



Nursing students in Saharan refugee camps: Expectations and options of professional future from a qualitative perspective

Sonia Cazalilla-Parras^{a,1}, Jose Manuel Martínez-Linares^{b,c,*}, Javier Yuba-Francia^a, Olga María López-Entrambasaguas^b

^a Hospital Ernest Lluch Martín, A-2, s/n, 50299 Calatayud, Zaragoza, Spain

^b Universidad de Jaén, Campus Las Lagunillas s/n, 23071 Jaén, Spain

^c Universidad de Granada, Facultad de Ciencias de la Salud, Avenida de la Ilustración, 60 Box 8.01, 18016 Granada

ARTICLE INFO

Keywords:

Nursing
Nursing diploma programme
Nursing students
Nursing education
Refugee camp
Qualitative research

ABSTRACT

Aim: The aim of this study was to explore and understand the perceptions of the expectations of the professional future of nursing students who study in Saharan refugee camps.

Background: Part of the Saharan population live in refugee camps with a precarious healthcare system, which depends on nursing professionals who are trained in the only nursing school in the world that exists inside a refugee camp.

Design: An interpretive qualitative research methodology using Gadamer's philosophical hermeneutics.

Methods: A qualitative study with nursing students (n = 14) of different years from the nursing school in a Saharan refugee camp (Algeria) in 2021. Focus groups recorded in audio for subsequent transcription and analysis by two researchers through Fleming's stages.

Results: Three themes were identified as important aspects of the personal and professional expectations perceived by this population group: (1) studying nursing as a moral obligation; (2) Culture as a determinant for dropping out of school; and (3) aspirations for a professional future in the Saharan refugee camps. The participants highlighted the role of social and cultural aspects to complete their studies and develop a professional career.

Conclusions: These Saharan nursing students can study a nursing speciality or work in healthcare. However, they struggle to choose between the moral obligation of doing so and the social and cultural factors that lead some of them to abandon their studies.

Tweetable abstract: The possibility of studying for a career and the professional future of Saharan nursing studies are conditioned by the environment, culture and the socio-economic situation. Their work is especially important in the refugee camps where they live.

1. Introduction

As a result of the Moroccan occupation of Western Sahara in 1975, there was a Saharan population exodus that settled in the Algerian *hamada*, giving rise to the Saharan refugee camps (*wilayas*, in Hassaniya Arabic), which still exist today (Hernández, 2010). There are 6 wilayas (Auserd, Smara, El Aaiún, Bojador, Rabuni and Dajla) that were set up near the Algerian city of Tindouf and the Western Sahara and Mauritania borders. Rabuni is the administrative centre where the Saharan Government buildings are located. The distance between each wilaya and

Tindouf is approximately 20–40 kilometers, but Dajla is approximately 150 kilometers away in the southeast.

Although there are no official censuses, it has been estimated that about 173,000 people have lived in this situation for 47 years (United Nations High Commissioner for Refugees [UNHCR], 2020). In this time, the population has managed to create a place to live in an inhospitable environment, with a precarious education and healthcare system that depends on external aid, which arrives mostly through international cooperation projects for development (Trasasmontes, 2011).

In each wilaya there are dispensaries totally manned by nursing

* Corresponding author at: Universidad de Jaén, Campus Las Lagunillas s/n, 23071 Jaén, Spain.

E-mail addresses: soniacazalilla27@gmail.com (S. Cazalilla-Parras), jmmartinezl@ugr.es (J.M. Martínez-Linares), javieryuba3@gmail.com (J. Yuba-Francia).

¹ @soniacazalilla

personnel and a regional hospital that provides medical attention. The National Hospital is located in Rabuni and receives more resources. In the case of more complex health problems, patients are transferred to the Hospital in Tindouf (Martínez-Linares et al., 2019). There is no social security system, although healthcare is free, and it is provided from the scarce resources available (Campos, 2016).

To supply the camps with nursing professionals that attend to the health problems of the Saharan population, in 1992, the Ahmed Abdel-Fatah Nursing School was founded in the wilaya of Smara (López-Entrambasaguas et al., 2019). According to the literature, there is no other institution with these characteristics in the world. Its continuity is due to the contributions from different international cooperation development projects (Calero et al., n.d.), which have supported the school in terms of both infrastructure and educational activities. The idea of expanding the training programme to cover nursing specialties according to the population's needs led to the construction of another building to train midwifery professionals, which was inaugurated at the beginning of the 2011–12 academic year (Saharan Ministry of Public Health, 2014).

Thus, throughout the years, this institution has contributed to improving the healthcare of the Saharan refugee population and their quality of life, by providing healthcare professionals, improving their training and recycling such personnel, as well as by continuing the education of the young population of the Saharan refugee camps (Calero et al., n.d.). Since its inauguration on 12 October 1992, the school has always tried to help the healthcare sector by offering courses in various specialties related to the population's needs. Over the last 30 years (1992–2022), more than 300 nurses, more than 70 midwives and more than 25 pediatric nurses have been trained, making a total of more than 400 graduates who have been placed by the Ministry of Public Health in the national hospital, regional hospitals and local dispensaries, as required (López-Entrambasaguas et al., 2019).

