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Factors associated with the recruitment and retention of family and community medicine and nursing residents in rural settings: A qualitative study

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Research Article

Keywords: residency programmes, retention, family medicine, family nursing and community care, primary health, rurality

Posted Date: March 9th, 2023

DOI: https://doi.org/10.21203/rs.3.rs-2616375/v1

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Version of Record: A version of this preprint was published at BMC Medical Education on September 13th, 2023. See the published version at https://doi.org/10.1186/s12909-023-04650-1.

Abstract

Background

Currently, the growing shortage of primary care doctors and nurses is causing difficulties in replacement, and this shortage is expected to increase. This situation is more pronounced in rural environments than in urban ones. Family and community care specialty training is a key component of both the transition to clinical practice and the retention of new professionals. The aim of the study is to explore the attitudes and perceptions of internal medicine residents and internal nurse residents trained in a rural teaching unit on factors associated with recruitment and retention, including the role of the specialty training programme.

Methods

A qualitative study was conducted. Purposive sampling was used and thirteen residents from the central Catalonia teaching unit who were in their final year of training participated in semi-structured interviews. The data were collected during the year 2022. The data were subsequently analysed with thematic analysis. The study is reported using the COREQ checklist.

Results

Six themes emerged from the data related to perceptions and attitudes about the factors associated with recruitment and retention: *training programme, characteristics of the family and community specialty, concept of rural life, family and relational factors, economic and resource factors, and recruitment and job opportunities.*

Conclusions

Family and community medicine and nursing residents trained in rural settings expressed satisfaction with the specialty programme and most features of primary care, but they experience a wide range of uncertainties in deciding on their professional future. The study identifies individual and structural factors to consider and that could be of great use in order to retain doctors and nurses in rural areas.

Introduction

Effective training in various health science specialties, such as family and community care, plays a vital role in preparing professionals for clinical practice and retaining them in their respective fields. Family and community medicine and nursing specialty training programmes are common in the training systems of many countries but diverge in specific aspects. In Spain, the training of the specialists in family and community medicine and nursing includes clinical skills and training in ethical values,

commitment to their patients, professional commitment to the specialty and to the National Health System, empathy and communication skills, new technologies and other aspects that may contribute to quality professional practice [1, 2]. Both programmes include a training stay in a rural primary care setting.

Multiprofessional Teaching Units of Family and Community Care are responsible for the quality training of future specialists, as well as for the promotion of the teaching and research profile. The Multiprofessional Teaching Unit of Family and Community Care of Central Catalonia has a diverse typology of centres in accordance with the characteristics of the region itself. Some of the centres are located in an urban environment, while the vast majority of them are located in rural areas with a population of less than 7500 inhabitants, with a density of 100 inhabitants/km2 and with specific population characteristics [3].

For novice doctors and nurses, starting out in the professional world can cause high levels of stress and difficulty adjusting to the real demands of caring for complex patients; these factors are reasons for dropout during the first few years of professional practice [4]. Novice professionals show doubts about their clinical knowledge and low self-confidence about clinical skills, critical thinking, and effectiveness in organisation, prioritisation and communication, which are aspects that are minimised thanks to residency programmes [5]. Specialist training achieves motivation and a positive attitude towards primary care and helps the transition to professional activity [6].

Currently, due to the increasing health needs of the population and the insufficient number of trained professionals, the growing shortage of doctors and nurses causes difficulties in replacement in primary care and the forecast is that this shortage will increase [7, 8]. The International Council of Nurses states as a global strategy the need to prioritise policies to improve the recruitment, development and retention of health care workers. Particular emphasis is placed on facilitating educational pathways in primary health care and the deployment and retention of graduates to practice in rural communities [9]. Strategies to retain doctors in rural areas include ensuring professional growth, providing minimum and uniform economic incentives across areas, and ensuring good availability of social services and economic opportunities [10]. Other studies indicate that attraction factors go beyond financial incentives; future professionals also value the quality of life in the rural environment, community support, non-monetary incentives, previous family or professional experiences in a rural environment, autonomy and having a good professional-patient relationship [11], the possibility of private work activity in hospitals and health centres in the region, and professional development plans [10]. Primary care doctor retention has a strong relationship with knowledge acquisition, empathic personality profile and the possibility of continuous improvement, in addition to factors related to adequate infrastructure, organisational climate and salary [12]. In Spain, security and stability, development opportunities within the organisation, learning opportunities and the degree of autonomy that they will have are more important than aspects such as remuneration [13]. Concern for retention of new nursing professionals has been studied through evaluation of the effectiveness of nurse residency programmes (NRPs) [5, 14] identifies specialty recognition, gratification, and environment-dependent relatedness as factors for retention.

