence of actions of basic knowledge in theoretical education. Students without a strong theoretical background may have difficulty learning psychomotor skills. For this reason, it may be incorrect to limit psychomotor skill learning only through practice. For this reason, it is necessary to question the theoretical knowledge that forms the infrastructure of the applications. In addition, considering that psychomotor skills require complex learning, the learnability of psychomotor skill learning in an online learning environment should be questioned.

The first theme of this study was "inefficiency". Students stated that they could not achieve efficiency in teaching psychomotor skills in the online education process. The COVID-19 pandemic has forced traditional face-to-face nursing education programs to rapidly transition to virtual platforms [10,11], which has forced nursing educators to quickly design, develop and implement virtual learning activities. In addition, some of the disadvantages inherent in online education were some of the reasons for students' inefficiency. Considering that psychomotor skills require practice, teaching and learning these skills in an online learning environment is quite difficult. In their study examining the problems experienced by nursing students in distance education during the COVID-19 pandemic, Kürtüncü and Kurt (2020) stated that the problems experienced were "problems in distance education infrastructure", "lack of face-to-face education", "limitation of opportunity", "mood brought by the pandemic" and "exam anxiety". [12] They also stated that most of the students stated that theoretical and practical courses would be insufficient for distance education due to the pandemic. [12] In this study, the students stated that they experienced such problems. In addition, students stated that lecturing with lectures during the pandemic process was insufficient for learning psychomotor skills and that they could not obtain efficiency from learning. Straight lectures may be a frequently used method in online education. However, the straight lecture style may cause students to become bored with the lesson. In addition, systemic problems may cause disconnections in students. Therefore, it can be said that it is insufficient for learning psychomotor skills.

The second theme of the study was "Expectations from the instructor". The students stated that they expected the instructor to encourage them to research, to explain the lesson more clearly, to perform different activities during the course, to be more open in terms of communication, to teach the lessons in the laboratory, to give more homework, to keep the student active in the lesson, to use active learning methods in the lesson, to be a guide, and to be active as a guide. In a study conducted by Cantey et al. (2021), it was determined that the students enjoyed hands-on training, that the home environment can be quite distracting for students and that it is important for learning to ensure students' active participation in the lesson. [13] This research is similar to the literature in this respect. It is thought that the quality of education will increase if the instructors pay attention to the expectations of the students and revise their educational methods in this direction.

Emotions, which have an impact on many areas of our lives, need to be examined as a concept to understand their effects on education. TLS emotions "perception

with senses, specialization in feeling; The impression that certain objects, events or individuals create in a person's inner world; Evaluating objects or events morally and aesthetically; He defines it as "a unique spiritual movement and mobility".[14] Another definition, made by Cooper and Sawaf, is "the energy flow that enables a person to activate the values within him and create behaviors".[15] Anger, disgust, fear, grief, anxiety, joy, happiness, sadness, expectation, bitter pleasure, curiosity, elation and love can be counted among the basic emotions.[16] Considering the effects of emotions in all areas of life, the importance of examining the emotions experienced by students during education is increasing. In the study, it was determined that online learning of psychomotor skills caused students to feel bad when they did not understand the lesson, boredom, not feeling the need to do any research, anxiety, not being confident, not trusting themselves in their skills, fear of not learning, not feeling that they were students, unwillingness to learn, stress and feeling inadequate. Reasons such as the sudden occurrence of the pandemic, not taking precautions in advance, problems with internet access, and students entering a new process caused these feelings in students.

The 4th theme of the research is “Active Learning”. According to the literature, the National Curricular Guidelines (NCGs) state that active learning methods should be used when creating curricula because they are effective methods for teaching students through experience and student-centered learning.[17] In recent years, active learning and student-centered learning topics have remained popular because they cause more effective and permanent learning. Active learning is a topic that should be used in lessons today, and many studies have been conducted on this topic. The findings of the study are in line with the literature on this subject. In these studies, active learning methods bring the student to the center of the learning and teaching process, increase the student’s critical thinking level, and make the student responsible for the learning process.[17] The use of active learning methods in learning and teaching processes, whether face-to-face or online, is a very important issue. The research findings support that traditional students do not obtain efficiency from traditional methods, but they obtain efficiency from active learning methods.

CONCLUSION

The findings of the study show that the online education process is insufficient for learning the psychomotor skills of nursing students. It was determined that the students expected the instructor to encourage them to research, to explain the lesson more clearly, to perform different activities during the course, to be more open in terms of communication, to conduct the lessons in the laboratory, to give more homework, to keep the student active in the lesson, to use active learning methods in the lesson, and to be active as a guide. It was determined that online learning of psychomotor skills caused students to feel bad when they did not understand the lesson, boredom, not feeling the need to do any research, anxiety, not being confident, not trusting themselves in their skills, fear of not learning, not feeling that they were students, unwillingness to learn, stress and feeling inadequate. It was determined that the active learning method was a very effective method in the online education process and that students were more productive from the homework they did rather than what the instructor told them. In line with these results, it can be suggested that instructors use active learning methods while teaching, adopt a student-centered education method, and take steps to meet students’ expectations. It is also recommended that similar studies be conducted with larger groups in different countries.

Ethics Committee Approval: Ethics committee approval was obtained from Muş Alparslan University Local Ethics Committee (Date: 26.11.2021, Number: 30780-12-42)
Informed Consent: Informed consent was obtained formal participants.
Peer-review: Externally peer-reviewed.
Author Contributions: Concept -GNY,MDU,; Design-GNY,MDU,BC; Supervision-GNY, MDU,BC; Resources-GNY,MDU; Data Collection and/or Processing-GNY, MDU, BC; Analysis and/or Interpretation-GNY, MDU,BC; Literature Search-GNY,MDU,BC,; Writing Manuscript-GNY,MDU,BC; Critical Review-GNY,MDU, BC

Conflict of Interest: The authors have no conflicts of interest to declare.
Financial Disclosure: The authors declared that this study has received no financial support.

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ATATÜRK ÜNİVERSİTESİ YAYINLARI
ATATURK UNIVERSITY PUBLICATIONS

Research Article DOI: 10.5281/zenodo.11103460

An Analysis of Family Medicine Medical Specialty Theses on Violence In Health: A Content Analysis

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ABSTRACT

Objective: The study aimed to analyze the family medicine theses on violence in health in the last 7 years in Turkey.

Methods: This study is a retrospective study in which the theses on violence in health were identified and examined from the Family Medicine Medical Specialization Theses in the National Thesis Database. Within the scope of the study, medical specialty theses in the field of Family Medicine, which covered the subject of violence between 2018 and 2024 in the national thesis center of the Council of Higher Education Thesis Center, were scanned.

Results: In our study, 12 medical specialty theses on violence in health in the field of family medicine in the last 7 years (2018-2024) that met the inclusion criteria were reached. When the theses were analyzed in general, the most common type of violence was verbal violence. According to the common conclusions of the analyzed theses, health workers mostly do not file a complaint after exposure to violence. After exposure to violence, most of them continue their work without responding. The reason for not filing a complaint was the lack of belief that results would be obtained. The most common impact of violence on health workers was anger and resentment. The most repeated solution suggestion was to take legal measures.

Conclusions: Although the number of specialty theses in the field of family medicine on violence in health has increased in recent years, the number is insufficient. The number of medical specialty theses and academic studies on the subject should be increased to raise awareness of the problem of violence in health and to examine the solutions.

Keywords: Violence in health; family medicine; medical specialty

Received 15.03.2024
Accepted 17.04.2024
Publication Date 02.05.2024

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Cite this article: Guven G. P., An Analysis of Family Medicine Medical Specialty Theses on Violence In Health: A Content Analysis. *J Med Educ Family Med*. 2024;27(1):**15-21**

INTRODUCTION

Violence is one of today's most important social problems. The World Health Organization (WHO) defines violence as the intentional use of physical coercion, force or threat against oneself, another person, a group or a community, resulting in injury, death, mental damage, developmental retardation or neglect. Violence that causes physical and psychological effects in individuals is mainly grouped as verbal violence, physical violence and sexual violence. [1]

Violence in healthcare is defined as all situations that pose a risk to healthcare workers, including threatening behavior by patients and their relatives, verbal threats, economic abuse, physical assault and sexual assault. Healthcare institutions, which include professional groups such as physicians, nurses, emergency medical technicians, midwives and health officers, are among the most common institutions where violence, which is increasing in all areas of society, is seen most frequently. [1,2]

It is a fact that health personnel are the most targeted group of employees in workplace violence. According to studies, more than 50% of healthcare workers are exposed to violence during their work. [3,4,5]

Although incidents of violence against healthcare workers have existed in our country, as in the whole world, since long ago, a significant increase has been observed in recent years. Since the incidents of violence in health have increased in recent years, research and scientific publications on violence in health have also increased in parallel.[3,6,9] One of the most important research for medical school specialty students in our country is the specialty thesis studies that they work on during their residency period and complete before they become specialists. Especially in recent years, research assistants at various universities and hospitals have prepared theses on violence in health in some of the studies considered as specialty theses. One of the main disciplines where thesis studies on violence in health are conducted is family medicine departments in universities and training and research hospitals. Our study aims to retrospectively analyze the family medicine theses on violence in health in the last 7 years in Turkey.