Employment possibilities and the future expectations for the adolescent and young population are very limited by the conditions of their environment. However, there are no qualitative analyses of the future expectations of these nursing professionals after completing their studies which take into account the scarcity of resources and options given to them to develop in the environment they live in.

The Meaning of Work (MOW) model (Rosso et al., 2010) constitutes the framework of this study. This model offers a comprehensive and integrative model that extends the understanding of the MOW beyond the self, encompassing relationships with others and work contexts. Rosso et al. highlighted that the MOW has four sources: 1) it relates to the self and include one's own values and motivations; 2) it addresses others and interactions and relationships with them; 3) it covers the financial rewards, cultural elements and the work of others in the context where work occurs; and 4) it is concerned with the spiritual life of individuals. People who find meaning from more than one source experience more MOW. For Rosso et al. there are two key dimensions to the creation or maintenance of MOW and suggest that it is at the intersections of these dimensions that MOW is most likely to be experienced (Rosso et al., 2010). The first dimension is represented by the fact that while some mechanisms emphasize a desire for agency with respect to the self or other entities, other mechanisms stress a desire for communion with the self or other entities. The second suggests that perceptions of the MOW can fundamentally vary based on whether action is directed towards the self or towards others.

Steger et al. (2012) defined the MOW model not only as what a job means for individuals, but also as work that is both significant and positive. This model has been used as a theoretical framework in research on schooling and employment for immigrants and refugees (Fourie et al., 2015; Fedrigo et al., 2021; Florian et al., 2019). And it has also been used to develop and validate psychometric instruments for assessing the meaning of work (Arnoux-Nicolas et al., 2017).

The aim of the study was to explore and understand the perceptions about expectations of the professional future of nursing students who

study in Saharan refugee camps.

2. Methods

2.1. Design

Qualitative methodologies have proved to be useful in research into education and the meaning of work for immigrants and refugees' (Fedrigo et al., 2021; Ginevra et al., 2021; Kosny et al., 2020). This is a descriptive and interpretative qualitative study using Gadamer's philosophical hermeneutics (Gadamer, 2005). The understanding of a phenomenon is influenced by the present, tradition and history (Gadamer, 2005), consequently forming preconceptions in individuals, which then help them to understand themselves in their own context. Interpreting a narration or the story of a lived experience involves a fusion of horizons. In this regard, the interpreter's horizon is fused with and incorporates the participants' horizons, thus expanding the interpretation of the latter. The report was written following the COREQ criteria (Tong et al., 2007). This study and the methodology used followed the recommendations of the International Council of Nurses (2018) on nursing research with the refugee population.

2.2. Participants

The study was carried out in the Ahmed Abdel-Fatah Nursing School, located in the wilaya of Smara (Tindouf, Algeria) between October 2020 and March 2021. The recruitment was conducted face-to-face in January 2021 through purposeful sampling, which attained greater variability in the characteristics of the students and a better representation of the participants (Moser and Korstjens, 2018). Thus, students of both sexes and all years of the degree in Nursing were selected. The study included those who had completed or intended to complete the entire degree in the participating nursing school. Only those who did not wish to participate in the study were excluded. The participants were recruited in the participating nursing school by the researchers, who had no previous contact or relationship with the participants. 14 students were asked to participate, and none refused. The sociodemographic characteristics of the participants are shown in Table 1.

2.3. Data collection

Two focus groups were conducted with the nursing participants (n = 14) in a room in the nursing school that was designed for such a purpose. These focus groups lasted 45–60 min and were carried out in February 2021 by two nurse researchers with Master's degree training in research and previous experience. One of the researchers acted as an observer for the collection of field notes. There was no one else present. The script of questions was designed ad hoc to respond to the research objective. It had previously been tested with three students to verify its

Table 1
Sociodemographic characteristics of the participants (n = 14).

Participant	Sex	Age	Year	Nurse relative
GF1-1	Female	19	2nd	No
GF1-2	Male	22	3rd	No
GF1-3	Male	18	1st	No
GF1-4	Male	20	3rd	No
GF1-5	Female	21	2nd	No
GF1-6	Male	20	3rd	No
GF1-7	Female	18	1st	Yes
GF2-1	Male	22	3rd	No
GF2-2	Male	24	3rd	No
GF2-3	Male	26	2nd	No
GF2-4	Female	18	1st	Yes
GF2-5	Male	19	2nd	No
GF2-6	Male	19	1st	No
GF2-7	Female	18	1st	No

understandability, clarity and relevance. The interview protocol is included in Table 2.

The focus groups were recorded in audio and transcribed, and it was not necessary to repeat them. The transcriptions were sent to the participants, who were asked to verify the precision of the transcription and their comments. Field notes were incorporated into the data analysis. With this number of participants and focus groups, the necessary data saturation was achieved (Morse, 2015). This means that the inclusion of new discourses continued until no new results were obtained on the phenomenon under investigation (Mayan, 2016). Researchers thus had the necessary elements to build a comprehensive and convincing theory on the subject. This is evidenced by the detailed information provided (Morse, 2015).