Once the stay is finished, these professionals can be hired by the different health services according to the hiring criteria of each company. The Catalan Institute of Health (ICS), like other health systems, must follow certain criteria for the labour exchange and employment relationships established by the legislation that applies to the health system. These criteria may make it difficult to ensure the contractual loyalty of specialists who complete their residency period, because legislation in the area of human resources is governed by the framework statute for personnel in the service of healthcare institutions.

There are no studies in the territory that have analysed the reasons why, despite high satisfaction in the specialty programme, there is low retention. Knowing the reasons, motives and experiences of these professionals will be useful when making recommendations for the implementation of effective strategies to improve the retention and loyalty of these professionals in the region where they have completed their residency. This study aims to explore the attitudes and perceptions of internal medicine residents and internal nurse residents trained in a rural setting teaching unit on factors associated with recruitment and retention, including the role of the specialty training programme.

Methodology

Design

Qualitative study to ascertain the problems according to the individual experiences of the participants. This design is suitable for reaching a deeper understanding of practice in applied disciplines and is especially relevant when the goal is to understand the perspective and experience of participants [15]. It also allows to obtain research data in a specific context [16].

Participants

The participants were resident doctors and nurses specialising in family and community medicine from the teaching unit of central Catalonia who were in their final year of training. Participants were selected using purposive sampling [17] based on criteria such as feasibility, interest and time, until data saturation was obtained [18]. Participants of different ages, gender and geographic backgrounds were included to cover all ranges of experience [19].

Data collection

Data were collected using semi-structured interviews. The research team prepared a set of interview questions relevant to the objectives of the study: Based on your experience, what barriers and facilitators do you identify regarding retention in the centres of central Catalonia? In your opinion, how has the training process been in the family and community residency?

Recruitment of participants was carried out by the teaching unit that had the data on the final-year residents. Residents who showed interest in participating were contacted by telephone to schedule the interview. Out of a total of 29 residents in their last year of residency, 13 residents (45%) participated in the study. The interviews were carried out by the PI between April and May 2022. We chose to conduct

interviews via videoconference due to the wide dispersion of the region and to facilitate accessibility. The interviews were recorded with the permission of the participants using the Microsoft Teams communication platform provided by the Catalan Institute of Health. During the interview, follow-up questions were asked to encourage participants to provide additional details about their perspective. Participants were recommended to conduct the interview in a quiet place without interruptions to ensure confidentiality. Interviews lasted a minimum of 35 minutes and a maximum of 55 minutes. The interviews were conducted in Catalan or Spanish, the two official languages of Catalonia, and transcribed into Catalan. Subsequently, the interviews were returned to the participants for approval of the content. All of them accepted the content of the interview.

Data analysis

The data were analysed using thematic analysis [20] supported by Atlas.ti vs. 9. Patterns were identified in the data collected and the data were organised by themes in a systematic way to meet the research objectives [16].

The process is as follows: 1) Become familiar with the data by listening to recordings, transcribing them and reading and rereading the transcripts. 2) Identify meaning units related to the research objectives. Generate codes and identify relationships among them. 3) Group codes into abstract themes. Define the parameters of each theme. 4) Identify 6 themes comprised of meaning units, which formed the primary structure for our analysis. 5) Organise the themes and subthemes. 6) Write the research report.

Ethical considerations

This study meets the criteria of credibility, transferability, dependability and confirmability, which ensure trustworthiness in qualitative research [21]. The research team made constant revisions to the analysis process to ensure qualitative validity. The COREQ checklist was used to run and evaluate the study [22].

The study was approved by the IDIAP Jordi Gol's Research Ethics Committee (Code 22/048-P). All participants signed an informed consent document. Data confidentiality and anonymity were ensured throughout the process by assigning each participant an alpha-numeric code.

Results

Thirteen residents in their final year of training in the specialty of family and community medicine and nursing at the Central Catalonia Teaching Unit participated in the study. Table 1 shows the main sociodemographic characteristics of the participants. Of those interviewed, 5 (38%) have stayed to work in central Catalonia.

