





Residents' Perception of the Educational Program "Family Medicine" in Kazakhstan: A Focus Group Study

Gulbakit Koshmaganbetova^{1*}, Lazzat Zhamaliyeva², Nurgul Abenova³, Gaukhar Dilmagambetova⁴,
Aliya Zhylyzbekova⁵, Ziyash Tanbetova⁴, Moldir Akhmetzhanova⁴, Aidana Tautanova⁶

¹Department of Master's and Doctoral Studies, West Kazakhstan Marat Ospanov Medical University, Aktobe, Kazakhstan; ²Department of Family Medicine, West Kazakhstan Marat Ospanov Medical University, Aktobe, Kazakhstan; ³Department of General Medical Practice, West Kazakhstan Marat Ospanov Medical University, Aktobe, Kazakhstan; ⁴Department of General Practice, West Kazakhstan Marat Ospanov Medical University, Aktobe, Kazakhstan; ⁵Department of Evidence-Based Medicine and Scientific Management, West Kazakhstan Marat Ospanov Medical University, Aktobe, Kazakhstan; ⁶Department of Scientific and Analytical, West Kazakhstan Marat Ospanov Medical University, Aktobe, Kazakhstan

Abstract

AIM: The purpose of this study was to study the perceptions of training, the opinions of residents enrolled in the Family Medicine (FM) program, and determine the specific needs of the residents of the program "Family Medicine."

METHODS: In this qualitative study, four 1½ h focus groups were conducted with 24 medical residents enrolled in the residency program in FM of the University of Western Kazakhstan, and the results were analyzed using thematic analysis.

RESULTS: The analysis showed the emergence of five themes and 14 sub-themes which were classified according to the areas of questions for discussion in focus groups: perception of the FM specialty, Motivation for admission, the benefits and prospects of FM, Complaints and problems, wishes for improvement of the curricula, ideal workplace.

CONCLUSIONS: This study made it possible to identify the needs of the residents, which had not previously been taken into account sufficiently. The competencies and content of the program will be changed in accordance with the needs of the residents.

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***Correspondence:** Prof. Gulbakit Koshmaganbetova, Department of Master's and Doctoral Studies, West Kazakhstan Marat Ospanov Medical University, 68 Maresyev St., Aktobe, 030019, Kazakhstan. E-mail: gulbakit6@mail.ru
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Introduction

The development and strengthening of primary health care (PHC) is a priority area of the three WHO Health 2020 strategies. In Kazakhstan, as elsewhere in the world, there is a need for family physicians trained in solving PHC problems based on the principles of family medicine (FM). Inadequate training standards and curriculum development can contribute to poor recruitment and retention of physicians in PHC [1].

Residency programs are an integral part of the development, expansion, and development of FM as a discipline. FM residency training requires a structured yet flexible curriculum that allows trainees, faculty, and the program to maintain the core principles of completeness, coordination, continuity, and patient focus, allowing individuals and programs to train,

gain experience, and knowledge in specific areas [2]. Transforming curricula towards community and population health leads to improved student outcomes in terms of knowledge and experience [3].

The Global PHC Conference in Astana in 2018 proclaimed a strategy to increase the capacity of primary care through increased investment in education, research, and the introduction of new technologies in the field of FM [4].

Starting from 2019, the Republic of Kazakhstan launched a 2-year educational program to train FM doctors in residency. The current educational program for the training of family doctors in Kazakhstan covers clinical issues well but does not take into account a competency-based approach, does not develop mentorship, and does not meet World Organization of Family Doctors standards. Despite initiatives to develop

PHC, the family doctor training program in Kazakhstan is still based on the development of individual clinical disciplines, and learning outcomes are not based on competencies. Given the above, the issue of developing a modern curriculum for the training of residents in the SM is acute. The design and development of educational programs require a thorough analysis of training needs. Identification of factors that can significantly affect the conduct and results of training is the main goal of such an analysis [5]. This includes studying the organizational context; defining the characteristics and requirements of the respective work tasks; and defining who the FM residents are and what their characteristics, competencies, and training needs are [6], [7].

To fill the lack with research on the perception of the FM Educational Program by students in the Republic of Kazakhstan, the objective of this study was to study the perceptions of training, the opinions of residents enrolled in the FM program, and determine the specific needs of the residents of the program "Family Medicine."

The research questions:

1. How do FM residents perceive the FM program and the need for training?
2. What is the desired form and content of training for residents enrolled in the FM program?