2.4. Ethical considerations

The study was approved by the Ethics Committee of the University of Jaén (reference number: FEB.20/1. TFG). It complied with the ethical principles of the Declaration of Helsinki. Every participant received all the necessary information and signed the corresponding informed consent before conducting the interview. Regulation (EU) 2016/679 was applied to protect personal data and the informed consent documents. To ensure anonymity and confidentiality, participants cannot be identified by descriptions or citations and a code replaces their name in the final publication. Only the researchers were able to access the data, guaranteeing safekeeping and subsequent destruction.

2.5. Data analysis

An approach based on Gadamer’s hermeneutic phenomenology was employed in the processes of data interpretation and analysis. To do so, a modified form of the stages developed by Fleming et al. (2003) was used. Firstly, the importance of the research question was assessed, and all researchers decided that it was indeed of importance. Secondly, researchers underwent a period of reflection, establishing preconceptions related to the professional future of Saharan nursing students. Pre-understanding stemmed from previous research and experience in culture and lifestyle for these young Saharan people. Thirdly, we aimed to achieve an in-depth understanding of the phenomenon through

Table 2
Protocol of the group interview.

Stage of the interview	Theme	Question content/example
Presentation	Reasons	Belief that their perspectives provide a unique teaching that must be known globally.
	Intentions	To conduct an investigation with the aim of showing that real situation.
Beginning	Kickoff question	Tell us about yourselves (who you are, your age, which wilaya you live in, what year of the nursing degree you are at).
Development	Conversation guide	Why did you decide to study nursing? Are there many nursing students who drop out of the degree? What are the reasons? Are those reasons different between girls and boys?
		Do you know your possibilities to work or continue studying here in the camps? Would you like to study or work somewhere else?
End	Final question	Is there anything else you would like to tell us?
	Appreciation	Thank you for your attention. Your testimonies will be very useful.
	Offer	We want to remind you that you can call us or send us an e-mail regarding any doubts you may have. We will send you the results of this investigation.

dialogue between researchers and participants. Fourthly, we aimed to understand the phenomenon through dialogue with the text. After reading the transcriptions, the participants’ experiences were re-examined together with the researchers’ horizons and new questions such as “Are the reasons why men and women drop out of school different? Why and what are they?” Examining each sentence meant that units of meaning, sub-themes and themes could be identified. The fifth step sought to establish the reliability of the qualitative data, as described in the following section. The analytical process can be seen in Table 3. The ATLAS.ti 7 software for Windows© (Scientific Software Development GmbH, Berlin, Germany) was used for this analysis.

2.6. Rigour

To ensure the scientific rigour of the study, the four criteria of Guba and Lincoln (1989) were applied: credibility, transferability, dependability and conformability. Open questions were asked, and the exchange of information was facilitated in a relaxed environment so as to allow the participants to freely express their perceptions of their future perspectives. The researchers carefully listened to the participants’ testimonies from a neutral and non-critical position. The recordings were listened to several times before they were transcribed, to perform a faithful transcription of what was expressed, and they were then listened to once again after they were transcribed. The analysis of the data was conducted independently by two experienced researchers, who subsequently compared and agreed their results to select the most relevant codes that best identified the themes which were then generated. To maximize reliability, a clear description of the context, data collection and analysis was given. The authors incorporated their personal prejudices, a fusion of horizons through the hermeneutic circle that improved the understanding and interpretation of the phenomenon.

3. Results

The results presented here were obtained during one of the visits to the Saharan refugee camps, which studied the realization of an international cooperation project for development. Based on the perceptions

Table 3
Example of analytical process.

Quote	Initial codes	Meaning units	Subtheme	Theme
“Women have always been in the jaimas because they do the house chores if a family member is ill. and also because that’s our culture and religion.” (GF1–5).	Being a woman Family Taking care of a family member Respect for the family Belief Cultural reasons Religious reasons	Specific reasons why female students abandon their studies	The gender gap is also present	Culture as a determinant for dropping out of the school
“I decided to study nursing when I was 16 years old and now I also want to study midwifery because it’s beautiful and it’s needed to help women.” (GF2–7).	Studying a speciality Specialities available Midwifery speciality Pediatrics speciality Specialists required	Option to continue studying a speciality among the ones available	Studying a speciality is an option	Aspirations for a professional future in the Saharan refugee camps

of the students, three themes were identified as important aspects of the future expectations they perceived as nursing professionals in the Saharan refugee camps: (1) Studying nursing as a moral obligation; (2) Culture as a determinant for dropping out of the course; and (3) Aspirations for a professional future in the Saharan refugee camps (Table 4).

3.1. Studying nursing as a moral obligation

The participants decided to study nursing because they “love such a profession” or as “a way of helping the Saharan people”. A minority of them chose this career due to the family link to it as either their fathers or mothers were healthcare professionals.