METHODS

Our study is a retrospective study in which the theses on violence in health were identified and examined from the Family Medicine Medical Specialization Theses in the National Thesis Database. Within the scope of the research, thesis medical specialty theses in the field of Family Medicine, which covered the subject of violence in the content between 2018 and 2024 in the national thesis center of the Higher Education Thesis Board, were scanned. Before starting the study, Local Ethics Committee approval was obtained from the Ataturk University Faculty of Medicine Clinical Research Ethics Committee (Ethics Committee Number: B.30.2.ATA.0.01.00/782).

Theses and their contents were obtained from the YÖK National Thesis Center Database (https://tez.yok.gov.tr/UlusalTezMerkezi.) through advanced search. The keywords for the advanced search were ‘violence’ and ‘violence in health’. Only theses conducted in the specialty of family medicine were included in the study. Theses addressing the issue of violence in health were reached by examining the data and contents obtained by applying the criteria of department name, thesis type, group and year.

Among the 456 family medicine medical specialty theses conducted between 2018 and 2024, 24 of them were directly on violence. Of these 24 theses, 11 were on domestic violence and violence against women, while one was on childhood violence exposure. Since our study targeted theses on violence in health, 12 studies were initially examined when the titles and abstracts of the theses were examined. Afterward, in detailed examinations, it was understood that the subject of violence examined by one study was not related to the violence suffered by healthcare workers at the beginning of their profession, but to the perception of violence against women in general by female healthcare workers and was excluded from the study.

RESULTS

In our study, 12 medical specialty theses on violence in health in the field of family medicine in the last 7 years (2018-2024) that met the inclusion criteria were reached. The authors, years, universities where the specialty theses were conducted and the types of studies are given in Table 1. Considering the years of study, a proportional distribution was observed. All of the theses were planned as cross-sectional descriptive studies. Of the 12 theses

included in our study, 7 were prepared by research assistants from the Faculty of Medicine and 5 by research assistants from the Training and Research Hospital. The study area of 6 of the theses was Education and Research Hospitals, 4 were Medical Faculty Hospitals, and 1 was a family health center. One thesis was implemented in the field. Seven of the thesis authors were women and five were men.

Table 1. *General Characteristics of Theses on Violence in Health*

Thesis Name	Year	Author	Location Information	Type of study
Frequency of exposure to violence and related factors in physician assistants working at Pamukkale University Hospital	2018	Altinok R	Pamukkale Unv. / Faculty of Medicine	Cross-sectional
Evaluation of violence against healthcare workers from the perspective of patients and their relatives	2018	Guler AA	Health Sciences Univ. Istanbul Haydarpasa Numune Training and Research Center Hospital	Cross-sectional
Empathy in physicians from the patient's perspective and physicians' exposure to violence	2019	Arslan D	Health Sciences Univ. Bursa High Specialization Training and Research Center Hospital	Cross-sectional
Knowledge, attitudes and behaviors of healthcare workers in giving code white in case of violence and suggestions of healthcare workers on preventing violence in health	2019	Arikan K	Health Sciences Univ. / Istanbul Okmeydanı Eğt. ve Arş. Hospital	Cross-sectional
Evaluation of doctors working in clinical branches in Ankara City Hospital, their exposure to violence and their suggestions for solutions against violence	2020	Barıs NP	Ankara Yıldırım Beyazıt Unv. / Faculty of Medicine	Cross-sectional
Evaluation of violence exposure of physicians and nurses working in Düzce University Research and Practice Hospital and the effects of this situation on employees	2020	Karakas TS	Duzce University / Faculty of Medicine	Cross-sectional
Public attitudes towards violence against health workers	2020	Ucar YG	Kahramanmaraş Sütçü İmam Unv. / Faculty of Medicine	Cross-sectional
Comparison of attitudes and behaviors of patients and their relatives towards violence in health care who applied to Family Medicine outpatient clinic and emergency department green area	2021	Alan A	Health Sciences Univ. Ankara Dışkapı Yıldırım Beyazıt Training and Research Center Hospital	Cross-sectional
Investigation of the relationship between empathy and exposure to violence in family health center workers	2021	Cinar C	University of Health Sciences / Faculty of Medicine	Cross-sectional
The effect of violence against healthcare professionals on the career plans of intern doctors	2022	Girginer HM	Sivas Cumhuriyet Unv. / Faculty of Medicine	Cross-sectional
The effect of resident physicians' attitudes towards violence in health on their decisions in patient and disease management process	2023	Bozkurt KE	Health Sciences University Ankara City Hospital	Cross-sectional
The frequency and determinants of workplace violence against health care workers in a medical faculty hospital	2023	Say N	Ondokuz Mayis University Faculty of Medicine	Cross-sectional

Among the 12 theses on violence in health, 4 theses examined violence against health care workers from the perspective of all health care workers; 3 of them examined violence against physicians and one of them examined violence against both physicians and patients. Four of the theses investigated the attitudes and behaviors of patients, relatives and society on violence.

When the theses were analyzed in general, the most common type of violence was verbal violence. According to the common conclusions of the analyzed theses, health workers mostly do not file a complaint after exposure to violence. After exposure to violence, most of them continue their work without responding. The reason for not filing a complaint was the lack of belief that results would be obtained. The most common impact of violence on health workers was anger and resentment. The most repeated solution suggestion was to take legal measures.

Data on the attitudes of healthcare workers towards violence in the analyzed theses are presented in Table 2.

Table 2. *Attitudes of healthcare workers towards violence in health*

	Attitude of health workers in the face of violence	The most common cause of attitude	The impact of violence on the employee
Altinok R.	No response (57.4%) Response to verbal violence (17.4%) Code White (12.3%)		
Arikan K.	Reporting to security (68.1%) No response (48.2%) Code White (45.4%)		
Barıs NP	No complaint (46.6%) (most common)	Not believing that results will be achieved (30.8%)	Anger (78.9%) Burnout (65.5%)
Karakas TS	No complaint (58.9%) (most common)	Not believing that results will be achieved (68.4%)	Anger (54.3%) Sadness (51.7%)
Bozkurt KE	Code White (26.1%)		

One of the theses examined examined intern doctors' perspectives on violence in health and questioned its impact on their career plans. In the study, it was observed that 2/3 of the intern doctors witnessed violence in health and one third of them were exposed to violence. Among these interns, 99.2% witnessed verbal violence and 98.3% were exposed to verbal violence. The most frequent witnessing and exposure to violence occurred in emergency services. The study suggests that 6th grade students were influenced by the incidents of violence in health care and directed their medical specialty preferences towards branches where violence is less common. The study predicted that there may be a shortage of specialists in the future in branches where violence in health is common.

Among the Family Medicine specialty theses on violence in health in the last 7 years, 3 of them dealt with violence in health from the perspective of patients, relatives and society. Five of the theses were related to the effects of violent behavior on healthcare professionals working in different health institutional levels and the solution suggestions of healthcare professionals. Data were collected using the questionnaire method (Table 3).

Table 3. *Participant's profiles and data collection methods of the theses*

Thesis holder	Number of participants	Participants	Method
Altinok R.	227	Physician assistant	Supervised survey method
Guler AA	301	Patient and patient relatives	Face-to-face survey interview
Arslan	200	Physicians and their patients	Face-to-face survey interview
Arikan K	152	Health personnel	Face-to-face survey interview
Barıs NP	308	Physician	Self-survey method
Karakas TS	356	Physicians and nurses	Supervised survey method
Ucar YG	1306	Individual over 18 years of age	Face-to-face survey interview
Alan A	300	Patient and patient relatives	Face-to-face survey interview
Cinar C	201	Family physician and family health worker	Face-to-face survey interview
Dagashan T	387	Female health worker	Supervised survey method
Girginer HM	183	Intern doctor	Supervised survey method
Bozkurt KE	383	Assistant Physician	Electronic survey application
Say N	950	Health workers	Face-to-face survey interview

More than half of the healthcare workers who participated in the studies reported that they had been exposed to at least one form of violence while on duty at some point in their professional life. In the studies, it was observed that the perpetrators of violence were mostly patients' relatives. The most common reasons for violent behavior and its increase were identified as intolerance of waiting and health policies. It was found that violence in health was

most frequently encountered in emergency services, wards and outpatient clinics. In these theses, the most common causes of violence were attributed to low education level, impatience and lack of understanding, angry and aggressive family members. It was stated that doctors were the most frequently subjected to violence. As a solution suggestion, the participants thought that increasing penalties and security measures would be useful (Table 4).