Methods

Study participants

Participants were recruited from West Kazakhstan Medical University to participate in focus groups. The study purposefully included 24 residents, ten of which are residents of the 1st year of study and 14 of the 2nd year of study. The average age of residents was 26 years. Residents had previous qualifications: GP - 11, therapist - 5, obstetrician-gynecologist - 3, surgeon - 2, and pediatrician - 3. The purposeful choice of these groups is since they represent those who are studying under the current educational program of residency "Family Medicine" [8].

Due to the fact that we were interested in the opinion of residents enrolled in the FM program, the main researcher at the meeting purposefully invited residents in this specialty. The purpose of this study was explained to the residents and informed consent was obtained.

The approval of the local university ethics committee was received (Protocol No 6. June 17, 2021). Informed consent was obtained from all participants prior to the focus group. The data was not shared with anyone other than the researchers involved. In addition, the information collected from the participants was used

only for the purposes of this study. Transcriptions were made anonymously by assigning random numbers to the transcripts. We have excluded identifying information from citations.

Data collection

Data collection was carried out between September and October 2021. Four 1½-h focus groups were held with each of the groups of participants. One researcher led the focus groups and two others took notes. Facilitation in each group was conducted by the same researcher with experience in conducting focus groups. Each focus group was audio recorded. To find out the opinion of residents about the reasons, motives for choosing the specialty of FM, satisfaction with the organization of the educational process, logistics, advantages and difficulties of training, expectations from residency training, the pros and cons associated with the residency educational program and about how, in their opinion, it should be implemented, the researchers developed a list of questions. During the focus groups, the facilitator followed a script of questions to limit differences between groups. In addition, we repeated to the residents that we would like to hear their opinion on the current educational program. The saturation of data on the main topics was achieved after the fourth focus group. The focus groups were held in Russian and Kazakh, so the quotes were translated into English.

Data analysis

Audio recordings of the focus group discussions were recorded verbatim. Qualitative thematic content analysis of transcribed texts was carried out using an inductive data-driven approach to encode content into topics using the MAXQDA2022 software [9]. Results, codes, and topics were continuously discussed with all three researchers until a consensus was reached. Two researchers, one of whom was present during the focus groups and the other who was not, studied the transcripts of each focus group separately, coding for dominant responses. These codes were then combined into main themes. The two coders collaboratively compared these topics and discussed agreements and disagreements. The initial agreement between coders was about 80%. These encoders then re-evaluated the data until an agreement was reached and no new topics emerged. The third researcher, who was present during the focus groups, then read the four transcripts and confirmed these results. Qualitative rigor was performed using the Guba and Lincoln criteria (validity, tolerability, reliability, and confirmability) as a guide [10]. Consolidated Criteria for Reporting Qualitative Research were used to manage data collection and reporting [11].

Results

The analysis showed that separate themes arose, which were classified according to the areas of questions for discussion in focus groups: perception of the FM specialty, Motivation for admission, the benefits and prospects of FM, Complaints and problems, wishes for improvement of the curricula, ideal workplace. An overview of the 5 main themes and 14 sub-themes, illustrative quotations are presented in more detail in Table 1.

Of the five themes identified, three correspond to Research Question 1 on general perceptions of training in the FM residency program. The participants spoke about the purpose of studying in residency, as well as their opinion about the motivation, benefits and difficulties of studying, and unjustified expectations from studying in residency. The two themes correspond to Research Question 2 on perceptions of the specific type of training that residents need to meet their needs. Participants' preferences were expressed as opinions about the optimal training format, as well as reflections on the desired form and content of training.

Perception of "Family Medicine"

The vast majority of residents admit that they do not see the difference in the specialties of a Family Physician and a General Practitioner. Informants say that their expectations have not been met, they are still not clear what the functionality will be, in what conditions and in what positions they will work. They admit that at the current moment they are only a link that directs the patient to narrow specialists. At the same time, it is noted that in the practice of other countries, the family doctor performs the full treatment of patients (gynecology, microsurgery, etc.) of all ages and in all directions. In all four focus groups, informants express a desire to treat patients on their own, and refer them to narrow specialists only in specific situations, or when consultation of narrow specialists is necessary. It also became clear that prior to entering residency, the informants had different expectations about what training, exit work, wages, and so on would be like. In the opinion of the informants at the end of the training, in medical organizations there should have been a position in the staff for a family doctor, as well as 3 nurses for each specialist. In practice, they are accepted as general practitioners.