“I believe that we all want to study to help the Saharan people, right? And..., some of us never thought about becoming nurses, but it is a good career. People don’t study this profession for the money. Sometimes they pay, sometimes they don’t., it depends on whether the government has money.” (GF1–1).

The reason for the vocation is important in the context of the Saharan refugee camps since the salary is very low. In fact, in some cases there is no salary if the Ministry of Public Health does not have enough money to pay them. The other major reason is the moral obligation they perceive to help the Saharan people.

“For a nurse it is very important to have a vocation to study this profession. If you really don’t feel like you want to be a nurse, you won’t be able to finish your studies. Money is not reason enough.” (GF1–3).

3.2. Culture as a determinant for dropping out of the school

The participants showed differences as to the reasons why students drop out and the reasons why women are specifically forced to do so. Here the role of culture was highlighted.

3.2.1. Once again, economic reasons

The main reason for dropping out is related to the economic problems of the family, which lead students to abandon their studies and start working. In this respect, more men than women drop out of nursing school.

“And the boys must work, because when you reach a certain age and your family needs you., you have to start working. It is very difficult to work and study.” (GF2–1).

3.2.2. The gender gap is also present

More women than men abandon their studies, for different reasons.

Table 4
Themes, subthemes and meaning units identified.

Theme	Subthemes	Meaning units
Studying nursing as a moral obligation		Reasons to study nursing in the Saharan refugee camps
Culture as a determinant for dropping out of the school	Once again, the economy The gender gap is also present	Reasons why students drop out Specific reasons why female students drop out
Aspirations for a professional future in the Saharan refugee camps	Studying a speciality is an option Working for the others We need the world recognize our degree	Possibility to continue studying a speciality among the ones available Midwifery speciality to attend to pregnant women Pediatric nursing speciality to attend to children Possibility to work in one of the regional hospitals of the wilayas The dispensaries of the wilayas as a working place Granting international recognition to the degree of nursing in the nursing school of the Saharan refugee camps

Here the participants highlighted the cultural and religious influence as women must stay in the jaimas doing the chores, if required, or to take care of a sick family member. Moreover, the nursing school provides accommodation for its students, due to the distance from the population nuclei. However, a woman sleeping away from her home gives a bad impression, which is an impediment for them to study.

“This is almost like a boarding school, right? So, culture plays a role here. Girls must not. sleep in homes other than theirs. People are not used to the possibility that a girl may sleep away from her home during the week, even if she is studying.” (GF1–5).

Furthermore, according to the participants, female students also decide to abandon their studies because, when they have to carry out their fieldwork and attend a man, they feel that they are acting against their beliefs and are offending someone in some way. However, although religion and culture are important factors in the dropout rate of nursing students, the role of the family is decisive in this regard.

“Moreover, when she gets married, she will most probably stay in the jaima cleaning and taking care of family members and she won’t work. Do you understand? This is our culture.” (GF2–4).

3.3. Aspirations for a professional future in the Saharan refugee camps

The future perspectives as nursing professionals pointed out by the participants are divided into the different options possible in the Saharan refugee camps: continuing their studies with a nursing specialty or working in some dispensary or hospital in the wilayas. However, they perceive that they need their degree to be recognized at the international level to expand their studies and improve as professionals.

3.3.1. Studying a specialty is an option

The nursing specialty options are: midwifery; and pediatric nursing. Women prefer the former, whereas men are more inclined for the latter. In this regard and for cultural reasons, Saharan women show their preference for being attended to by female professionals.

“There’s no problem, but if religion says that men. better don’t, then we respect it.” (GF2–5).

3.3.2. Working for the others

The participants showed great interest and enthusiasm for working in the camps, due to the scarcity of nursing professionals. This is a way of helping their people to satisfy their healthcare needs. There are many professionals who also abandon this profession as they do not always get paid by the Ministry of Public Health.

“Every hospital needs staff and so, as soon as you graduate, you can start working. However, many nurses quit their job to make money somewhere else, because the ministry does not always pay the salaries.” (GF1–6).

3.3.3. We need the world to recognize our degree

The participants stated that they need their degree to gain international recognition as nursing professionals. Nevertheless, this does not occur, partly due to the fact that most countries do not recognize Western Sahara as an independent state, which implies that they do not recognize their degrees either. Furthermore, the participants claimed that it is hard to obtain a visa and passport, which makes it difficult to improve their education.

“It’s important for this degree to be recognized all over the world, to be international” (GF1–5).

4. Discussion

This study has been focused on describing the expectations of nursing students about their future possibilities as professionals in the Saharan refugee camps. The participants pointed out the importance of developing as professionals in their environment so they can help their people, the social and cultural difficulties they have in such a process and

the need for their education and the work they do to be recognized internationally.