Table 4. According to the theses, the type of violence experienced, the place of violence and the reasons for the increase in violence

	The most common type of violence	Seen as the cause of violence/increase in violence	The most common place of violence
Altinok R	Verbal violence (83,1)	Health policies (17%) Perceiving violence as deserved (16.6%)	Polyclinics (39%) Emergency room (26.7%)
Arikan K	Verbal violence (%90,8)	Perceiving violence as deserved (67.4%) Health policies (65.2%)	Emergency service (46.1%)
Barıs NP	Verbal violence (81,3)	Intolerance of waiting	Outpatient clinic (75.2%) Emergency department (62.6%)
Karakas TS	Verbal violence (71.1%)	Waiting / delay	Inpatient ward (41.5%) Emergency service (38.5%)
Chinar C	Verbal violence (90%)		Examination room (66.2%)
Girginer HM	Verbal violence witnessed by 99.2%, verbal violence experienced by 98.3%		Emergency room witnessed (84.8) Exposed (68.3%) emergency department
Bozkurt KE	87.6% only verbal, 1% only physical, 10.4% both verbal and physical violence		
Say N	96.3% verbal violence, 20.3% physical violence, 77.8% psychological violence, 4% sexual violence.	Negative response to inappropriate requests of patients and relatives	Services

Among the theses included in our study, there are two theses in which the empathy scale was applied. In one of them, the perception of physician empathy in the eyes of the patient, and in the other, the empathy characteristics of the health worker were questioned and their relationship with violence was tried to be investigated. In both studies, the Jefferson Physician Empathy Scale was applied. According to the studies conducted from the patient's perspective, it was reported that empathy scores increased as patient age increased and socioeconomic level decreased. Studies have interpreted this situation as physicians may be more empathetic towards their elderly patients or that elderly patients may have more reasonable expectations and tolerate errors better, if any, because they know the difficulties of the previous health system and the difficulties of access to doctors. For physicians, patients' perceived empathy was not associated with violence against physicians, malpractice and patient complaints. In the other study, a significant relationship was found between the empathy scores of healthcare professionals and age and professional experience. However, it was reported that there was no significant relationship between the number of violent incidents and empathy scores.

DISCUSSION

Considering the theses, we examined in our study, ıt was found that only two of these theses were conducted in primary healthcare services, while the other 10 theses were conducted in tertiary healthcare organizations. When the theses were analyzed in terms of content, it was seen that the participants were generally healthcare professionals. It was observed that the attitudes of health workers towards violence, the reasons for these attitudes and the effects of violence on the health workers were investigated.

Although incidents of violence against healthcare workers have existed in our country, as in the whole world, since long ago, a significant increase has been observed in recent years. Since the incidents of violence in health have increased in recent years, research and scientific publications on violence in health have also increased in parallel. In a study by Ramacciati et al. it was mentioned that violence in health is a serious and widespread problem worldwide and has started to attract more attention of academicians.[4]

More than half of the healthcare workers in the studies reported that they were exposed to at least one type of violence while on duty at some point in their professional lives. Kaya et al. showed that 74.4% of physicians and nurses were exposed to any type of violence during their working life in a study on violence against healthcare workers.[6] According to a study by Fernandes et al. violence in health care is becoming alarming in all countries of the world. It has been reported that nurses are the most frequently exposed to violence after police officers in the USA and Canada.[3] The increase in the level of anxiety due to violence and the fact that the health worker does not feel safe negatively affect the level of academic success, work performance, desire and view of the profession in health workers.[8]

When the theses were examined in general, verbal violence was found to be the most common type of violence. In most of the studies examining violence in health, the result was similarly found to be verbal violence. [2,3,7,10] In the studies, it was observed that the perpetrators of violence were mostly patient relatives. The most common reasons for violent behavior and its increase were found to be intolerance to waiting and health policies. In the literature, the most common reasons for violence by patients and their relatives are delays, dissatisfaction with the provision of health services, and impulsive behaviors resulting from deficiencies. [3,7,12] In the study, it was emphasized that violent behaviors of healthcare service users should not be naturalized. It was stated that violent behaviors should be examined and repelled without being ignored. It was emphasized that all citizens should intervene in the cycle to reduce. [3]

In most of the thesis studies we analyzed, it was found that violence in health was most frequently encountered in emergency services and outpatient clinics. According to the common conclusions of the studies, healthcare workers mostly did not file a complaint after exposure to violence and most of them continued their work without responding after exposure to violence. The reason for not filing a complaint was the lack of belief that results would be obtained. Similarly, in a study in the literature, most of the employees working in emergency services were exposed to violence, most of the victims of violence did not apply to legal remedies, and the reason for not applying was the belief that no results would be obtained.[11] The most common common effect of violence on healthcare workers was anger and resentment. The most repeated solution suggestion was to take legal measures. In his comprehensive guide on workplace violence in healthcare services, Warren describes in detail an effective, multi-layered training program that addresses all aspects of behaviors related to workplace violence. He stated that through such preparation, assessment and training, the incidence and severity of workplace violence problems of healthcare workers could be reduced.[5]

In the theses, data were generally collected through face-to-face questionnaires. Two of the theses collected data by applying the empathy scale. In one of these theses, the perception of physician empathy in the eyes of the patient, and in the other, the empathy characteristics of the healthcare worker were questioned and their relationship with violence was tried to be investigated. It was also noteworthy that qualitative research methods were not used in the theses we examined in our study.

One of the theses in our research examined intern doctors' perspectives on violence in health and questioned its impact on their career plans. The study states that intern doctors, who are affected by the incidents of violence in health, direct their medical specialty preferences towards branches where violent incidents are less common. Similarly, in a study conducted in a similar manner, it was mentioned that 55.2% of medical school students were exposed to or witnessed violence during their medical education.[7] According to another study, nearly 50% of the participating students' opinions about the profession of medicine were negatively affected during their medical school education. [9]

CONCLUSION

As a result of our research, it is thought that the number of specialty theses in the field of family medicine on violence in health has increased in recent years and there is interest in this subject by researchers. However, it is thought that the number of theses in this field is insufficient; it is thought that the awareness of the problem of violence in health and the solutions should be investigated within the scope of medical specialty thesis studies and it is important to increase the number of academic studies on the subject. In addition, when the content analysis of the theses was performed, it was observed that a large proportion of healthcare professionals were exposed to at least one type of violence at least once during their professional lives. These acts of violence they encounter in their professional lives prevent healthcare professionals from performing their profession properly, and the anxiety and pessimism they experience seriously reduce their professional motivation and performance. To make a useful and robust

contribution to the fight against violence in health services, more research on this issue is needed.

Ethics Committee Approval: Atatürk University Faculty of Medicine Clinical Research Ethics Committee (Date: 01.12.2022, Number: B.30.2.ATA.0.01.00/782).
Peer-review: Externally peer-reviewed.
Declaration of Interests: The author have no conflicts of interest to declare.
Funding: The author declared that this study has received no financial support.

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ATATÜRK ÜNİVERSİTESİ YAYINLARI
ATATURK UNIVERSITY PUBLICATIONS

Research Article DOI: 10.5281/zenodo.11103588

The Effect of Clinical Education on the Career Preferences of Medical Students

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ABSTRACT

Objective: The intern medicine period is the last stage of pregraduation medical education and is also a period in which students' postgraduate plans are shaped. This study aimed to determine intern students' future career plans, branch preferences and opinions about specialization.

Methods: Intern students studying at the Van Yüzüncü Yıl University Faculty of Medicine were included in the study. A survey form prepared by the researchers was used as a data collection tool. The data were analyzed with the SPSS 20 program.

Results: The average age of the students (n=125) was 23.2 years, and 63.2% were male. The reasons for choosing medical school were that it was a respectable profession, interest in medicine, and job guarantee. Eighty-four percent of interns wanted to receive specialization training. The percentages of students who preferred the gynecology and obstetrics, general surgery and pediatrics specialties were 12%, 7.2%, and 8.8%, respectively, in the first year and decreased to 6.4%, 4.8%, and 3.2%, respectively, in the sixth year. Professional satisfaction, desire to make a career, status and earning money are the prominent reasons why students think that specialization education is necessary. Among the factors affecting students' branch choices, the top three factors are interest and ideals, examination for specialty in medicine scores, and malpractice risk.