Motivation for admission

The motivation for entering the residency was also the availability and number of grants, career prospects and potentially high incomes. One notable reason for entering the residency was the opportunity to

obtain a higher status than that of a general practitioner. For others, career prospects have become a motivating impetus. Informants say that training in FM could in the future provide an opportunity to open their own Family Medical Outpatient Clinic/Private Practice and work independently. Another pattern was the opportunity to become a department head. Also, the reason for admission was the schedule conditions and workload for family doctors. According to the participants, it was important for them to be able to work 4 h and have a minimum of paperwork.

Benefits of family medicine

As mentioned earlier, informants in practice do not see the difference between SM and GP, therefore they do not see the benefits of FM. They complain about the fact that they received education for 2 years, when they could immediately go to work as a GP, as actually happens in practice. At the same time, they note that they received more in-depth knowledge, but without the opportunity to apply it. Because of all the same protocols, forcing them to only refer patients to narrow specialists.

We should note that when asked about the benefits of FM, the participants in the focus group discussion immediately perk up, talking all together, interrupting each other. This indicates a very high level of emotions and, accordingly, a general low level of satisfaction with their situation. However, one of the advantages of studying in the FM residency was the deepest knowledge and the opportunity to gain practical skills. In addition, there were skills to work with programs, sites, protocols.

Some informants perceive the specialization "Family doctor" as an opportunity to rebrand the specialization "General Practitioner." A part of the informants had an ingrained idea that there will be no changes, they perceive training as a family doctor only as an additional certificate or as a completed higher education.

Complaints, problems, wishes

In all focus groups, the problem with communication skills was raised: lack of support, inappropriate behavior, shaky connections from practicing doctors, nurses, mentors.

Informants complain that practitioners in medical organizations do not pay attention to the training of residents. Residents see the solution in eliminating the practice of having residents next to the practitioner, and instead of organizing an independent appointment, highlighting mentors. Residents talk about the inconvenience of the schedule of examinations and classes. They say that exams can all be scheduled for