This is the first study to focus on these students, giving them a voice to know how they perceive their personal and professional future in the refugee camps where they have lived since they were born. The studies published to date show the educational deficiencies in refugee camps worldwide (Brugha et al., 2021; UNHCR, 2016a, 2019), where 24% of adolescent refugee have secondary studies, compared with 84% of non-refugee adolescents and 37% of non-refugee young people worldwide undertake university studies, compared with 3% of refugee youth who have access to higher education (UNHCR, 2019). This study examines the testimonies of this minority.

The Saharan refugees belong to this morning. The reasons for Saharan adolescents to study nursing include vocation and the intention to help the people who live in the Saharan refugee camps. This finding has also been reported in previous studies related to education in this region, where teaching instills in the children and adolescent population that their studies contribute to the progress of the Saharan State and are aimed at serving the community (Calero-García et al., 2016). Studying for a vocation, is one of the main reasons described in other studies carried out in different countries (Usher et al., 2013; Arrigoni et al., 2014; Halperin et al., 2014; Wilkes et al., 2015) or as a reason for staying (Williamson et al., 2013). All these results also support the nursing theory of Florence Nightingale (1859), according to which, "Nursing is a vocation that requires competent and intelligent individuals who must be paid for the quality of their service".

Historically, a career choice in nursing was associated with a 'vocational calling' to perform this job (Gordon and Nelson, 2005). Career choice has been studied since the early 20th century, mainly within the disciplines of organizational and vocational psychology (Strong, 1927; Roe, 1956; Holland, 1997). Holland's model of vocational choice (1997) focuses on the congruence between a vocational profile of a given profession/job and a personal profile, maintaining that people choose professions requiring the skills, tendencies and capacities that they possess. To have a nursing vocation is to be dedicated and committed to assisting another who is disadvantaged in some way based on need and because of what is genuinely best for them (White, 2002). This is frequently given religious connotations (Williamson et al., 2013). An important consideration is that nursing care frequently precisely involves those tasks that are considered menial, unpleasant and intimate and it is for these reasons that nursing is thought of as a vocation (Lawler, 1991).

However, some of the nursing students are forced to abandon their studies. They gave a series of reasons why many of them must abandon their studies, especially in the case of women. This problem has been reported by some of the authors of the present study in a previous article, where they show that, throughout the existence of the nursing school of the Saharan refugee camps, dropping out has always been a major problem, with less than half of the students who initially registered graduating (López-Entrambasaguas et al., 2019). Moreover, the gender divide, which, in this case, disfavours women, had also been highlighted in previous studies conducted with Syrian refugee populations. As in the case of Saharan women, the entanglement between tradition, culture and religion represents a barrier to access education for female Syrian adolescent refugee, which, in turn, makes them more vulnerable to health problems, abuse and mistreatment (Hattar-Pollara, 2019). Education reduces girls' vulnerability to exploitation, sexual and gender-based violence, teenage pregnancy and child marriage (UNHCR, 2019). According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), if all girls completed primary school, child marriage would fall by 14 per cent. If they all finished secondary school, it would plummet by 64 per cent (UNESCO, 2022).

Students who successfully complete their studies have options to continue their professional career. They commented on different future expectations and options. However, this study included students of both sexes and all the years of the nursing degree, which failed to show much

diversity, contradicting the so-called "myth of the first-year student" (Chonko et al., 2002), which postulates that university students have little realistic expectations when they begin their studies and that such expectations change and become more realistic as they advance in their course. However, due to the particular characteristics of these students, such expectations did not change, which is in line with the findings of previous studies (Hill, 1995). In these cases, it is possible to apply the idea supported by Lent et al. (1994), which states that expectations are formed in the educational stages that precede the university level, due to factors of the environment of the future students during their childhood and adolescence. This fact is applicable to the case of the students of the Saharan refugee camps.

As future nursing professionals, the participants complained about the lack of international validity of their nursing degree obtained in the nursing school of the Saharan refugee camps, which hinders their opportunities to complete their studies in other countries and improve their education. This is due to the lack of international recognition of the Saharan State and to the fact that, according to the United Nations, Western Sahara continues to be a Non-Autonomous Territory whose decolonization has not yet been solved (UNHCR, 2020). UNHCR is also calling for a more realistic approach on the part of schools, universities and education ministries towards documentation. Many refugees are barred from the classroom as when they fled their homes they left behind exam and course certificates, as well as identity documents. Even when these documents are available, some host countries refuse to recognize certification issued in the refugees' country of origin (UNHCR, 2019).

In the case of Saharan refugees, the possibilities of improving their training are limited to carrying out recycling practices in healthcare centres in Algeria or through the courses that the non-governmental organizations offer in the wilayas. However, neither will this training be recognized by foreign countries as the Saharan Government is a government in exile, has a lack of international recognition and its degrees have no official status. The Hague Apostille Convention (1961) facilitates the circulation of public documents provided in one state which is party to the Convention to be used in another state which is also party to the Convention. Morocco signed this agreement, so legalization of Moroccan degrees is provided. The opposite is the case of Algeria, where legalization of degrees is a long and complex process. The Saharan Government has not been given the opportunity to sign this agreement.