Conclusion: Most of the students aimed to become specialist physicians, their views on branch preferences changed significantly in the sixth year, and there was a serious decrease in surgical branch preferences.

Keywords: Medical education, Medical student, Career choice, Internship and residency

Received 07.03.2024
Accepted 22.04.2024
Publication Date 02.05.2024

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E-mail: eminlayik@gmail.com
Cite this article: Layık M. E., Korkmaz Yalçın D., Güngör A. I., The Effect of Clinical Education on the Career Preferences of Medical Students. *J Med Educ Family Med.* 2024;27(1):22-30

INTRODUCTION

Medical education (ME) is a long and challenging process that aims to train "good physicians", starting with the entrance to medical school and continuing throughout life. It requires intense effort, patience and dedication. [1,2]

ME is basically evaluated in three stages: pregraduate medical education, postgraduate medical education and continuing medical education. The World Federation for Medical Education defines this process as "triology" and discusses it in three parts: basic education, specialty/doctoral education and lifelong education. Pregraduate medical education is the educational process from the first year of medical school until graduation from medical school. Pregraduate medical education in Turkey consists of six years, the last year of which is the internship period. Students who successfully completed their pregraduate medical education graduated from medical school as general practitioners. [2]

After graduating from the Faculty of Medicine, physicians have three options. These options include being placed in an institution through the obligatory service lottery and practicing as a general practitioner, taking the Examination for Specialty in Medicine (TUS) and being placed in a specialty program or postgraduate education (master's degree, doctorate, etc.). Obligatory services must be completed to work in different private sectors, such as private hospitals, clinics, and workplace medicine.[3] In recent years, due to globalization, international exchange programs and physician migration, working abroad and/or receiving specialist training abroad have also been added to these options.

Medical specialization programmes in Turkey accept students twice a year through the TUS, which is held in the form of a central examination system. Doctors who graduate from medical faculties as general practitioners choose departments according to the scores they receive in TUS, and their placement in the specialty program is conducted by the Student Selection and Placement Center (ÖSYM) through the central system. Specialist students (resident physicians) placed in a specialization program receive specialization training for varying periods of time depending on the chosen branch.[4] Throughout medical education, students' future career plans also change and develop. Studies show that the majority of doctor's purpose to receive specialist training after graduating from medical school. [5–8] A study showed that 65% of students want to work abroad.[5] Although it is not the main subject of this study, the high percentage of students who plan to work abroad is noteworthy. This issue should be investigated comprehensively. In another recent study, this rate was found to be 20%. [8]

When the TUS evaluation reports of candidates who wanted to become specialist physicians in recent years were examined (ÖSYM reports for February 2020), the top three branches were Dermatology, Plastic and Reconstructive Surgery and Radiology, respectively. The branches with the lowest scores and in the last third of the rankings are reported to be Emergency Medicine, Pediatric Surgery and Thoracic Surgery.[9] In a multicenter study conducted in 2023, when students were questioned about branches, they did not prefer to choose branches; general surgery was first, followed by gynecology and obstetrics, followed by pediatrics and brain surgery.[5] This situation suggests that there will be a serious decrease in the number of physicians in these nonpreferred branches in the near future. This change in specialty selection trends is a multidimensional and comprehensive issue that can be the subject of a separate study. The factors affecting the choice of branch for specialization education vary. In a study conducted by Başer and Şahin in 2017, students' opinions regarding preference trends centered on the views that "the magnitude of the troubles that come with caring for risky patients is that physicians are not supported by policies, that the work done is not rewarded financially and morally, and that the respect for physicians is lost in society".[10]

Students' thoughts and interests regarding their field of specialization when entering medical school are shaped during clinical internships and especially during internships. During the internship period, students who receive bedside training in the hospital have the opportunity to observe every branch. They have intimate knowledge of issues such as work life balance, working conditions, branch-specific emergencies, on-call situations, branch preferences, income, the number of assistants and specialists, and the workload of the department. This perspective expands further during the internship period, and future plans are made in light of these experiences gained during the clinical phases.

This study aimed to determine the career preferences and effective factors of intern students of the Van

Yüzüncü Yıl University Faculty of Medicine and to investigate how career plans and branch preferences change throughout the medical education process.

METHODS

Ethics Committee Approval: Ethics committee approval was obtained from Van Yüzüncü Yıl University Local Ethics Committee (Date: 30.10.2018, **Number:** 2018-10/194)

Type of Research and Participants

This was a cross-sectional study conducted with intern students of the Van Yüzüncü Yıl University Faculty of Medicine in the 2020-2021 academic year. The population of the research consisted of 160 interns. Participation in the study was voluntary. Since it aimed to reach all the students, sample calculations were not performed, and all students who agreed to participate were included in the study. A total of 125 students participated in the study, and 78% of the population was reached.

Survey Form

A 17-question survey form prepared by the authors was used as a data collection tool in the study. In the first part of the survey, the sociodemographic characteristics of the students were questioned. In the second part of the survey, students were asked questions about their reasons for choosing medical school, the fields they wanted to work in after graduation, their thoughts about the necessity of specialty training, and the factors affecting their choice of specialty. In the last part of the survey, students were asked about their postgraduate plans and specialization preferences.

Data collection process

The surveys were completed using face-to-face interviews, and participation was voluntary. The students were not asked any identifying questions, and the data were collected anonymously. Each survey took approximately 10-15 minutes to complete. After the data collection process was completed, the data were checked by two researchers, transferred to the computer environment and analyzed in the SPSS 20 (IBM, Armonk, NY, USA) package program. Categorical variables were expressed as numbers and percentages. Students' preferences in the first and sixth grades were compared by using a 2-proportion comparison test. The level of statistical significance was accepted as $p<0.05$.

RESULTS

Complete data from 125 students were evaluated. The average age of the participants was 23±4.65 years, and 63.2% (n=79) were male. A total of 54.4% (n=68) of the students were Anatolian high school graduates, 10.4% (n=13) had an income less than their expenses, and 64.8% (n=81) were living in a student house. The sociodemographic characteristics of the students are presented in Table 1.

Table 1. *Sociodemographic characteristics of the participants (n=125)*

		Count (n)	Percent (%)
Gender	Male	79	63.2
	Female	46	36.8
Income Status	Income and expense equal	79	63.2
	Income exceeds expenses	33	26.4
	Income is less than expenses	13	10.4
Mother's Educational Status	Illiterate	30	24.0
	literate	10	8.0
	Primary school	35	28.0
	Middle school	12	9.6
	High school	21	16.8
	University	17	13.6
Father's Educational Status	Illiterate	9	7.2
	literate	10	8.0
	Primary school	20	16.0
	Middle school	16	12.8
	High school	34	27.2
	University	36	28.8
High School Graduated	Anatolian High School	68	54.4
	Science high school	24	19.2
	Normal highschool	19	15.2
	Teacher high school	8	6.4
	Private high school	4	3.2
	Imam Hatip high school	2	1.6
Accommodation	Student house	81	64.8
	Homestay	24	19.2
	Government dorm	17	13.6
	Other	3	2.4

The students' preferences for medical school were that it was a respectable profession (50.4%), they were interested in medicine (48%), and there was a job

guarantee (47.2%) (Table 2). After graduation, students most frequently wanted to work in tertiary care (58.4%, n=73) and second most frequently in primary care (25.6%, n=32). A total of 51.2% (n= 64) of the students stated that specialization education was necessary in terms of professional satisfaction, 36.8% (n=46) in terms of making a career, and 15.2% (n=19) in terms of status. Eight percent of the students (n= 10) did not find specialist training necessary (Table 2). The students' responses regarding situations that may affect their specialty preferences are shown in Table 2.