Table 1: List of themes and associated sub-themes, and illustrative quotations

Themes	Sub-themes	Illustrative quotations
1. Perception of the specialty "family medicine"	1.1. Lack of understanding job descriptions	
	1.11. Unjustified expectations	"We do not understand what is included in our functionality" "I thought it would be a family medicine residency. A family clinic will be opened We are going to graduate, but after graduation, we will become a GP because employers say that we don't have staff family doctors"
	1.1.2. No distinction between GP and FD in practice	"There is no definition of what is Family Medicine, GP, what we studied for. What is the difference?" «We expected that at the end of the residency there would be a staff for a family doctor, 3 nurses, as they promised, that we would have an advantage over GPs, we could treat patients in more depth, and not send them somewhere and sit" «There is no difference in salary, we expected a higher salary. We thought about becoming managers, as we were told, but in fact, no one is ready to accept such specialists"
	1.2. Lack of authority	
	1.2.1. Gatekeeping act only as a link directing the patient to narrow specialists	"We were expected to be able to treat many of the patient's problems ourselves. In fact, without a record of a narrow specialist in any way. The same attitude as in the GP as a dispatcher to sit" "I think there should be a difference, the GP now works as a coordinator receives a patient and decides where to refer him"
	1.2.2. Independence and responsibility in solving patients' problems	"So the patient walks between the two sides, we do not have the right to conduct the patient on our own without a record of a narrow specialist, so according to the protocol, in the event of a complication, they say why they were not sent" "We, as family doctors, would like to accept many pathologies and to be treated patient ourselves, without turning to narrow specialists" «... In the process of studying, I realized that, unlike a GP, a family doctor should not send to narrow specialists, he should treat himself. Only in case of severe complications.» "You will work for yourself, develop yourself. You will not just sit there, increase the patient's confidence in the doctor" "I think that the status of the FD is higher than that of the GP"
2. Motivation for admission	2.1. Family doctor status	"There were a lot of grants, since the SM specialty was just opened, I thought about it. Initially, this was due to the fact that the state removed all grants for other specialties" "I couldn't find a job at home, and I decided to choose the FM specialty, where there were the most grants"
	2.2. Admission policy	"The advertisement was good, they said that the FD is better than the GP that we can organize our own family office, and there are more prospects. Thinking about being in charge" "I do not hide, because of the high salary. In a word, they are interested"
	2.3. Career prospects and potentially high income	I completed my internship in therapy. Already in many places, I was not hired, because for family reasons it was difficult for me to work in a hospital. And in the clinic I worked for 4 h, if there are calls, you go, and you work during the day, because of this, in order not to waste my time, I entered the FM residency
	2.4. Flexible schedule	"We got more in-depth knowledge, learned how to work with sites. I can search in the Cochrane Library, find the necessary research, and put them into practice. I like, that we work with clinical protocols" "I only think that the plus of residency will be more than dependent only on the document, as a legitimate higher education" A general practitioner and a family doctor are one and the same, it's just that GP's have proven themselves poorly, and now there is an opportunity to be reborn a little... it's like the same company, she felt a little here, and the new name, there is an opportunity to rise
3. The benefits and prospects of family medicine	3.1. Deep knowledge and skills	"For example, if someone scolds us, we will stand there, blush, no one will intercede for us. We always ask for forgiveness even though we are not to blame" "At the reception at the GP as a passage yard, everyone comes in. In the past, the therapist was more respectful. Now they indicate what the doctor needs to do. The status of the doctor has become low. Then when they don't go to other specialists like that"
	3.2. Residency certificate receiving additional education	"They must explain their actions. At least they should be planted next to a knowledgeable doctor. It would be nice if you took it with you. They send you to the doctors, you go, they don't show the records, they don't say" «They don't pay attention; they don't look at us... The fact that they don't pay a doctor, they don't want to talk, explain a lot» «The fact that a resident sits together with a polyclinic doctor is not at all effective, the doctor does not show anything, does not explain, and he does not have time, it is better to organize an independent appointment and assign a curator to at least a 3–4 residents»
	3.3. Rebranding status of "General Practitioner"	"The younger ones, on the contrary, teach us, and when this happens with a patient, this is generally wrong. I think so, not only our status is lost here, and they do not show themselves that way. In general, the patient looks at our work in a coordinated way" "Sometimes the head nurses point out to the doctors"
4. Complaints and problems, wishes	4.1. Communication skills problems	
	4.1.1. Shaky communications	"The schedule between the university and the employer, the chief physician, is not organized. For example, we have Friday classes: We can be in the obstetrics-gynecology cycle, and on Friday we come to the pediatrics classes, or we are in the traumatology cycle, we come to the gynecology classes, it turns out we are 4 days at the same doctor's appointment, and the classes on another subject"
	4.1.2. Lack support of practitioner doctors, nurses, mentors	"The doctor has too many other workloads, dispensaries, reports, referrals to draw up some kind of, there is no strength left for the patient, it is necessary to reduce the documentary workload, and more practice in the family" «We don't have enough scales in our clinic» «Or you need to equip the office with devices for determining visual acuity, visual field, or you need to remove them from the list of skills» «It is not clear to me that during the ophthalmology cycle we were shown skills that would not be useful to the FD, why do we spend time studying, mastering these skills, we will still send to an ophthalmologist» «Or you need to equip the office with devices for determining visual acuity, visual field, or you need to remove them from the list of skills»
	4.1.3. Inappropriate behavior	
	4.2. Organizational educational process problems	
	4.2.1. inconvenience schedule of exams and classes	
	4.2.2. High workload, a large amount of paperwork	
	4.2.3. Insufficient equipment of doctor's offices	
4.2.4. No need for some cycles and skills		
4.3. Improving the educational process		
4.3.1. Advanced learning		
4.3.2. Work ban	"Tests are not needed, let there be oral exams. You check your knowledge, if you forget, the teacher will tell you. Learn the tests and everything" «I think it is necessary to ban work in residency, in residency we get more in-depth knowledge, we are taught how to work in a new way, and our colleagues who are working now, they watch how their older comrades work and get used to working in the old way, for example, they prescribe antibiotics without need»	

(Contd...)

Table 1: (Continued)

Themes	Sub-themes	Illustrative quotations
	4.3.3. Development of IT skills, work in digital platforms	«I did not work in a Damumed and other programs. Doctors don't have time to show, to educate us, we need such a discipline» I would like to know what orders we should be guided by, since orders often change. I want to be taught how to find valid orders
	4.3.4. Having a mentor	«If there was a mentor, it would be good. Experience of other countries «It is better to organize an independent appointment and assign a curator to at least a 3–4 residents»
	4.3.5. Communication skills training	«We had communication skills in the first year, it was half a year. Kom.navyk and not to be half a year, but every year because you forget in half a year. It would have been better before the end of the communication skills were. At least for 1 h. We have been removed»
	4.3.6. Selection of disciplines according to needs	«I would like to organize the reception in such a way that there would be a private atmosphere, even without nurses, provide a separate room for them. Then, I think there will be more trust in the doctor»...
	4.3.7. Use of best practices	«If everyone could choose disciplines according to their needs, it would be good.» If we used the international experience of family medicine, it would be good, we would not miss chronic diseases in patients, the status of a family doctor would rise»
5. Ideal workplace	5.1. Comfortable office for work	«I would like to organize the reception in such a way that there would be a private atmosphere, even without nurses, provide a separate room for them. Then, I think there will be more trust in the doctor»...
	5.2. Proper equipment of the office	«It would be good to open well-equipped family clinics»