Table 1
Sociodemographic data

Participant	Profession	Age	Location of previous studies	Priority in the choice of specialty
P1	nurse	29	Murcia (Spain)	2
P2	nurse	26	Girona (Spain)	1
P3	nurse	25	Tenerife (Spain)	2
P4	nurse	25	Almeria (Spain)	1
P5	doctor	29	Barcelona (Spain)	2
P6	doctor	29	Sant Cugat (Spain)	2
P7	doctor	31	Zaragoza (Spain)	2
P8	doctor	29	Barcelona (Spain)	1
P9	doctor	34	Parma (Italy)	1
P10	doctor	28	Las Palmas de Gran Canaria (Spain)	1
P11	doctor	45	Iran (Iran)	2
P12	doctor	28	Seville (Spain)	1
P13	doctor	28	Barcelona (Spain)	1

The results of this study were based on six themes that emerged in the thematic analysis of the data (Table 2).

Table 2
Themes and subthemes

Theme	subtheme
Factors related to the training programme	Individualised training
	Mentoring process
	Shifts and on-call duty
Factors related to the characteristics of the family and community specialty	Previous training
	Generalist specialty
	Doctor-nurse/patient relationship
	Patient-centred model
	Teamwork
	Too much bureaucracy
	Short patient time
	Disrepute
	Little professional development
Factors related to the concept of rural life	Living in a village
	Being the village doctor or nurse
Family and relational factors	Family ties
	Having a partner
Economic and resource factors	Economic incentives
	Cost of living
Factors related to recruitment and job opportunities	Types of contracts
	Nursing specialty and job exchange
	Supply planning

Factors related to the training programme.

Participants highlighted advantages of training in a rural area such as **individualisation** in learning.

I chose Central Catalonia as an option: I had been told that the training of doctors was good because it has a smaller hospital, and the family resident had more prominence in the different specialties and that

made me decide to come. P5

The opportunities they had for being in a teaching unit with **few residents**.

Because it is small and rural, I am the only resident, and the teaching is at an individual level, and you see everything in first person. There is very good feedback that perhaps if there are more residents is not so personalised, and you can get involved and participate a lot in the activities of each service where you go. P5

You get individual treatment - I'm not just nurse number 130 but I'm XX. And I am valued and empowered. P2

The majority of residents, both doctors and nurses, positively assessed **the mentoring process** for their learning.

I have been fortunate to have a very good tutor on a personal and professional level. I have learnt a lot and she has given me a lot of confidence to discuss any questions I have. P5

But they also explained how this relationship can influence retention.

If you don't have a good relationship with the tutor, if you have a fairly negative experience, that makes you not want to stay. P6

Among the learning activities in the context of professional practice, the **shifts** in different hospital clinical units were highly appreciated by both doctors and nurses.

You learn a lot on shifts, it completes your training. And then on a day-to-day basis, because you've seen so much, you can deal with it. P1

They valued the purpose of the shifts to better understand the area's resources.

We have to go through the different services because we have to know what is acute or what is chronic and those that can be made acute, what we can do from the primary care centre. In the end we are the ones who refer the different services, or we can also solve problems in the primary care centre. P5

They also pointed out that **doing hospital on-call duty** provided them with security in order to treat critical illnesses in rural areas.

Because then if I find a serious case in the primary care centre, we have a little more back-up. Because few come to me, but when they do, it's good to know what to do. P6

Factors related to the characteristics of the family and community specialty and personal motivations

The participants explained their reasons for choosing the family specialty. All the nurses had studied primary care subjects during their nursing degree curriculum, and they explained how this training

experience was crucial when choosing their specialty.

I was going to study mental health; it was my goal but for my last internship in my fourth year I went to a rural primary care centre and there I fell in love with primary. P2

On the other hand, not all the doctors had taken specific primary care subjects during their university training and considered that this could later influence them in not choosing this specialty.

You have Cardiology, Nephrology, and Digestive Medicine, but there is no Family Medicine. If everything that it covers were really explained, there would not be this kind of rejection, in inverted commas. I have to say that family medicine is the last thing to be chosen because it is for the one who has had a bad result in the internal medicine residency. P8

And as a result, they said that a subject within the curriculum would help to have more doctors who would want to do the specialty.

