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Research article

Use of high-fidelity clinical simulation for the development of cultural competence of nursing students

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ABSTRACT

Background: The increasing growth of migrant populations in Spain has changed the cultural profile of healthcare system users. Cultural competence in health care settings has become an increasing worry for health professionals, specifically for nurses. Therefore, the training in cultural competency of nursing students is indispensable.
Objective: To explore the views on the use of high-fidelity simulation in fourth-year nursing students to improve their cultural competence.
Methods: A qualitative descriptive study was conducted with an interpretative phenomenological approach. Before and after taking part in simulated scenarios, 56 semi-structured interviews were conducted. We explored the perceptions of the nursing students when addressing a simulated clinical case with a patient who is a migrant, including the training deficiencies in cultural competences perceived before the simulation, the benefits perceived, and the improvement suggestions. We also analyzed their views on the skills and knowledge developed during the simulation experience.
Results: Before entering the simulation scenario, we found the existence of insecurity, uncertainty, and cultural differences in the nursing students, with the main worry being the language barrier. They also mentioned the need to improve their intercultural communication and cultural adaptation of the care in their training. After finishing the simulation, they indicated positive aspects, aspects to be improved, learning acquired, and learning to be strengthened, highlighting the existing cultural differences and asking for training on cultural competence.
Conclusions: The use of high-fidelity simulation provides a positive learning experience, which increases a student's comfort when working with patients of varied cultural origins. Its usefulness in teaching is found in its capacity to develop communication skills and interpersonal skills, such as empathy, in the students. This study provides evidence on the importance of specific training on cultural competence in the Nursing Degree, and the usefulness of high-fidelity clinical simulation to achieve this.

1. Introduction

Foreign-born residents account for 11.4 % of the Spanish population, of which 22 % come from the African continent, 27.2 % from Latin American countries, and 34.6 % from EU-28 countries (INE, 2020), which has resulted in the substantial change in healthcare system users, transforming their cultural profile (Plaza del Pino et al., 2020). The main entry points of African citizens who want to reach Europe are the Spanish cities of Ceuta and Melilla in the southern coast of Spain (Kassar and Dourgnon, 2014). Although these cities are in the north of Africa, immigrants reach Spain, which is considered a transit country to other European countries (Bendaoued et al., 2016).

Almeria, the place where the present study is located, is one of the Spanish provinces that form the South of Europe sea border, and 20.28

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% of its population is foreign-born (OPAM, 2019), with more than 76,600 acres of greenhouses (Cajamar, 2019). Most immigrants move there due to its intensive agriculture, which demands a wide workforce.

Throughout the year 2020, the number of international migrants around the world continued to increase, although it slowed down due to the COVID-19 pandemic (UNDESA, 2020). It is estimated that the number of people who live outside their country of origin reached 281 million in 2020, approximately the same size as the total population in Indonesia, the fourth most-populated country in the world (UNDESA, 2020). All around the world, the closure of national borders and the critical alterations in land, air, and sea travel forced hundreds of thousands of people to cancel or postpone their migration plans (UNDESA, 2020).

Linguistic and cultural diversity is a concept that is utilized to identify the range of different linguistic groups and cultures represented in the patient population (Markey et al., 2019). Recent research has shown how linguistic and cultural diversity put at risk the quality of care offered at health services (Almutairi et al., 2015; Hultsjö et al., 2019; Plaza del Pino et al., 2020). Adapting nursing practices to provide a suitable answer to a population of patients that has become increasingly linguistically and culturally diverse, is very complex (Markey et al., 2019), with the nursing professionals having an ethical responsibility to provide culturally-congruent healthcare to every patient (Desaretz, 2019; Markey and Okantey, 2019).

In healthcare settings, cultural competence has become an increasing worry for healthcare professionals, specifically for nursing professionals (Hultsjö et al., 2019). Having cultural competence could help nursing professionals ensure quality care with positive health outcomes, and increase the confidence and satisfaction of the patient (Tang et al., 2019). An increasing number of universities have started to include academic content related to cultural competence, intercultural communication techniques, and cultural diversity awareness in their nursing degrees. Many studies have shown the importance of this training for improving the care of new nurses and avoiding prejudiced and discriminatory attitudes towards patients who are migrants (Nielsen et al., 2019; Plaza del Pino, 2017; Van Keer et al., 2020). A deficient cultural training is associated with a tendency to treat patients from ethnic minorities equally, with evidence of ethnocentric practices, which questions the quality of care provision (Vydelingum, 2006). The need to develop actions has been raised to improve cultural competence, and with it, healthcare, not only with nursing students but also with nursing professionals and other healthcare professionals (Noble et al., 2014; Plaza del Pino, 2017). Improving and achieving cultural competence in nurses is a continuous process, which starts in nursing universities and schools, and which must continue through the professional career (Hui-Ling et al., 2020). In this sense, cultural education programs must be provided by health organizations to increase and develop the cultural competence of nursing professionals to better address the challenges that could arise during intercultural interactions (Almutairi et al., 2017).