FD: Family doctor, GP: general practitioner, IT: Information Technology, FM: Family Medicine

1 day, also that the exam is reported too late. They propose to organize communication between the educational institution and employers to coordinate schedules.

Residents reported that practice cycles do not coincide with lectures. One of the residents suggested that lectures be held online if it is difficult to organize classes with each group. The main thing is that they coincide with the cycle that they go through in a medical organization in order to consolidate all this in practice. Also, residents are perplexed about the existence of cycles, which later they will not need in practice. In their opinion, they should either be equipped with everything necessary to perform these mini-operations, or excluded from the list of skills.

Problems in work are associated with high workload, a large number of paperwork, organization of the process of receiving patients, shortage/delay of medicines. Informants voiced suggestions on the learning process. In their opinion, it is better to conduct examinations in an oral format, without test tasks. One of the informants suggested a ban on working while studying residency. In his opinion, at work, residents absorb outdated practices for treating patients.

In addition, the residents expressed the need to study the work of the Damumed program, the execution of orders.

It should be added that the residents would like to study internal medicine, cardiology, infections, pediatrics, gynecology, ophthalmology, imaging diagnostics in more depth, and also extend the course of communication skills every year.

There was a proposal to appoint mentors from abroad to exchange experience and introduce the possibility of choosing disciplines. Informants also voiced the problems of high workload per specialist. They talk about the load of 45–50 people, against 7–8 in other countries. In their opinion, this affects the quality of treatment. In addition, residents expressed complaints about the material and technical equipment of the offices, the level of comfort. For example, they say that there are no scales in all rooms, water dispensers, computers for each health worker, overcrowding.

Ideal workplace

When asked about the ideal workplace, most of the participants complain about the tightness in the office, that there is only one office for 3–4 shifts. At the same time, they overlap each other: 1 shift has not finished, a new one arrives a little earlier to prepare. At the same time, patients come in to find out something. All this does not contribute to comfortable work.

It must also be said that opinions about whether nurses should be in the office are divided. Some employees believe that nurses should sit separately and receive patients with administrative issues, the opportunity to deal with organizational matters, and so on. Others believe that nurses still need to be in the same office with a doctor in order to immediately perform a number of assignments. Informants see the ideal workplace as a separate office for each specialist, cozy, large, bright, equipped with all the necessary equipment for diagnostics (ultrasound, ophthalmological devices, computers, and so on).

Discussion

This qualitative study examined the perceptions of learning, the opinions of residents enrolled in the FM program, and identified their needs. Our study was conducted to improve and create an updated FM education program at our university using the first (problem identification and overall needs assessment), Kern's six step method [12], [13]. We have shown that the lack of a distinct, clear job description for FM and General Practitioners, with roles, responsibilities and restrictions put in place, has sometimes led to confusion about roles and scope of practice, as well as deviations from expectations among FM residents. Residents' choice of a new FM educational program is based on geographic location and potential for clinical training and interprofessional education [14]. In addition, for many, the possibility of a flexible schedule mattered. The Canadian National Survey of Physicians found flexibility and predictability to be the third most