If a course of study were made, we would lose the idea that the family doctor is the doctor who does not have a specialty because he/she touches upon everything and knows nothing in depth. P8

Another characteristic that the participants considered was the **disrepute** of family doctors and how this aspect may influence the poor recruitment of family professionals.

I think what has gone wrong is the belief that good doctors work in the hospital and bad doctors stay in primary care. P8

But despite the discredit they believe the specialty has among the medical community and also socially, this did not deter them from choosing the specialty.

There really is a lack of prestige, and I think it comes from the previous era, when people finished their degree and were already primary care doctors without a specialty. And people have kept this particular idea. It is not global, not everyone thinks so, but there is a kind of thinking that the primary care doctor is the idiot who did not want to do a specialty. P10

Doctors mentioned that the salary was not a motivating factor in choosing the specialty.

It is very clear to me that I did not study family medicine for the money that is earned. P3

Therefore, despite the fact that many of them already had previous experience in primary care and motivations for choosing the specialty, during the residency period they detected characteristics of primary care that could be related to retention and willingness to practice, such as the **systemic approach**.

I wanted a specialty that covered a lot, not focusing on being an eye doctor, but something of the whole body, not just centred around one area. The variability that family medicine gives you, that you don't know what you are going to get the next day. I like variety. P10

They discovered **the scope** of primary care as a specialty

In family medicine you are lucky enough to have the chance to specialise in one thing or another. And then you also have all this part of minor surgery techniques, injections and ultra-sound scans, which is also something this allows you to do. P8.

Such as the **independence** of the professional,

We also have our independence to do things. So that's what I take away most - I have been surprised in that sense. P3

And **longitudinality**

I must emphasise the importance of the relationship you have with the patient and the importance of following up with the patient, of knowing what has happened to them. I find this very important for health care, because if you give them medication but the next day something happens because of the medication, for example you give them an antihypertensive, because they have low blood pressure, cramps in their legs or they sweat at night.... you can be reached, and you are accessible for them to call and say: look, I have not been doing well or I want to stop taking the pills. Well, that is very important for you to know. P5

They specified the importance of the **doctor-patient relationship** in primary care and of the holistic perspective of the person.

I have seen the doctor-patient relationship at a later stage. The way you relate to the patient and know their family is very important. At a social level this has been more of a discovery now in the residency. P13

They also value **the environment** as an aspect that favours the relationship.

Seeing the environment where the patient lives helps you to understand more about what they sometimes explain. When you see them in the environment where they live you can understand the difficulty, the other person's problem, the experience of living with a disease, etc. I believe that what makes family medicine special is knowing the patient's environment. P8

Both doctors and nurses emphasised the **patient-centred model** in the family and community setting.

I have seen that individualisation is kind of the essence because you know that not everything is as mechanical or as easy as the clinical practice guideline says, and it is more about adapting to the person and the context. P13

Furthermore, during the residency both nurses and doctors talked about the need to improve **teamwork**.

I think teamwork is very important for me. We are a very individualistic group, especially doctors, and we do not know much about teamwork. I have seen now that the work is very hierarchical. In other words, there has been teamwork, but more than teamwork, it has been more group work. Something that is essential, that we need to incorporate in our day-to-day life and even more so in primary school. It is about sharing knowledge and different visions. We should be more decisive as a team, and I think there is still a lot to do. P13

They also found negative aspects in daily tasks such as the **bureaucratic** part of being a family doctor.

The bureaucratic part consumes a lot of your time and takes it away from the care part, and then you are also the gateway to all the frustrations of the patient with all the other specialists: if I have not been called by the traumatologist, I'll take it out on you later. The ophthalmologist should have asked me for it, and he didn't so I'll take it out on you. And then there's the issue of work discharges. I can't deal with it. It's beyond me. P12

Or they felt limited by the **little time** that can be devoted to each patient.

In practice, I have found the time per patient to be totally insufficient. I find it practically impossible to monitor chronicity in 10 minutes. It gives me the feeling that I'm kind of postponing things I don't know for later, for when I have time to look at the ones I'm not resolving because I don't have time to think anymore. For me, it creates discomfort in my day-to-day life to know that I am not doing things right and that I no longer have time to deal with things calmly. P12

Factors related to the concept of rural life

The participants talked about their experience of **integrating and adapting to the area where they have been trained**.