Table 2. *Participants' reasons for choosing medical school, the fields they want to work in and their reasons, and their thoughts about specialty training*

Students'		Count* (n)	Percent** (%)
Reasons for choosing the Faculty of Medicine	Being a respectable profession	63	50.4
	Interest in medicine	60	48.0
	Having a job guarantee	59	47.2
	Family and environmental guidance	47	37.6
	Helping people	46	36.8
	Having a high score	26	20.8
Areas they want to work in	Primary Healthcare	32	25.6
	Secondary Healthcare	28	22.4
	Tertiary Healthcare	73	58.4
	Public health directorates	22	17.6
	112 command centers	16	12.8
	Private clinics and hospitals	13	10.4
	Pharmaceutical companies	6	4.8
	Other	3	2.4
Thoughts on specialization	Necessary, in terms of professional satisfaction	64	51.2
	Necessary for career building	46	36.8
	Necessary, in terms of status	19	15.2
	Necessary, in order to earn more profit	12	9.6
	Necessary, other (in terms of doing one's job thoroughly in a certain field, specialization (scientific))	10	8.0
	Not necessary	10	8.0
	Necessary, in terms of family and environmental pressure	6	4.8
Factors affecting the choice of specialization	Interest and ideal	95	76.0
	TUS score	81	64.8
	Risk of malpractice	76	60.8
	Presence and duration of seizure	74	59.2
	Financial	67	53.6
	Intensity of working hours	67	53.6
	Personal abilities	64	51.2
	Career opportunity	50	40.0
	Working conditions	47	37.6
	Having a clear future	46	36.8
	Assistantship duration	42	33.6
	Gender	39	31.2
	Mobbing situation	35	28.0
	Having the opportunity to minor	33	26.4
	Reputation in society	30	24.0
	Having the opportunity to work in the private sector	28	22.4
	Other	3	2.4

*The total number is more than 125 since more than one option can be selected.

** Since more than one option is selected, the total percentage is more than 100%.

When students' career preferences are questioned, 79.2% (n=99) of first-year students and 84% (n=105) of sixth-year students want to receive specialist training. There was no statistically significant difference between the first and sixth grades in terms of the desire to receive specialist training (p>0.05).

The number of students who want to work outside the field after graduation has not changed. While students' desire to become a general practitioner decreased in the sixth grade compared to the first grade, their desire to receive medical specialization training increased. The postgraduate plans of students in the first and sixth grades are shown in Figure 1.

There was no statistically significant difference (p>0.05) between students who were undecided about their branch choice in either the first or sixth grade (24.8% and 25.6%, respectively).

In the sixth grade, the preference rates for both the departments of dermatology (from 0.8% to 4.8%) and radiology (from 0.8% to 3.2%) increased significantly compared to those in the first grade (p<0.05).

Other departments whose preference increased in the sixth grade were the Eye Diseases, Internal Medicine, Family Medicine, Emergency Medicine, Otorhinolaryngology and Physical Medicine and Rehabilitation departments (Table 3). The percentages of intern-year departments with a decrease in the number of preferences compared to those in the first year were as follows: general surgery (from 12% to 6.4%), cardiology (from 8.8% to 4%), gynecology and obstetrics (from 7.2% to 4.8%) and pediatrics (from 7.2% to 4%). Preference rates for the plastic surgery, brain surgery, psychiatry, neurology and cardiovascular surgery departments also decreased in the sixth grade compared to the first grade. The decrease in the preference for surgical branches was noteworthy (Table 3).

Table 3. *Students' Specialization Field Preferences in the First and Sixth Years (n=125)*

	First Year		Sixth Year	
Field of specialization preferences	Count (n)	Percent (%)	Count (n)	Percent (%)
I'm undecided	31	24.8	32	25.6
General surgery	15	12.0	8	6.4
Cardiology	11	8.8	5	4.0
Plastic surgery	9	7.2	7	5.6
Gynecology and obstetrics	9	7.2	6	4.8
Pediatrics	9	7.2	4	3.2
Brain surgery	7	5.6	6	4.8
Eye diseases	4	3.2	5	4.0
Internal diseases	4	3.2	5	4.0
Orthopedics and traumatology	3	2.4	3	2.4
Family medicine	3	2.4	5	4.0
Mental health and diseases	3	2.4	2	1.6
Neurology	3	2.4	1	0.8
Cardiac surgery	3	2.4	1	0.8
Emergency medicine	2	1.6	5	4.0
Otorhinolaryngology	2	1.6	3	2.4
Physical Medicine and Rehabilitation	2	1.6	3	2.4
Dermatology	1	0.8	6	4.8
Radiology	1	0.8	4	3.2
Forensic medicine	1	0.8	1	0.8
Radiation oncology	1	0.8	0	0
Sports medicine	1	0.8	0	0
Urology	0	0	3	2.4
Biochemistry	0	0	2	1.6
Thoracic surgery	0	0	2	1.6
Pediatric surgery	0	0	2	1.6
Anesthesiology and reanimation	0	0	2	1.6
Infectious diseases	0	0	1	0.8
Public health	0	0	1	0.8
Medical education	0	0	0	0
Pharmacology	0	0	0	0
Pathology	0	0	0	0
Anatomy	0	0	0	0
Histology and embryology	0	0	0	0
Microbiology	0	0	0	0
Physiology	0	0	0	0

The preference of the Orthopedics and Forensic Medicine departments did not change between the first and sixth grades.

In the first and sixth grades, nobody indicated that they would prefer basic sciences (e.g., Pharmacology, Pathology, Anatomy, Biophysics, Biostatistics,

Physiology, Histology and Embryology, Microbiology, Medical Education) or Child Psychiatry, Chest Diseases, Nuclear Medicine departments. While the branches of biochemistry, urology, public health, infectious diseases, anesthesiology, thoracic surgery and pediatric surgery were not considered by anyone in the first year, they became among the preferred branches in the sixth year (Table 3, Figure 2).

DISCUSSION

This study was conducted to investigate the opinions of interns about their postgraduate career plans and medical specialty education and to determine the effects of clinical education on their specialty field preferences.

Our research results showed that the majority of students want to receive specialized training and that their branch preferences differ significantly between the sixth grade and the first grade. No change was detected in the proportion of students who were undecided about their branch choice between the first and sixth grades. The literature contains various studies on why students choose medical faculty, their specialty preferences, and the factors affecting these preferences.[11–15] We focused on the effects of clinical education on students' specialty preferences.

In two different studies, students' reasons for choosing medical school were having a field of interest, providing professional help, social prestige, professional satisfaction and obtaining high income.[13,16] In a study conducted in Antalya, the reasons for choosing medical faculty were determined to be prestige, job guarantee, interest in medicine, benefiting people, university entrance exam score, and guidance from family and environment.[6] In a study conducted in Malatya, reasons such as the desire to be helpful to patients, being a successful student, being interested in medicine, and thinking that medicine is a respected profession were listed as reasons for preference.[15] In another study, the first three reasons for preference were reported to be the desire to help people, guidance from family and/or teachers, and a respected profession, followed by economic reasons.[17] In two separate studies, it was determined that ideals and the desire to help people came first among the reasons for choosing medical school.[18,19] In our study, the reasons why students chose medical school were that it is a respected profession, interest in medicine, a job guarantee, guidance from family and the environment, a desire to help people, and a high score. Since physicians who graduate from medical school are general practitioners and do not have to worry about finding a job, the job guarantee becomes one of the prominent reasons for choosing medical school.

According to the literature, the majority of students who graduate from medical school want to pursue a career. In Dörtyol's (2017) study, the postgraduate career plans of physician candidates were determined to be taking the TUS exam and working in tertiary healthcare institutions.[6] Köksal et al. (1999) studied 1340 students and reported that 87.5% of the students wanted to become experts.[12] In Nas and Tanrıverdi's study (2022), it was determined that 74% of newly graduated physicians wanted to receive specialty training.[8] In our study, it was determined that, in line with the literature, almost all of the students wanted to receive specialist training and work in tertiary care. In two separate studies conducted abroad, it was shown that students want to work in a hospital in their career plans.[20,21] Tengiz and Babaoğlu, whose study was conducted in 2020, determined that all interns wanted to receive specialty training and that none of them wanted to work as general practitioners.[7] In our study, the proportion of students who wanted to receive specialization training after graduation did not change between the first and sixth grades. The fact that the majority of physicians want to receive specialization training and branch out may lead to disruptions in primary care services in the long term. Ergin et al. (2011) emphasized the necessity of implementing measures that would change the existing situation due to the risk of excessive specialization.[14]

It has been reported in the literature that various factors, such as professional satisfaction, status, career and economic return, are effective for students who want to receive specialized training.[7,22] Tengiz and Babaoğlu (2020) reported that the factors that most affected students' career choices were "lifestyle flexibility" and "acceptable working hours".[7] Öztürk and Erensoy (2019) reported that the most common reasons why students wanted to receive specialist training were professional satisfaction and prestige.[22] In our study, the most important factors affecting students' branch preference were field of interest and ideals (76%), TUS score (64.8%), malpractice risk (60.8%), and presence and duration of seizures (59.2%).