common reason for choosing a career in medicine [15]. As the results of the study showed, the next motivator for entering the FM residency was the Admission Policy. Hellenberg *et al.* analyzing the strengths and limitations of family doctors indicated that the main limitation of FM is that the medical education system did not consider FM as a specialty. As a result, PHC has become the default or “forced” choice of profession, and most young doctors want to continue their education in another specialty. The current system allows for unrestricted and independent general practice after graduation without the need for proper training in family practice or PHC. The FM specialty is still not integrated with existing government services. Learning does not always go in the right direction. Identity and principles of FM are not emphasized in the curriculum or in qualifying examinations [16]. In addition, our results point to the need for an individualized and largely practical training program for FM residents, aligned with their current level of competencies and differences in knowledge. During the focus group discussion, it was reiterated that the problem in the training process was the low interest of practitioners in teaching residents, the unpreparedness or lack of mentors. This problem is not unique to our program, as many studies examining the educational environment have also found that residents have limited access to their mentors [17]. Teaching an informal curriculum, mentoring has been repeatedly emphasized as important, mentoring has been applied as a “learning activity” in research [18], [19]. A systematic review by Wasson *et al.* showed that teacher-mentoring programs were highly valued by students as a method of reducing burnout [20]. These results support the fact that residents need feedback and proper supervision, and therefore clinical educators need to constantly remind themselves of their other roles in addition to imparting knowledge [21], [22]. Clinical mentors in the Republic of Kazakhstan are experienced practitioners of practical healthcare, but most of them are narrow specialists who completed basic training before the reforms and do not have the appropriate competencies and skills. Therefore, it is necessary to properly organize their training. Teacher development programs should focus on developing the pedagogical skills of teachers to provide feedback and effective supervision, and consider new ways of mentoring, such as the small group mentoring model or the advisory program for teachers with a focus on mentoring support [23]. A study in Ghana confirms the need for more teachers and the importance of investing resources in teacher development to ensure a credible program. These results provide constructive feedback that can improve the residency curricula of local and regional FM training programs and support investment in trainees and new graduates as future faculty candidates [24]. While there were many challenges faced in clinical placements, themes generally focused on the lack of support for resident education. O'Mara L *et al.* recognized that clinical learning is always

influenced by relationships [25]. The shortcomings of the educational program, according to residents, include the lack of clear learning objectives in each rotation, the lack of qualified teachers trained in FM, as well as the examination scheme, which is largely unrelated to family practice [15]. The results of our study are consistent with those obtained in a study of internal medicine residents' perceptions of the training environment of the residency program in Ethiopia. There, four recurring themes were identified that negatively affect the learning environment, including excessive workload, inadequate teaching, unfavorable physical environment in the hospital, and lack of diagnostic and therapeutic methods [26]. During the focus groups, residents expressed their wishes for the use of best practices. The need for urgent action to improve the training of residents during rotation, restructuring the FM residency curriculum, and introducing effective teaching methods using best practices in medical education to meet the training expectations and needs of family doctors is demonstrated in another study [27]. FM is the specialty with the widest coverage but the shortest training period. Learning is currently being blurred on both sides: there is more to study and less time to study it. The scope of practice is shrinking and threatening our identity and differentiation from other primary care physicians. These limitations limit our ability to be innovators and leaders in PHC. Students want to graduate competent and confident, but are increasingly skeptical that they can achieve anything under the current model [28]. The future of FM residency education should continue to focus on innovation and resource development to improve resident education. Areas for further development include leadership and health systems training, which enables residents to take on the leadership of multidisciplinary medical teams and place greater emphasis on the FM practice population as the main unit of training for residents [2]. According to the recommendations of the European Academy of General Practitioners (EURACT), the following key competencies of a family doctor are distinguished: management of the care process; patient-centered and community-centered care; solving specific patient problems; comprehensive and holistic approach [29]. Residents expressed their wishes about using the best international experience, the need to open patient-oriented family clinics. The Patient-Centered Medical Home (PCMH) provides an environment to improve the training of residents in systemic practice. Several studies have examined the impact of PCMH on residents' knowledge and confidence [30]. Preparation for student placement is necessary and must be done by both the university and the healthcare organization. As in the study by Birks *et al.*, we documented a lack of planning: Organizational issues raised by students included staff not supporting students, inconvenient exam and class schedules, and mismatch between practice cycles and lectures [31], [32]. In general, residents were dissatisfied with the training program. There was no significant

difference in satisfaction between the two sexes, nor between the two levels of residency. This may be a sign that the FM curriculum for residents may need to be improved and the opinions of residents regarding their training should be taken into account [33]. The results of our study are not consistent with those of the Hong Kong study, where overall physician satisfaction with ongoing FM training was high [34].

Strengths and limitations

To our knowledge, this is the first study on the perception of young people by residents of the educational program “Family Medicine” in the Republic of Kazakhstan using qualitative methods, the MAXQDA program. However, there are limitations of the study. This was a single center study and further research is needed with other available institutions in different cities.

Conclusion

The educational environment is an important factor in determining the achievement and success of residents. More attention and effort should be given, especially to the points with poor scores in this study. We recommend continuous evaluation and redesign of the FM program and such results can be a tool that can help create a better and stronger educational program [7]. This study made it possible to identify the needs of the residents, which had not previously been taken into account sufficiently. The competencies and content of the program will be changed in accordance with the needs of the residents [35].