Here in Osona I have integrated very well, and I feel very comfortable, both with the professional team and on a personal level and that's why I would like to stay. P5

Most come, spend the four years and eventually integrate with the other residents but not with the community, not too much. P6

They mention that the rural lifestyle may appeal to some of the participants and identify the characteristics of rural medicine and nursing as attractive.

I like it. I prefer rural areas over the city. I suppose that because of the proximity of the patients and because it is a small team there tends to be more communication. P6

I prefer the idea of an urban area. Maybe the kind of people you have to deal with isn't ideal, but I don't see myself working alone in a rural area. I like the idea of having more co-workers, having a fairly large centre where there are more people and being able to talk about things. P9

Family and relational **factors**

One aspect that stood out notably was the family tie as a reason for doctors and nurses not staying and returning home.

They leave because they have family there. I understand it. P8

The issue of not finding a partner in the area also stands out.

Either you marry someone from here or you won't get them to stay. It is the link that would make them stay, but that is very difficult. P6

Economic and resource **factors**

Participants stated that **they have no economic incentives** to retain them in rural areas.

Perhaps they could do it, I don't know, as some places in the south of France do: For five years you don't pay taxes, they offer you a house to stay in and if you have any problem with the issue of the offices, they help you with everything. P8

In addition, for some of them coming from other areas, they find that the area where they have studied is more expensive compared to the area they came from.

Then the rent here is super expensive. Life is expensive here compared to where I am from, and the salary is not very high either. If you equate it with what you spend on rent and everything, it's not that much. For example, in Murcia they do earn much more. P1

We cannot have job stability

I need stability and to know that I am going to have a medium or long-term contract that will allow me to sort out my life, not to be waiting. P3

Factors related to recruitment and job opportunities

Participants noted that deciding on the near future was a complex and uncertain process. This organisational situation put pressure on them to decide and was stressful.

The data showed a difference between medical and nursing staff. For example, doctors had more defined and clear contracts with more stable contractual conditions compared to nurses.

In principle the offer is good, it is interim, and from what I have felt nursing is not that lucky. Nurses have very small contracts and are constantly having to see if they will be renewed, possibly because of the need for more medical professionals who offer us better conditions. P5

For nurses, the job offers were nil

I would like to stay in the area where I am in training right now, but I am not being offered anything. I feel very sad. P4

or with short and uncertain contracts

Maybe you have a chance to stay, but we can't offer you a very big contract... they don't give you much hope either and you have to organise your life. I have to pay the rent and not wait to see if something falls into my lap. P3

The nurses perceived a dichotomy between initial expectations and the job offer after completion of the residency. They experienced it as a loss of talent and demotivation.

They are doing it wrong because we are all leaving. They should act in your favour because they have already taught you and they have trained you. That's worth money and, in the end, no, they don't take you into account as they should. P1

And loss of economic resources and lack of expert appraisal.

I don't understand it, because you have already been trained. You have more knowledge. And they don't value it, they give you a contract just like that person without a specialty. It's a waste of talent and money. P1

Also, the time lag between the job offer and having to make a decision limited retention and declining the offer.

Maybe people will leave anyway, but I think that a percentage would stay if they had that time, let's say, to make a decision, because it's not like buying a t-shirt in one colour or another. I mean, it's choosing your future career and where you are going to live. P3

Also, some doctors stated that not being able to stay in the unit where they had been trained reduced the chances of retention.

Our management does not offer for us to stay in our health centre, but in any centre in the region. And this is a limiting factor. I think that if they offer you your own centre and your familiar environment it would be much better, but to go to a health centre that you don't know, it means you go to your own city and start there again. P10

A negative aspect for nurses was the lack of specialty assessment and not having a specific pool of specialists to fill positions.

We do not have a specific pool, but it is true that I believe that this assessment, this plus, should be given. I think that should be considered when it comes to actually offering something at the end. P3

This experience led the nurses to opt for other autonomous communities where the specialty is valued within the labour pool or where there is a specific pool of specialists.

Many of the resident nurses end up returning to their place of origin or to other autonomous communities in Spain where the specialty is valued both economically and when it comes to opting for a position or a longer contract. P3

They come back also because there are communities where nursing salaries are much higher. So, if they do have a community where they also have a specific pool, they will hire you earlier and with a better salary and you will also be close to home P2.