Nursing professors utilize a range of educational strategies to provide meaningful experiences during the learning process through theoretical content in the online training, classroom, and short-term immersion experiences (Levey, 2019). These methodologies facilitate nursing students' acquisition of cultural competence, cultural awareness, sensitivity, communication skills, and intercultural behaviors that are adequate for caring for a population that is culturally and linguistically diverse during their work as health professionals. Simulation has been added to nursing and medicine study plans at schools, hospitals, and healthcare systems to improve the training of teams, communication, and the practice of skills (Waxman et al., 2020). The use of clinical simulation to acquire nursing competences provides an innovative educational strategy in the way of teaching and learning the art and science of nursing. Simulation has made inroads in the conceptualization and delivery of nursing training and education, for both nursing students and educators. The present age of healthcare, and its requirement for competent professionals, demand the strategic planning of pedagogic strategies at every nurse education institution that supports the development of multifaceted competences that are asked from nurses (Brown, 2015). Clinical simulation has also been recently implemented for education on cultural competences (Ndiwane et al., 2017; Ozkara San, 2019).

In this commitment for the diversification in training on cultural competence of nursing students, high-fidelity simulation has been utilized in our university, creating a psychologically-safe setting. The objective of this study was to explore the views on the use of high-fidelity simulation in fourth-year nursing students to improve their cultural competence.

2. Methods

2.1. Study design

We conducted a qualitative descriptive study using an interpretative phenomenological approach, which is considered the best method to understand human experiences (Smith et al., 2009) from the perspectives of those who live them, through which people seek to build meanings from their own experiences (Howitt and Cramer, 2011). In this sense, our study aimed to explore the perceptions of our nursing students when addressing a clinical simulation scenario with a patient who is a migrant, including the training deficiencies in cultural competences perceived before the simulation, the benefits perceived, and the improvement suggestions, and to analyze their views on the skills and knowledge developed during the simulation experience. Finally, a verification list was adopted, which included 32 elements from the consolidated criteria for reporting qualitative research (COREQ) (Tong et al., 2007).

2.2. Sample and setting

In our study participated nursing students from a public university in Spain enrolled in their last year of the four-year nursing degree. The offer to participate in the study was extended to all of the nursing students enrolled in that year. Students voluntarily agreed to participate in the study. The study was conducted between January and February 2021.

2.3. High-fidelity simulation sessions

A high-fidelity simulated scenario was created, which represented a case of a migrant who attended a nursing consultation after being admitted due to the appearance of diabetes. It should be pointed out that the woman who played the role of a migrant patient was selected and subsequently trained to play this role, to guarantee a high level of fidelity and a standardized process (Lewis et al., 2017). The performance of the students during the simulation was evaluated in agreement with the appropriate NIC (Nursing Interventions Classification) interventions and their corresponding nursing activities (Butcher et al., 2018) required for the adequate resolution of the clinical simulation scenario (Table 1). The NIC, as well as the nursing activities, served as guides for discussing the performance of the students through the debriefing phase included in the clinical simulation methodology. Although the students have been trained in the NIC and its corresponding nursing activities, which were covered in previous academic years on cultural competence acquisition, the nursing professors did not inform them in advance that their cultural competence would be evaluated during the simulation session.

Our main learning objective using the clinical simulation methodology was for the participating students to acquire an adequate cultural competence, providing attention to the patient by utilizing different cultural and linguistic adaption tools. To achieve this aim, we grouped nursing students into operational working groups, consisting of 2–3

Table 1
The appropriate NIC (Nursing Interventions Classification) interventions and their corresponding nursing activities required for the adequate resolution of the clinical simulation scenario.

Clinical simulation scenario	NIC interventions	Nursing activities
Moroccan woman who is 59 years old, 10 days ago, she was admitted to the hospital due to a case of hyperglycemia, she did not know she was diabetic. She goes to the nurse consultation at her health center to start a program of education for diabetics. She understands the language (Spanish)	(7330) Cultural brokerage	To determine the conceptual differences between the patient and the nursing professionals related to health problems or treatment plan To identify, with the patient, the cultural practices which could negatively affect health, so that the patient is able to choose in an informed manner Adaptation of the care to the patient's culture Use simple language, avoiding technical terms Give the patient more time than usual so that he or she can assimilate the information, be relaxed, and without hurry during the contact with the patient
	(5602) Teaching: Disease process	Assess the current level of knowledge of the patient related to the specific disease process Describe the common signs and symptoms of the disease, if needed Teach the patient measures to control/minimize symptoms, if needed Describe the possible chronic complications, if needed Comment on the changes in lifestyle that could be needed to avoid future complications and/or control the disease process

students, to take part in the clinical simulation sessions. Consequently, a total of 23 simulation sessions were carried out, thereby ensuring that all students participated in a clinical simulated case.