One of the characteristics of a refugee camp is provisionality (UNHCR, 2016b). However, some of the refugee camps, such as the one where the present study was conducted, have existed for over 45 years. Therefore, nurses, as professionals who work in refugee camps and who are part of professional teams that carry out international cooperation projects for development in these contexts, can investigate the barriers that the young refugee population faces to access education, especially in the case of women, as well as to hold training and recycling programmes for healthcare professionals in these areas.

4.1. Limitations

The results of this study must be taken into account in the context of their design, strengths and limitations. Firstly, this study is framed within a larger international cooperation project on the areas where healthcare services in wilaya and the training of future nursing professionals in the nursing school can be improved, which is not limited to the results presented here. Secondly, this study was carried out in the Saharan refugee camps, a unique context as it is the world's only nursing school that exists inside a refugee camp. It is therefore necessary to present it to the world and show the circumstances under which these students undertake their studies and think about their future. Thirdly, the data collection was conducted during the global outbreak of the SARS-CoV2 pandemic and so it was not possible to interview further participants though the need for nursing professionals has also

increased, with expectations unaltered by the pandemic. In fact, the effect of the latter on teaching and the precarious education system of the Saharan refugee camps is a research line that gives a natural continuity to this study.

5. Conclusion

This study examined the circumstances where Saharan nursing students have to study and shows a very authentic image of this reality. The healthcare needs of people, populations and health care delivery systems require the availability of an effective, productive and sustainable healthcare staff. This is particularly important in the context of a refugee camp. As members of the healthcare staff, nurses are usually the largest group of health care providers. Given the critical nursing shortage in the Saharan refugee camps, strategies to improve the recruitment and retention of nurses are essential. In addition, giving attention to nursing students' opinions and requirements could help to improve the current state of the nursing profession in the region.

Despite the lack of data about this reality, the students of the nursing school of the Saharan refugee camps perceive that their professional future involves studying one of the two specialties available or working in healthcare as a way to both help their people and acknowledge the education received. The international recognition of their degree would allow them to complement their education and improve as professionals. However, due to the lack of financial means and social and cultural factors, many of these students abandon their studies or nursing jobs. All this generates an impact on the precarious healthcare system of the Saharan refugee camps.

Funding sources

This study was carried out as part of the international development cooperation project "Contribución a la mejora de la calidad de vida de la población de los campamentos de refugiados/as saharauis" ["Contribution to improving the quality of life of the population of the refugee/Saharawi camps"] financed by the Andalusian Agency for International Development Cooperation of the Junta de Andalucía, Spain (Reference: 2014DEC/008).

CRedit authorship contribution statement

Sonia Casalilla-Parras: Conceptualization, Software, Validation, Formal analysis, Investigation, Data Curation, Writing - Original Draft, Writing - Review & Editing, Visualization. **Jose Manuel Martínez-Linares:** Conceptualization, Methodology, Software, Validation, Formal analysis, Investigation, Resources, Data Curation, Writing - Original Draft, Writing - Review & Editing, Visualization, Supervision. **Javier Yuba-Francia:** Conceptualization, Methodology, Investigation, Resources, Data Curation, Writing - Original Draft, Writing - Review & Editing, Visualization. **Olga María López-Entrambasaguas:** Conceptualization, Methodology, Software, Validation, Formal analysis, Investigation, Resources, Data Curation, Writing - Original Draft, Writing - Review & Editing, Visualization.

Clinical resources

United Nations High Commissioner for Refugees. <https://www.unhcr.org/steppingup/wp-content/uploads/sites/76/2019/09/Education-Report-2019-Final-web-9.pdf>.

United Nations. <https://www.un.org/dppa/decolonization/en/nsqt>.

United Nations Educational, Scientific and Cultural Organization. <https://www.unesco.org/gem-report/en/20th-anniversary>.

Provincia 53. <https://www.provincia53.com/#/>.

United Nations High Commissioner for Refugees. <https://www.unhcr.org/news/stories/2018/6/5b20e94f4/exiled-child-saharawi-grandmother-still-longs-home.html?query=Saharawi%20refugees>.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Due to the sensitive nature of the questions asked in this study, survey respondents were assured raw data would remain confidential and would not be shared.