Discussion

This study explores the factors related to the retention of family and community medicine residents in a rural area of Catalonia (Spain). In addition, the study aimed to find out whether the experiences of the specialty training programme had any relationship with subsequent loyalty to the area where they were trained.

The decision of the residents to specialise in this rural area of Catalonia was for most of the participants a consequence of the scores obtained in the internal medicine and nursing residency exams. Most of the internal medicine resident positions in family and community medicine and internal nursing resident ones in family and community nursing are chosen by the applicants with the lowest internal medical residency exam scores [23, 24], and it should be added that the positions offered in this geographic area are the last positions to be chosen in Spain. Fifty-three percent chose the specialty of family and community medicine as their first choice compared to 46% who had other preferences. These data coincide with other studies showing that the specialisation in Family Medicine is not among the best positioned in the preferences of students [7, 24].

The results of the study showed that the factors related to retention are the confluence of several aspects: **training programme, characteristics of the family and community specialty**, **concept of rural life, family and relational factors, economic and resource factors, and recruitment and job opportunities.** These aspects identified by the participants should be considered as a whole set of intertwining factors and not in isolation, since this is how they provide a comprehensive view of a complex process such as the decision of the future professional.

Factors related to the training programme

Most of the residents defined the training programme as rewarding and with significant learning opportunities. Specifically, they highlight the facilitators that allow to learn about the resources of the area, carrying out shifts on different hospital equipment, as well as the teaching provided during shifts. This reinforces findings from other studies [25]. The role of the tutor is fundamental because of the progressive assumption of responsibilities. The study also highlights advantages and disadvantages of

training in the rural environment, such as the opportunity to receive individualised training and to be part of small teams, to know the patient's environment and thus better understand their health needs and to adapt them to the health resources offered by the rural environment. In addition, they identified the personal and professional relationships established during the training period as factors to be taken into account when assessing the professional future in the environment where they have been trained.

Factors related to the characteristics of the family and community specialty

Having previous training in primary care during the undergraduate [26] degree motivated nurses to choose the specialty, which is not the case with medical degree training. In general, the specialty of family and community medicine has little or no presence in medical schools in our country [24]. The presence of subjects related to Primary Care would make the specialty more attractive since there would be more knowledge about it. Studies indicate that residents fall in love with Family and Community Care specialties throughout residency [23]. The participants also referred to the lack of prestige of family medicine professionals, which may also hinder prioritising this specialty. The educational, health and social disrepute of specialties related to Primary Care is reflected in several studies [24]. Resident doctors mentioned that salary was not a reason for choosing the specialty of family and community medicine. This has been evident in the 2011–2012 internal medicine residency call, when Catalonia increased the salary of resident doctors in this specialty between €5,000 and €9,000 per year (depending on territorial parameters) and this economic incentive was not a motive for attracting aspiring residents.

During the residency period, the participants discovered aspects of primary care that they considered to be positive for the good professional development of the specialty and that could be related to the retention and professional practice of primary care: the systemic and integral approach, the scope as a specialty, professional autonomy, longitudinality, the importance of the doctor-patient relationship, aspects related to the environment, the patient-centred model and teamwork. They also commented on the presence of negative aspects such as excessive bureaucracy in consultations and the lack of time dedicated to each patient. Other studies have also recognised these factors as negative aspects of the specialty nowadays [25, 27, 28].

Factors related to the concept of rural life

Residents identified the concept of rural lifestyle as one of those determined when deciding on their future, coinciding with other studies [29]. Cosgrave et al. (2019) analysed the social determinants for retention in rural areas, identifying that fulfilling life aspirations and interest in rurality favoured retention. It could be said that students who have personal interests and values close to the rural lifestyle are the ones who could overcome the perceived barriers and difficulties of being a rural doctor or nurse. Working on barriers as an inclusive aspect of the family and community-based programme could lead to fewer doctors opting to leave. The results of the study also showed that feeling like the doctor or nurse of the town favours retention in rural areas. Establishing a meaningful relationship with patients is valued very highly but not enough to improve retention [10, 29, 31]. The rural lifestyle is a negative aspect when it is

seen as a barrier to retention globally [32], so further research should be carried out on aspects that can help make rural life attractive to young people.