When the branch preferences were examined, in the study conducted by Köksal et al. (1999), the most common ones were Pediatric Health and Diseases, İnternal Medicine, Gynecology and Obstetrics, Cardiology and General Surgery.[12] In the study of Ergin et al. (2011), the order of preference was Dermatology, Psychiatry and Cardiology.[14] In the study by Tekin, Güneş and Türkol (2013), this branches were defined as "eye disease", "cardiology", "gynecology" or "gynecology and obstetrics". It seems that the preferred areas are mainly clinical areas.[11] In the studies of Öztürk and Erensoy (2019), the preference rates for internal, surgical and basic medicine sciences were 57%, 40% and 3%, respectively.[22] According to Nas and Tanrıverdi's study (2022), 69% of the students preferred the internal branch, 26% preferred the surgical branch, and 5% preferred the basic sciences.[8] While medical students receive internship training in the clinic, they have the opportunity to work in every branch and make detailed observations; thus, their career choices become clear. In our study, while general surgery, cardiology, plastic surgery, gynecology and pediatrics were preferred in the first year, there was a significant decrease in the preference for these branches in the sixth year. In particular, there has been a shift away from the main branches, and there has been an increase in all specific branches that do not require subbranches. The reasons why students change their preferences in the sixth grade should be revealed through more comprehensive research.

Köksal et al. (1996) reported that financial return comes first, followed by ideals such as specializing in a single branch and being a better.[12] In the study by Ergin et al. (2011), professional satisfaction ranked first, while financial return ranked second.[14] In Dörtyol's study, the reasons for preference were area of interest, TUS score, presence of seizures, working hours, financial return and malpractice risk.[6] In our study, the most important factors affecting the choice of branch were the field of interest and ideals, TUS score, malpractice risk, presence of seizures, financial return and intensity of working hours. In two separate studies conducted abroad, it was shown that financial return has an important role in career choice.[23,24] When specialization preference and reasons for preference were examined, the prominent factors affecting both the change in students' ideals and the final decision were found to be more suitable working conditions, malpractice risk in the relevant field, working environment and economic concerns.

Limitations

Our study has several limitations. First, this was a cross-sectional study conducted with interns of a single medical school. The results may not be generalizable to medical students. However, since the students have similar profiles, it can be thought that medical students are represented. Second, in the survey, students' opinions in the first grade were also questioned when they were in the sixth grade. This may cause recall bias. Finally, only categorical data were included in the data collection. Factors affecting students' reasons for choice should be investigated through more comprehensive studies.

CONCLUSION

As a result, most of the intern students of the Faculty of Medicine where our study was conducted wanted to receive specialized training and work in tertiary care after graduation. When the field preferences of the students were examined, most of them stated that they were undecided. While departments such as dermatology and plastic surgery are more in demand, the number of students who want to choose some departments such as Cardiovascular Surgery, Chest Diseases, Neurology, Infectious Diseases, Forensic Medicine, Child Psychiatry, Public Health and Nuclear Medicine is only one. It has not been a preferred field other than biochemistry, one of the basic medical sciences. Although the majority of students state that they want to be experts, the percentage of those who are undecided about their career plan is high. Considering that every graduating student has to work in primary care with obligatory service, it may be thought that there are deficiencies in both mental readiness and quantitative competence for primary care.

In addition, it is known that the lack of specialists in some vital basic, surgical and internal branches is inadequate today due to malpractice and working conditions and that this gap cannot be closed and may even increase. This may lead to significant risks to public health.

According to the results of this study, providing career counseling to students in pregraduation and postgraduate education, regulating working conditions (such as work-life balance, shift periods, violence in health, and economic return), and conducting comprehensive research (the reasons for branches that are less or not preferred) are needed.

To provide a balanced health service, it may be beneficial to understand the reasons for the large differences in preferences between branches, to take the necessary precautions, and to increase legal measures to protect physicians, especially in departments at high risk of malpractice.

Ethics Committee Approval: Ethics committee approval was obtained from Van Yüzüncü Yıl University Local Ethics Committee (Date: 30.10.2018, Number: 2018-10/194)
Informed Consent: Consent was obtained from all participants.
Peer-review: Externally peer-reviewed.
Author Contributions: Concept-MEL,DK; Design-MEL,DK ; Supervision-MEL,DK ; Resources-MEL DK,; Data Collection and/or Processing-MEL,DK; Analysis and/or Interpretation-MEL,DK*; Literature Search-MEL,DK,AIG; Writing Manuscript- MEL,DK,AIG; Critical Review-MEL,AIG, DK
Declaration of Interests: The authors have no conflicts of interest to declare.
Funding: The authors declared that this study has received no financial support.

* The summary of the relevant study is presented as an oral presentation at EDUCONGRESS 2023.

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ATATÜRK ÜNİVERSİTESİ YAYINLARI
ATATURK UNIVERSITY PUBLICATIONS

Invited Review

DOI: 10.5281/zenodo.11103530

Strategies and recommendations for medical education in the Emergency Department: It's good to remember

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ABSTRACT

This review paper examines the literature on tactics and suggestions for medical education in the emergency department, synthesizing insights and wisdom from a medical educator's perspective. Its focus is to emphasize the central role of medical educators as role models and to underscore the ongoing processes of professionalization.

Keywords: Emergency, medical education, undergraduate, professionalism, role model

Received 02.04.2024
Accepted 22.04.2024
Publication Date 02.05.2024

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Cite this article: Midik O. Strategies and recommendations for medical education in the Emergency Department: It's good to remember. *J Med Educ Family Med.* 2024;27(1):31-38

INTRODUCTION

What are medical students doing in the emergency department?

Have you ever seen a medical student who has not been trained in the emergency department (ED)? I do not think so. Emergency medicine is one of the most important fields of medicine. Please go back to your own studenthood and think about it; maybe you may have sutured the first suture there, you may have done the first resuscitation there. You may have even witnessed death for the first time there. Emergency is the place where the pleasure of dynamism is experienced as well as insomnia and violence...

We wanted to see more patients, we wanted to be able to diagnose, plan treatment, and be the hero of the patient with our student mind... Some of us could not find what we wanted there. Some of us were so impressed that emergency medicine became our dream. We did not care about the shifts, as long as we dreamed of being like our super teacher.

Emergency medicine has a place for medical students: to learn and experience in a real environment, with real patients, in a real team; to encourage bright and motivated students to choose emergency medicine; to establish future collaborations with colleagues and health personnel; and to understand the contribution of emergency medicine to the medical environment and, of course, to understand the emergency conditions of diseases and to be able to manage emergency patients...

Patients often present to the ED with a new illness, condition or exacerbation of a chronic disease. Therefore, students will learn the approach to a patient with undifferentiated complaints here. Cases coming to the ED are an essential learning environment for graduates who will work in primary or secondary care. A student in the ED will learn to develop a list of differential diagnoses, take history, perform physical examination, perform emergency procedures, and plan emergency treatment [1,2]. Teaching is difficult, requires preparation time and is rarely a natural talent. Just because you are a good clinician does not mean you will be a good educator. In the ED, students have many reasons to learn, but do you have many reasons to teach?

Teach for the right reason. First, if you are teaching it for personal gain and you do not see it as altruistic, it can be daunting for you; you may see it as a workload. Your students will quickly recognize your lack of enthusiasm for the task at hand, and your frustration with the workload will become apparent [3]. Ideally, the teaching situation and processes should be satisfactory for you. You should make teaching a passion and use this passion to improve your performance in teaching. Teach with caring.

The best learning comes from teaching. Use your teaching processes to enhance your own learning processes. Think about the powerful and direct impact of education on patient care. The knowledge and skills you pass on to students today will spread through their service tomorrow and for years to come. You have the potential to impact countless lives with every clinical pearl offered. From this perspective, could you need a more compelling reason to teach?

What to teach medical students in the emergency department?

One of the most important sources on what a medical student should know/be able to do is the Turkish National Core Curriculum.[4] In this resource, clinical symptoms, conditions and diseases are included, and their relationships with learning levels are presented. This material should be used as the bedside book of the faculties and should be used in accordance with the programme designs.

What are the competences of an educator teaching medical students?

Professional: Start by acknowledging the students' presence and your role as an educator. Students like and respect an educator who is respectful and caring and who takes on different roles when necessary. Your professional behavior also increases your interest in learning. Teach your students courage, accessibility, justice, health advocacy, ethics. The more enthusiastic you are about teaching, the more contagious it will be. Angry, sarcastic, disrespectful, undisciplined behavior breeds the same in your students and may one day be directed at you. The device is open and approachable. Do not be condescending or overbearing. If students do not feel comfortable asking a question, or if they get a plan or a difference wrong, they will avoid you or be reluctant to progress in their knowledge and skills. This hinders your ability to teach and their desire to learn.

Expert: Show how competent you are in your field. Start by being a good clinician. Clinical excellence is a

prerequisite for being a teacher and a role model. Teach your students to be good clinicians, to follow scientific studies, to constantly improve and, above all, to challenge themselves.