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References

- Jarvis JW, Shaffer T, Miller T, Mitchell K, Miser F. The residency curriculum resource: A user's perspective. *Ann Fam Med*. 2016;14(1):86-7. <https://doi.org/10.1370/afm.1894>
- Carek PJ, Anim T, Conry C, Cullison S, Kozakowski S, Ostergaard D, *et al*. Residency training in family medicine: A history of innovation and program support. *Fam Med*. 2017;49(4):275-81. PMID:28414406
- Lochner J, Lankton R, Rindfleish K, Arndt B, Edgoose J. Transforming a family medicine residency into a community-oriented learning environment. *Fam Med*. 2018;50(7):518-25. <https://doi.org/10.22454/fammed.2018.118276> PMID:30005114
- World Health Organization. Declaration of Astana: Global Conference on Primary Health Care: Astana, Kazakhstan, 25 and 26 October 2018; 2018. Available from: <https://www.apps.who.int/iris/handle/10665/328123> [Last accessed on 2021 Nov 24].
- Abenova NA, Dilmagambetova GS, Zhamaliev LM, Kashkinbaeva AR, Zame YA, Koshmaganbetova GK. Comparative analysis of educational programs in family medicine in the Republic of Kazakhstan and in the world. *Sci Health*. 2021;4(23):190-8.
- Goetz CM, Arnetz JE, Sudan S, Arnetz BB. Perceptions of virtual primary care physicians: A focus group study of medical and data science graduate students. *PLoS One*. 2020;15(12):e0243641. <https://doi.org/10.1371/journal.pone.0243641> PMID:33332409
- Rothlind E, Fors U, Salminen H, Wändell P, Ekblad S. The informal curriculum of family medicine – What does it entail and how is it taught to residents? A systematic review. *BMC Fam Pract*. 2020;21(1):49. <https://doi.org/10.1186/s12875-020-01120-1> PMID:32160865
- Palinkas LA, Horwitz SM, Green CA, Wisdom JP, Duan N, Hoagwood K. Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Adm Policy Ment Health*. 2015;42(5):533-44. <https://doi.org/10.1007/s10488-013-0528-y> PMID:24193818
- Boyatzis R. *Transforming Qualitative Information: Thematic Analysis and code Development*. Thousand Oaks, CA: Sage Publications; 1998. <https://doi.org/10.1080/00221329809596155>
- Guba E, Lincoln Y. *Fourth Generation Evaluation*. Newbury Park, London, and New Delhi: Sage Publications; 1989.
- Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *Int J Qual Health Care*. 2007;19(6):349-57. <https://doi.org/10.1093/intqhc/mzm042> PMID:17872937
- Hughes M, Kern D, Thomas P. *Curriculum Development for Medical Education*. 2nd ed. Baltimore: Hopkins University Press; 2016.
- Rajkumar Honest PC, David KV, Rahman SP, Sankarapandian V. Designing a curriculum for postgraduate training in family medicine in India. *J Family Med Prim Care*. 2021;10(9):3453-8. https://doi.org/10.4103/jfmpc.jfmpc_2484_20 PMID:34760772
- Lee J, Alferi M, Patel T, Lee L. Choosing family medicine residency programs: What factors influence residents' decisions? *Can Fam Physician*. 2011;57(3):e113-21. PMID:21520673
- Canadian Medical Association. National physician survey bulletin: Career choices. In: *Pulse on Career Choices*. Ottawa, Ont: Canadian Medical Association; 2005. Available from: http://www.cma.ca/index.cfm/ci_id/43358/la_id/1.htm. [Last accessed on 2005 Apr 26].
- Hellenberg D, Williams FR, Kubendra M, Kaimal RS. Strengths and limitations of a family physician. *J Family Med Prim Care*. 2018;7(2):284-7. https://doi.org/10.4103/jfmpc.jfmpc_297_17