References

- Arnoux-Nicolas, C., Sovet, L., Lhotellier, L., Bernaud, J.L., 2017. Development and validation of the meaning of work inventory among French workers. *Int. J. Educ. Vocat. Guid.* 17, 165–185. <https://doi.org/10.1007/s10775-016-9323-0>.
- Arrigoni, C., Micheletti, P., Grugnetti, A.M., Ferrari, P., Borrelli, P., Montomoli, C., Pelissero, G., 2014. The students' reasons to choose a nursing degree program: an Italian exploratory study. *Ann. di Ig. Med. Prev. Commun.* 26 (6), 570–577.
- Brugha, M., Hollow, D., Pacitto, J., Gladwell, C., Dhillon, P., Ashlee, A., 2021. Historical mapping of education provision for refugees. A cross-cutting and comparative analysis of three country contexts. *Jigsaw Consult., United Kingdom*.
- Calero-García, M.J., Linares-Abad, M., López-Entrambasaguas, O.M., & Martínez-Linares, J.M., n.d. Informe de la Escuela de Enfermería Ahmed Abdel-Fatah de los campamentos de refugiados saharauis en Smara. Facultad de Ciencias de la Salud. Universidad de Jaén.
- Calero-García, M.J., Cruz-Lendinez, A., Campos-Calero, A., 2016. La mejora de la salud de la población saharauí a través de la innovación docente en la educación: un proyecto de formación en cascada. *Index Enferm.* 25 (3), 198–202.
- Campos, D., Díaz-Meco, A.M., 2016. Experiencia en los campamentos de refugiados saharauis, perspectiva cultural de la salud. *Index Enferm.* 25 (3), 194–197.
- Chonko, L.B., Tanner, J.F., Davis, R., 2002. What are they thinking? Students' expectations and self-assessments. *J. Educ. Bus.* 77 (5), 271–281. <https://doi.org/10.1080/08832320209599676>.
- Fedrigo, L., Cerantola, M., Frésard, C.E., Masdonati, J., 2021. Refugees' meaning of work: a qualitative investigation of work purposes and expectations. *J. Career Dev.* 0 (0), 1–17. <https://doi.org/10.1177/08948453211066343>.
- Fleming, V., Gaidys, U., Robb, Y., 2003. Hermeneutics research in nursing: developing a Gadamerian-based research method. *Nurs. Inq.* 10 (2), 113–120.
- Florian, M., Costas, J., Kärreman, D., 2019. Struggling with meaningfulness when context shifts: volunteer work in a German refugee shelter. *J. Manag. Stud.* 56 (3), 589–616. <https://doi.org/10.1111/joms.12410>.
- Fourie, M., Deacon, E., 2015. Meaning in work of secondary school teachers: a qualitative study. *S. Afr. J. Educ.* 35 (3), 1–8. <https://doi.org/10.15700/saje.v35n3a1047>.
- Gadamer, H.G. (2005). *Verdad y Método [True and Method]*. Salamanca, España: Sígueme.
- Ginevra, M.C., Di Maggio, I., Santilli, S., Nota, L., 2021. The role of career adaptability and future orientation on future goals in refugees. *Br. J. Guid. Couns.* 49 (2), 272–286. <https://doi.org/10.1080/03069885.2020.1865874>.
- Gordon, S., Nelson, S., 2005. An end to angels. *Am. J. Nurs.* 105 (5), 62–69. <https://doi.org/10.1097/0000446-200505000-00031>.
- Guba, E.G., Lincoln, Y.S., 1989. *Fourth Generation Evaluation*. SAGE publications, California.
- Hague Conference on Private International Law. Convention of 5 October 1961 Abolishing the Requirement of Legalization for Foreign Public Documents. (2022, July 22). Retrieved from <https://www.hcch.net/en/instruments/conventions/status-table/?cid=41>.
- Halperin, O., Mashiach-Eizenberg, M., 2014. Becoming a nurse. A study of career choice and professional adaptation among Israeli Jewish and Arab nursing students: a quantitative research study. *Nurse Educ. Today* 34 (10), 1330–1334. <https://doi.org/10.1016/j.nedt.2013.10.001>.
- Hattar-Pollara, M., 2019. Barriers to education of syrian refugee girls in Jordan: gender-based threats and challenges. *J. Nurs. Scholarsh.* 51 (3), 241–251. <https://doi.org/10.1111/jnu.12480>.
- Hernández, A., 2010. Territorio, historia e identidad: Sus El Aksa o Sáhara Occidental. *Rev. De. Estud. Int. Mediterr.* 9, 1–10.
- Hill, F.M., 1995. Managing service quality in higher education: the role of the student as primary consumer. *Qual. Assur. Educ.* 3 (3), 10–21. <https://doi.org/10.1108/09684889510093497>.
- Holland, J.L., 1997. *Making Vocational Choices. A Theory of Vocational Personalities and Work Environments*, 3rd ed. Psychological Assessment Resources, Florida.
- International Council of Nurses. (2018). Health of migrants, refugees and displaced persons. (2022, March 10). Retrieved from https://www.icn.ch/sites/default/files/inline-files/PS_A_Health_migrants_refugees_displaced%20persons.pdf.
- Kosny, A., Yanar, B., Begum, M., Al-khooly, D., Premji, S., Lay, M.A., Smith, P.M., 2020. Safe employment integration of recent immigrants and refugees. *J. Int. Migr. Integr.* 21 (3), 807–827. <https://doi.org/10.1007/s12134-019-00685-w>.
- Lawler, J., 1991. *Behind the Screens*. Churchill Livingstone, Melbourne.