Communicator: Know and use your students' names. This shows that you care and value them. Let your communication with others be exemplary and expect the same from your student. They demonstrated how to communicate with patients, relatives, colleagues and other health professionals, especially in the emergency department, and how to address difficult and conflicting situations.

Mentor: Accept your students as adults, realize your education process by considering the principles of adult learning but with a disciplinary style. To be a good mentor, develop conceptual frameworks for learning and teaching, and transform theories into practices. Try to train your students gradually from apprenticeship to mastery in accordance with their own levels and experiences. In this process, fulfill your role as a teacher/counsellor/guide and eventually mentor.

Continuous learner: Develop yourself in new learning and teaching theories, methods and techniques. Put what you have learned into practice and motivate others to do the same.

Role model: Model the behaviors you want them to adopt. Actions speak louder than words. Do not allow your words and behavior to contradict so that a trusting environment can be established.

Educational Leader: As clinician trainers, they are leaders in monitoring the developments in educational processes, seeing the gaps in the programme and creating a qualified learning and teaching environment.

What works and what does not work in emergency medicine education?

Strategy 1: Set expectations

Setting expectations is the most important thing you can do before you start to foster an effective learning environment. It is necessary to listen not only to the individual needs/expectations of the learners but also to the expectations of the whole team. This behavior is important for creating and maintaining a supportive and collaborative learning environment while ensuring the active participation of each individual in the process. [3]

Recommendation one: _Scrutinize_

Analyze the current situation: What do we have and what do not we have?

First, we review the block objectives if they are already structured and still in use. Check the appropriateness of the objectives in terms of scope, wording, relevance to the examination questions and their place in the teaching materials. We ask whether the objective-method test matrix is structured and, if so, whether it is appropriate and how it is used in the process. This stage involves mapping the current situation. Your results will be an analysis of your curriculum, and what needs to be done/improved/regulated will become visible.

Suggestion two: _Make a fliskos_

Understand expectations: Who said what? Identify your audience's needs to create satisfying educational encounters. Whether you are teaching at the bedside, lecturing to a crowd, or presenting to a small group will help you align your learners' goals with your own. Assessing your learners' needs will allow you to target your teaching, determine the interest level of your subject matter and connect with your audience [3]. Expectations can vary: how to provide patient care, how to avoid litigation, or even how to pass an exam. It is appropriate to plan your programme to meet all these questions and expectations.

Learners' aims, wishes or expectations can be obtained in different ways. Feedback from the previous group of learners will be useful at this point. Which sessions were the learners satisfied with?

Which trainer did not deliver his/her lesson? Who was late for the lesson? Did they learn? Were the exam questions easy?

Feedback forms should be prepared for different training components, such as content, methods, testing, assessments, trainers, students, resources, the environment, and interactions. If the feedback forms do not question these components, create your own notes.

You can learn about students' expectations from formal feedback forms, but there are also informal methods. You can interview a student or group representative you know from the previous group. Your trainers or other members of the team, such as assistants, nurses or paramedics. The education manager, for example, the deputy dean... What do all these interviews provide? To determine the

optimal hidden curriculum. For example, you can determine what students do during their shifts, problems of interaction between health staff and students, unprofessional behavior by trainers or students, teachers who do not attend block committee meetings... You can obtain this and much more information through these interviews. The information you get from these interviews may not be official, but if you write it down, it becomes official. Although we usually tend to 'act like the previous person', that person may not be you, and you can break the cycle. Please formalize all the information you receive into a report and share it orally and in writing with the relevant committees.

Recommendation 3: _Determine the steps _

Understand the level of knowledge and experience of the learners. The educational process involves learners with different backgrounds and levels of education from a variety of professions and seniority, such as nurses, interns, trainees, and residents. It is important to see each team as a 'learning community' and to organize it to include peer learning, for which there is a need to learn about each other's prior knowledge and experience.[3]

Understanding students' backgrounds allows them to capitalize on the strengths and experiences each student brings to the clinical environment. Many have significant prior knowledge and experience, have worked in a variety of settings and may offer unique perspectives or expertise on a topic. Capitalizing on students' strengths is an effective way of increasing individual satisfaction and fostering a collaborative environment.[3]

When groups have a common level, it is easy to address the goals and objectives of your audience. Groups with different levels require a more organized approach. Pairing students with less prior knowledge or experience with more advanced students can be challenging, especially in a bedside setting, and can enable peer learning. On the other hand, pairing people with low prior knowledge/experience can provide them with the opportunity to fill in missing points at the theory-practice level.[3]

Strategy 2: Programme development

Preparation should be made for competence, proficiency, objectives, methods, testing, educational environments, resources and materials and evaluation of the programme at the stage of designing and developing the programme.

Recommendation 4: _Build a team_

The programme development process is defined as the process of organizing the programme for the first time or about the points that need to be improved. Teamwork is important in this process. The clinical education environment involves multiple methods as well as multiple interactions due to the context. In this respect, in addition to the faculty members involved in the programme, other health professionals in the clinic where emergency care is provided should also be involved in the process. The roles and duties of assistants, nurses and paramedics in the educational process should be defined, and suggestions for improvement should be taken into account.[3]

If this is an existing programme and the team members are specific, check the information about the existing team. Is the team working well? Is the team cohesive? If there are problems, where and with whom? These questions can be answered on two levels. You can throw out the bad apples and buy new ones. Or you can take the rotten part of that apple and make it shine. It is up to your team to decide.

Recommendation 5: _Build_

Design your programme. Build your programme like an architect. Determine training and testing methods appropriate for your objectives [2,3]. Remember that it is important to use methods that are appropriate and relevant to your objectives and that using a variety of methods will appeal to your students' learning styles and maximize learning. You can include presentations, case analysis, bedside encounters, simulation applications, distance learning support, and experience sharing sessions in your programme. You can spice up your program with film analysis, add quality with assignments, scientific research presentations, simulation tasks, patient management, mini clinical examination (miniCEX), and CORE. Would you rather build a makeshift hut or a solid house?

Do not forget to make a matrix when designing your program. Trust me, you will be very comfortable next year.

Recommendation 6: _Adapting to the Millennium_

Identifying appropriate educational technology resources for learners There are many educational resources for health professionals, but finding the most effective can be

time consuming. In addition, certain resources may be more appropriate for learners at certain levels. Learners may not know how to navigate to primary sources of information in an ever-expanding digital environment or may not want to bother. [3] Therefore, having a selection of resources that are readily available and teaching learners how to use these technologies appropriately has become an increasingly important part of health profession education.

Recommendation 7 -Find peers_

Peer learning is one of the methods used for quality education. It develops interprofessional dynamics, creates a collaborative learning environment and increases personal success as an active learner. Studies show that learners learn more from their peers than from trainers and that they prefer to benefit more from their peers in the learning process. Therefore, involving junior doctors and residents, and even other health professionals who are closer in age, in the educational process is avery useful method. The most important thing at this point is to create opportunities to bring students together with their peers. [3] It is good to include students in groups from different disciplines as part of the team and to designate/role one of them as a peer teacher. In this way, the student will see him/herself as part of a team and will be able to reach his/her peers more often and more easily and ask questions without hesitation.

For the other health professional, this role may be seen as a 'burden'. On the other hand, in an academic environment, learning, teaching and service go hand in hand, and this is a responsibility for everyone and, at the same time, beneficial to their own learning process.

Strategy 3: Implementation

Clinical teams are typically composed of learners from different backgrounds and levels of education. This can be daunting, but an effective interaction-oriented team that embraces diversity can easily be used to create an effective learning culture. Ensure that the whole team, not just you, acts in a timely, efficient and supportive manner when conducting practices.

Recommendation 8: _Create an environment_

Create a safe learning environment. A safe learning environment is essential for learners to go beyond their comfort zone. Make your learners feel that you are completely focused on them. If you belittle your learners, you can quickly develop an audience of passive listeners who fear humiliation and are afraid to speak up.[2,3]

By speaking up, encouraging questions and challenging conclusions, you will develop your learners' ability to think broadly, stand behind their reasoning and make a commitment. A nonthreatening learning environment will have incredible benefits that will be reflected in patient care.

Recommendation 9: _Be a professional role model_

Being a role model as a team leader is essential for a supportive learning environment. Talk about professionalism, professional behavior and professional behavior throughout the process.[2,3] In particular, talk to your team members about unprofessional behavior—especially those you identified in Strategy 1—and set targets for improvement.