- PMid:30090765
17. Ong AM, Fong WW, Chan AK, Phua GC, Tham CK. Evaluating the educational environment in a residency programme in Singapore: Can we help reduce burnout rates? *Singapore Med J.* 2020;61(9):476-82. <https://doi.org/10.11622/smedj.2019094> PMid:31388684
 18. Chen LY, Hubinette MM. Exploring the role of classroom-based learning in professional identity formation of family practice residents using the experiences, trajectories, and reifications framework. *Med Teach.* 2017;39(8):876-82. <https://doi.org/10.1080/0142159x.2017.1317729> PMid:28440097
 19. Player M, Freedy JR, Diaz V, Brock C, Chessman A, Thiedke C, et al. The role of Balint group training in the professional and personal development of family medicine residents. *Int J Psychiatry Med.* 2018;53(1-2):24-38. <https://doi.org/10.1177/0091217417745289> PMid:29235909
 20. Wasson LT, Cusmano A, Meli L, Louh I, Falzon L, Hampsey M, et al. Association between learning environment interventions and medical student well-being: A systematic review. *JAMA.* 2016;316(21):2237-52. <https://doi.org/10.1001/jama.2016.17573> PMid:27923091
 21. Crosby RM. AMEE Guide No.20: The good teacher is more than a lecturer – The twelve roles of the teacher. *Med Teach.* 2000;22:334-47. <https://doi.org/10.1080/014215900409429>
 22. Ramani S, Leinster S. AMEE Guide No. 34: Teaching in the clinical environment. *Med Teach.* 2008;30(4):347-64. <https://doi.org/10.1080/01421590802061613> PMid:18569655
 23. Galke CL, Swoyer JW. Mentoring in family medicine education. *Ann Fam Med.* 2020;18(2):182. <https://doi.org/10.1370/afm.2527> PMCID: PMC7062497
 24. Toma G, Essuman A, Feters MD. Family medicine residency training in Ghana after 20 years: resident attitudes about their education. *FAM Med Community Health.* 2020;8(4):e000394. <https://doi.org/10.1136/fmch-2020-000394> PMid:33093166
 25. O'Mara L, McDonald J, Gillespie M, Brown H, Miles L. Challenging clinical learning environments: Experiences of undergraduate nursing students. *Nurse Educ Pract.* 2014;14(2):208-13. <https://doi.org/10.1016/j.nepr.2013.08.012> PMid:24063792
 26. Fisseha H, Mulugeta B, Argaw AM, Kassu RA. Internal medicine residents' perceptions of the learning environment of a residency training program in Ethiopia: A mixed methods study. *Adv Med Educ Pract.* 2021;12:1175-83. <https://doi.org/10.2147/AMEP.S335205> PMid:34675744
 27. Khoja AT. Evaluation of the educational environment of the Saudi family medicine residency-training program. *J Fam Community Med.* 2015;22(1):49-56. <https://doi.org/10.4103/2230-8229.149591> PMid:25657612
 28. Douglass AB. The case for the 4-year residency in family medicine. *Fam Med.* 2021;53(7):599-602. <https://doi.org/10.22454/FamMed.2021.750646> PMid:34038566
 29. Michels NR, Maagaard R, Buchanan J, Scherpbier N. Educational training requirements for general practice/family medicine specialty training: Recommendations for trainees, trainers and training institutions. *Educ Prim Care.* 2018;29(6):322-6. <https://doi.org/10.1080/14739879.2018.1517391> PMid:30207897
 30. Hasley PB, Simak D, Cohen E, Buranosky R. Training residents to work in a patient-centered medical home: What are the outcomes? *J Grad Med Educ.* 2016;8(2):226-31. <https://doi.org/10.4300/jgme-d-15-00281.1> PMid:27168892
 31. Birks M, Bagley T, Park T, Burkot C, Mills J. The impact of clinical placement model on learning in nursing: A descriptive exploratory study. *Aust J Adv Nurs* 2017;34:16-23.
 32. Chan CY, Sum MY, Lim WS, Chew NW, Samarasekera DD, Sim K, et al. Adoption and correlates of Postgraduate Hospital Educational Environment Measure (PHEEM) in the evaluation of learning environments: A systematic review. *Med Teach.* 2016;38(12):1248-55. <https://doi.org/10.1080/0142159x.2016.1210108> PMid:27564848
 33. Al Helal AH, Al Turki Y. Family medicine residents' educational environment and satisfaction of training program in Riyadh. *J Family Med Prim Care.* 2019;8(4):1330-6. https://doi.org/10.4103/jfmpc.jfmpc_63_19 PMid:31143716
 34. Lee KP, Wong C, Chan D, Kung K, Luk L, Wong MC, et al. Family medicine vocational training and career satisfaction in Hong Kong. *BMC Fam Pract.* 2019;20(1):139. <https://doi.org/10.1186/s12875-019-1030-8> PMid:31630674
 35. Uzuner A, Topsever P, Unluoglu I, Caylan A, Dagdeviren N, Uncu Y, et al. Residents' views about family medicine specialty education in Turkey. *BMC Med Educ.* 2010;10:29. <https://doi.org/10.1186/1472-6920-10-29> PMid:20398292