Family and relational factors

Participants mentioned the difficulty of having family support to reconcile personal and professional life if they stayed in the rural area after completing their residency. These results are also identified in previous studies [13, 33]. The feeling of isolation and non-integration are personal factors identified in other studies [34], and the results point in that direction since friendships or support networks were identified as very important and fundamental for retention. It should be noted that the impact of the COVID-19 pandemic during training influenced the ability to form bonds [35–37]. The experience of being in closed villages and the difficulty to integrate during training may have been a consequence of the social impact of the pandemic. On the other hand, ([38] show that people with greater resilience are those who perform better in rural areas.

Economic and resource factors

Residents stress that receiving economic and financial incentives could help them settle in remote areas [11, 39]. On the other hand, the cost of living in the rural area studied is high in comparison with other geographical areas in the rest of Spain. This also resulted in many residents deciding to return to the area of origin where the cost of living is lower. This aspect is difficult to combat unless economic and fiscal incentive policies are put in place, such as housing subsidies, free public transport, tax reductions for settling in rural areas, etc. Similar strategies are currently being implemented by some governments to build pharmacist loyalty in rural areas [31]. However, for more effective retention, in addition to one-off financial strategies, personal and professional strategies that promote long-term recognition must also be addressed [40].

Factors related to **recruitment and job opportunities.**

In terms of factors related to recruitment and job opportunities, there are very significant differences between medical and nursing residents. While medical residents claim that they are offered the possibility of accessing stable interim contracts, the same is not true for nursing, where they complain that they do not have the opportunity to access stable contracts. Nurses are among the health professionals with the lowest proportion of permanent contracts, which stood at 25% during the first 4 years of employment in Catalonia [41]. Spain's precarious employment of nurses and the emigration of nurses to work in other European countries or around the world during the last decades has been well documented in previous studies [42]. The situation for doctors is very different as there is a high shortage of professionals, which leads to them being hired very quickly [9]. The results, however, show that a better planning of the supply would help people to stay in the area, as well as having the opportunity to stay in the same centre where they have been trained. Although the nursing specialty programmes and specifically the family nursing programme show positive results in terms of professional skills acquired, the nursing residents themselves indicate that they do not feel sufficiently recognised because they do not have a specific

score valued for entry into public health service provider companies. This exacerbates their feeling of frustration and dissatisfaction [31].

Limitations

This study has some limitations. The first is that the results can only be extrapolated to similar specialty training contexts and in a rural context. A larger sample of participants from different geographic areas could strengthen the consistency of this study. In terms of context, the participants were chosen from a rural area, so perhaps it would also be relevant to discover the opinions of professionals in urban contexts.

It is worth noting that the study design is qualitative and therefore it is not possible to quantify the results of the training experience and its link to retention. Furthermore, the research delves into the perceptions and attitudes towards retention and the possible relationship with the training programme. A possible study with a mixed methodology could achieve a more detailed analysis of the aspects that could be included in the training programme in order to promote a better acceptance of the rural environment.

The study only includes the residents' perspective, so a broader investigation including other people such as tutors, policy makers and academics could be useful to complement the data. Likewise, a longitudinal study could complete our knowledge of the barriers and the facilitators found over time regarding professional practice in rural areas.

Conclusions

Rural-trained internal family and community medicine and nursing residents are satisfied with the specialty programme and with primary care but experience a wide range of uncertainties in deciding on their professional future in terms of living in villages, family support, financial and economic support, and recruitment. They also propose the implementation of more established retention strategies. This study now opens the way for the development of interventions in the field of health management and teaching to promote better loyalty in rural areas where health workers have been trained and introduces ways to improve the shortage of professionals.

Declarations

Competing interests

The authors declare that they have no competing interests.

Ethics approval and consent to participate

The study was conducted according to the guidelines of the Declaration of Helsinki and approved by the IDIAP Jordi Gol’s Research Ethics Committee (Code 22/048-P). Written informed consent was obtained from participants prior the study.

Consent for publication

Not applicable.

Availability of data and materials

The datasets generated and/or analyzed during the current study are not publicly available as the contain information that could compromise the privacy of research participants but are available from the corresponding author on reasonable request.

Funding

No funding was obtained for this study.

Authors' contributions

G.T-N. designed the study. G.T-N., M.F.P., J.D.R and J.V-A. wrote the main manuscript. G.T-N. conducted the qualitative analysis. L.V.A. and A.F.A. prepared tables and figures. J.V-A., M.F.P and G.T-N. reviewed the manuscript. All authors read and approved the final manuscript.

Acknowledgements

Not applicable

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