- Lent, R.W., Brown, S.D., Hackett, G., 1994. Toward a unifying social cognitive theory of career and academic interest, choice and performance. *J. Vocat. Behav.* 45, 79–122. <https://doi.org/10.1006/jvbe.1994.1027>.
- López-Entrambasaguas, O.M., Martínez-Linares, J.M., Linares-Abad, M., Calero-García, M.J., 2019. Is it possible to become a nurse in a refugee camp. *Int. J. Environ. Res. Public Health* 16, 3414. <https://doi.org/10.3390/ijerph16183414>.
- Martínez-Linares, J.M., Linares-Abad, M., Calero-García, M.J., López-Entrambasaguas, O. M., 2019. Is it possible to become a midwife in a refugee camp. *Midwifery* 75, 12–15. <https://doi.org/10.1016/j.midw.2019.04.002>.
- Mayan, M.J., 2016. *Essentials of Qualitative Inquiry*. Routledge, New York. <https://doi.org/10.4324/9781315429250>.
- Morse, J.M., 2015. Data were saturated. *Qual. Health Res.* 25 (5), 587–588. <https://doi.org/10.1177/1049732315576699>.
- Moser, A., Korstjens, I., 2018. Series: Practical guidance to qualitative research. Part 3: Sampling, data collection and analysis. *Eur. J. Gen. Pract.* 24 (1), 9–18. <https://doi.org/10.1080/13814788.2017.1375091>.
- Nightingale, F., 1859. *Notes on Nursing: What it is and What it is Not*. Harrison, London.
- Roe, A., 1956. *The Psychology of Occupations*. Wiley, New York.
- Rosso, B.D., Dekas, K.H., Wrzesniewski, A., 2010. On the meaning of work: a theoretical integration and review. *Res. Organ. Behav.* 30, 91–127. <https://doi.org/10.1016/j.riob.2010.09.001>.
- Saharan Ministry of Public Health. (2014). Memoria de la Escuela de Enfermería Ahmed Abdel-Fatah. Ahmed Abdel-Fatah Nursing School, Saharan Arabic Democratic Republic. Unpublished manuscript.
- Steger, M.F., 2012. Making meaning in life. *Psychol. Inq.* 23, 381–385. <https://doi.org/10.1080/1047840x.2012.720832>.
- Strong, E., 1927. *Strong Vocational Interest Blank for Men*. Stanford University Press, Stanford, CA.
- Tong, A., Sainsbury, P., Craig, J., 2007. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int. J. Qual. Health Care* 19 (6), 349–357. <https://doi.org/10.1093/intqhc/mzm042>.
- Trasasmontes, V., 2011. Los campamentos de refugiados saharauis en Tinduf: una aproximación desde la economía. *Rev. Econ. Mund.* 22, 285–315.
- UNESCO (United Nations Educational, Scientific and Cultural Organization). (2022, May 19). Global Education Monitoring Report. Retrieved from <https://www.unesco.org/gem-report/en/20th-anniversary>.
- UNHCR (United Nations High Commissioner for Refugees). (2016a). (2017, October 02). Left behind Refugee Education in Crisis. Retrieved from <https://www.unhcr.org/59b696f44.pdf>.
- UNHCR (United Nations High Commissioner for Refugees). (2019). (2020, May 02). Stepping up refugee education in crisis. Retrieved from <https://www.unhcr.org/steppingup/wp-content/uploads/sites/76/2019/09/Education-Report-2019-Final-web-9.pdf>.
- UNHCR (United Nations High Commissioner for Refugees). (2016b). (2020, October 31). What are the characteristics of refugee camps? Retrieved from https://eacnur.org/blog/cuales-son-las-caracteristicas-de-un-campo-de-refugiados-tc_alt45664n_o_pstn_o_pst/.
- UNHCR (United Nations High Commissioner for Refugees). (2020). (2020, May 07). Refugiados saharauis: 45 años viviendo en campamentos de Argelia. Retrieved from: <https://eacnur.org/es/actualidad/noticias/emergencias/refugiados-saharauis-campamentos-tinduf>.
- United Nations. (2020). Las Naciones Unidas y la descolonización. (2019, December 17). Retrieved from https://www.un.org/dppa/decolonization/es/nsqg#_edn2 Last accessed: 15.05.21.
- Usher, K., West, C., MacManus, M., Waqa, S., Stewart, L., Henry, R., Redman, M., 2013. Motivations to nurse: an exploration of what motivates students in Pacific Island countries to enter nursing. *Int. J. Nurs. Pract.* 19 (5), 447–454. <https://doi.org/10.1111/ijn.12095>.
- White, K., 2002. Nursing as vocation. *Nurs. Ethics* 9 (3), 279–290. <https://doi.org/10.1191/0969733002ne510oa>.
- Wilkes, L., Cowin, L., Johnson, M., 2015. The reasons students choose to undertake a nursing degree. *Collegian* 22 (3), 259–265. <https://doi.org/10.1016/j.colegn.2014.01.003>.
- Williamson, G.R., Health, V., Proctor-Childs, T., 2013. Vocation, friendship and resilience: a study exploring nursing student and staff views on retention and attrition. *Open Nurs. J.* 7, 149–156. <https://doi.org/10.2174/1874434601307010149>.