Suggestion 10: _Capture the interest of your students_

Most adults learn through action, experience and reflection rather than passive assimilation of information. If the ideal teaching is case-based, clinically relevant and experiential, then opportunities abound in the ED. Rounds, for example, contain all these elements and provide highly teachable moments. The lead clinician selects teaching points based on the educational benefit to the team and asks questions of the group to create a collaborative learning approach. These sessions provide an opportunity to explain not only management plans but also decision-making processes. This forces learners to use critical thinking skills, review the management of their patients and take an active role in educating their peers. Students can be further stimulated by demonstrating physical examination findings and modeling communication skills.[2,3]

Whichever method is chosen, the common value is determined by the one-to-one exchange between the trainer and the student. A lecture can be an effective way of conveying information to a large group in a short space of time. The one-way flow of ideas from the lecturer to the audience can be enhanced if the material is case-based and relevant to the needs of the audience and if the presentation allows for open discussion. Llectures can provide a basis for the use of other teaching methods, such as small group discussions, simulation exercises or vocational skills training. These techniques are examples of more active learning that engage learners, facilitate questions and provide opportunities for timely feedback.

Recommendation 11: _Assign a specific role to each student_

Assigning specific roles to each student according to their prior knowledge/experience makes the process effective[3]. Each member of the team can be assigned a patient follow-up or presentation preparation task according to their prior knowledge/experience. When planning the tasks, ensure that the tasks are linked to the competences and that each learner completes one task for each competence.

Recommendation 12: _Go in small steps, keep it simple_

As trainers, it is important that you devote as much time to training as to service. For this purpose, it is important to have structured programmes with clear objectives and schedules. Trainers should plan their service and training processes in advance and deliver the training by making the time allocated interesting and valuable. On the other hand, teaching time may be limited by the clinical education environment, especially in the emergency department. Educational processes can be shortened and/or interrupted at any time for any reason, e.g., a patient, a trainee, an event, a situation, etc.[3]. Even if your objectives are clear, it is advisable to emphasize small and frequent efforts such as showing the big and small picture, showing clues, presenting contradictory situations or solving a problem, rather than stating these objectives as if you were giving a theoretical lecture.

Long lectures and extensive reviews are not only boring but also impractical for emergency services[3]. Focus your discussions and presentations on a specific problem and support your points only with relevant background information. Avoid trying to teach too many concepts at once. This applies to lectures, bedside teaching, simulation and all other teaching venues. Two or three main points were chosen, and other topics and repetitions were avoided. The same principles apply when demonstrating a procedure. It is broken down into logical components (e.g., indications, key points, site preparation, execution, troubleshooting, etc.), paused for clarification and reinforcement, and allowed time for students to ask questions.

Recommendation 13: _Use every encounter_

A lack of time is one of the most common constraints faced by clinical educators. This is often due to a concern that a topic needs to be covered in depth. This perceived limitation often results in missed opportunities for longitudinal learning and smaller but highly relevant teaching points.[3]

To make as many brief teaching moments as possible effective, educators need to become skilled at using each encounter. Moving away from a prepared talking framework on a topic such as heart failure and instead focusing on the immediate clinical encounter requires flexibility and creativity. For example, instead of focusing on the causes of heart failure, one might focus on objectives/topics such as the exacerbation of heart failure or reviewing specific radiographic findings in a patient with heart failure, discussing a differential for breathlessness, exploring the sensitivity or specificity of specific tests or demonstrating how to perform an examination.

Bedside rounding is one of the most important methods of teaching history taking and physical examination. It can also teach professionalism, communication skills and patient education skills. Bedside teaching is avoided due to disrespect for the patient, time constraints and the attitudes of trainers. However, studies have shown that bedside education does not take longer than corridor education. Patients, on the other hand, have a more favorable view of bedside education than thought; students say they feel more comfortable at the bedside, the quality of bedside education is better, and there is better discussion, especially of differential diagnosis and precautions.[1] Emergency medicine involves unique communication. It has the potential to jeopardize patient care and safety due to limited time, stressed and angry patients, multiple tasks, multiple interruptions and teamwork interactions. However, although the importance of communication in emergency medicine education is low, teaching communication skills in emergency medicine is essential. Interprofessional learning and simulation offer opportunities as learning tools. Students' perceived lack of importance of communication skills training and clinicians' time constraints were identified as barriers.[5] The inability of students to receive feedback from trainers and the lack of formal communication skills are seen as deficits.

The emergency department is a rotation that gives medical students the opportunity to stretch and challenge themselves. This environment allows students to encounter a wide variety of patients, integrate clinical skills, history taking, physical examination and professional skills, develop communication skills with these patients, work in a team and manage the patient in

an uncertain and stressful environment. The emergency medicine environment is different from other clinical education environments. Therefore, simulated emergency medicine environments can be used as better training environments. This can be an important step in improving students' competencies before they enter a real emergency environment. Students can learn in a safe, emergency-like environment—with simulated and virtual patients simulating different patient scenarios—and receive feedback and guidance. In this way, when they enter a real emergency environment, they will be able to work in the clinic as individuals who can work on a team to answer questions about what, why, how, where which tasks belong to them, and experience uncertainty and stress.

Recommendation 14: _Keep a treasure trove of clinical pearls_

Being an educator involves sharing experiences and using them as teaching material. The ability to extract valuable insights from these experiences is an important aspect of being a good educator.[3] A well-crafted parable can leave a lasting impression on a student. Additionally, it is advisable to maintain a list of clinical information and tips that can be readily applied when appropriate.

Recommendation 15: _Use longitudinal learning_

It is recommended that longitudinal learning be employed, whereby immediate learning experiences build on prior knowledge and reinforcement and mastery develop over time. This approach to learning provides educators with a significant advantage, even when there are only brief opportunities to teach in any setting [3]. If an educator has the advantage of repeatedly interacting with learners, they can introduce a topic, assign reading or additional homework, and then revisit the topic and expand on it in the next lesson. This approach can strengthen both the consolidation and retention of even short learning encounters. If the trainer does not have the benefit of repeated interactions with learners, it may be helpful to introduce the topic and provide learners with materials such as-prepared papers, manuals or online modules that they can explore independently.

Recommendation 16: _Show what/how you think _

Communicating your thinking to students is the essence of clinical teaching. Just as patients want to know the reasons for their tests and treatments, your students want insight into your decisions. Whether based on basic medical knowledge, simple observations, pattern recognition, or the latest evidence in the literature, your thought process is the most powerful mechanism for clinical teaching. Some educators "think aloud" when discussing a clinical case, giving students direct access to the differential diagnosis and an explanation of the management plan. Another effective teaching method is to explain your decision-making process to the patient and the student at the same time. This saves time, involves the patient in the discussion and allows you to model communication skills. This can be a useful technique if you are unsure of the appropriate patient disposition or if you perceive resistance to your plan from the patient. As learners watch you summarize the case, outline options, seek the views of the patient and family and reach a consensus plan, they will see a complete doctor at work. It will be an opportunity for them to see a model of how to manage not only the medical decisions made but also the clinical, psychosocial, follow-up and liability issues, all in one short encounter.

Strategy 4: Evaluation

The most important stage in the development and implementation of the programme is evaluation.

Recommendation 17: _Do formative examinations_

It is not a question of whether your student passes or fails but whether he/she has truly learned. There are many types of tests that test learning. The more tests that accelerate and motivate learning, the better. Get your students used to multiple testing, get them to use exams as a learning tool. This is the most obvious point in our educational processes. The student may pass your placement without knowing what he/she cannot do and why. They may not have a chance to catch up. Give feedback to your students after each exam so that they can see their missing/open points [2,3]. Use exams as a learning opportunity, so a two-question exam that you do bedside may be better than a single multiple-choice question.

Recommendation 18: _Give and receive feedback_

How did it go? Who was happy with the process? What were the reasons for dissatisfaction? Did students truly learn? Did the programme achieve its objectives? Getting answers to all these questions will give you clues about how to fill the gaps.[2,3] You will also have completed the first step of the next cycle of programme development.

Do not expect your students to become competent or proficient immediately. Students may have seen a lot of

knowledge and skills in the first three years, but they learned them in the first three years of medical school when they did not truly use them very often and no one took the time to monitor and reteach them. So please be patient, do repetition, identify their gaps and get them to fill those gaps and then add new knowledge.

Last word not conclusion

This article presents strategies and suggestions from medical educators to clinical educators regarding medical education in emergency medicine. It is important to draw attention to their significance, remind each other of forgotten values and approaches, and share effective practices. The aim is to increase the number of excellent teachers in the field.

Ethics Committee Approval: Ethic committee permission is not required.
Informed Consent: None.
Peer-review: This manuscript was prepared by the invitation of the Editorial Board and its scientific evaluation was carried out by the Editorial Board.
Conflict of Interest: The author have no conflicts of interest to declare.
Financial Disclosure: The author declared that this study has received no financial support.

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