All the simulated scenarios followed the Best-Practices INACSL Standards: SimulationsSM (INACSL, 2016a):

- Pre-briefing: The students were provided with information to establish a psychologically-safe context and to consolidate the learning process (Rudolph et al., 2014) two weeks before the simulation scenarios. All the students were provided with a brief informational document about the simulation scenario, allowing them to plan and elaborate an evidence-based approach. This information included details of the clinical history and health conditions of the Moroccan patient (start of diabetes which needed hospital admission, Muslim patient who understands Spanish).
- Briefing: The simulated scenario was contextualized through the presentation of brief information about the background of the clinical case.
- Simulated scenario: The simulated scenario was as real as possible. This scenario simulated a primary care nursing consultation visited by the patient to start learning about diabetes. We selected the specific nursing activities related to the corresponding NIC. However, the NIC was only used as a guide since the assessment of the student's performance was broader. Active cameras and microphones were used in the simulation room during the clinical simulation session.
- Debriefing: Once the simulated scenario was completed, it was analyzed and discussed (INACSL, 2016b). Following the recommendations proposed by Phrampus and O'Donnell (2013), we used the gather, analyze, and summarize (GAS) debriefing tool to structure this phase. Consequently, the nursing students discussed and analyzed the best evidence-based practices associated with the clinical case, and they also reflected on and analyzed in-depth the positive actions, the mistakes, and the needed improvements identified when they were performing the clinical simulation session. During this debriefing phase, the nursing professors, who were trained on the clinical simulation methodology, provided nursing students with feedback on their performance.

2.4. Data collection

The collection of data was performed through semi-structured interviews in two phases; a phase before the high-fidelity simulation case (pre-SC), and a second phase after the last simulation session (post-SC).

The pre-SC interview phase focused on delving into the difficulties that students expected to have during the simulation case, and the tools and/or training they thought to possess or lack for addressing them. In the post-SC interview, we developed an interview outline consisting of four open-ended questions: What went well during the simulated scenario?; What did not go well during the simulated scenario?; What have you learned after the simulated scenario?, What skills do you believe you should improve to deal a similar but real case? This interview provided an in-depth analysis and reflection on all the significant issues during the clinical simulation sessions.

The study participants were interviewed in a room that was set up for this at the university, four days before the start of the first simulation session (pre-SC phase), and four days after the last session (post-SC phase). The interviews lasted an average of 20 min in each phase. To avoid possible biases, the interviewer was a member of our research team but did not take part in any simulated scenario. All nursing students verbally consented for all interviews to be recorded.

2.5. Data analysis

To understand the simulated experiences of our nursing students, a qualitative descriptive methodology was utilized. Consequently, an explanatory description of the views and perceptions of the participants about their experiences was obtained.

The interviews were revised and transcribed by the research team. To analyze all qualitative data, we performed a content analysis. In this way, we used the ATLAS.ti 8 software (Scientific Software Development GmbH, Berlin, Germany) to store, manage, classify and organize all the qualitative data obtained.

The analysis began with the iterative reading of the transcriptions based on the participants' discourses. Subsequently, we identified the emerging subjects and their grouping and created a system of categories (Duque and Aristizábal Diaz-Granados, 2019). In this sense, these categories identified were at first aligned with the subjects proposed in the two phases of the interview and were supported by the stages included in the clinical simulation methodology. However, their associated subcategories were identified inductively, describing the views of the nursing students.

2.6. Ethical considerations

The study followed the principles and ethical guidelines for medical research with human subjects, adopted by the World Medical Association (WMA) in the latest Declaration of Helsinki (64th General Assembly, Fortaleza, Brazil, in October 2013). Consequently, our study received the approval of the Research Ethics Committee of the Department of Nursing, Physical Therapy and Medicine from the corresponding university (approval no. EFM-26/19). Likewise, the volunteer nature

of the students for collaborating in the study was respected, with their confidentiality preserved at all times. To register, each student provided and signed an informed consent form, which detailed the aims of our research and their acceptance for participating in the study.

3. Results

Sixty-three nursing students took part in the scheduled high-fidelity simulation sessions. However, fifty-six students accepted to participate (response rate of 88.8 %). Most of them were women (73 %): The average age of the students was 24 years old (mean = 24.60; SD = 7.721).

Our study analyzed aspects related to the student's previous considerations (pre-SC) and the performance in the high-fidelity simulation session (positive aspects/aspects to be improved in patient care), the learning acquisition after the simulated scenario, and the skills that it is advisable to be strengthened for high-quality nursing care of patients who are migrants (post-SC).

The following table shows a summary of the categories and their corresponding subcategories that emerged from the content analysis, aligned with the different questions posed to the students. This table also includes examples of significant quotes provided by the participants (Table 2).

We obtained six main categories and their corresponding subcategories from the four open-ended questions formulated, all of them supported by the participant's narratives shown in Table 2, differentiating the pre-SC and post-SC categories.

3.1. Pre-SC categories, before entering the simulation scenario

Before entering the simulation scenario with a Moroccan patient, the students perceived certain barriers to providing her with adequate healthcare. Consequently, their main concern was obviously the language barrier, that is, if the migrant patient could understand their language and if they could communicate with her. It should be noted that only a minority perceived cultural differences as a barrier to providing adequate healthcare for this patient since lifestyle changes should be provided.

3.1.1. What difficulties I will find

3.1.1.1. Insecurity and uncertainty. When faced with a scenario in which the protagonist is a Moroccan woman, the students were unsure and nervous due to the uncertainty in addressing a migrant patient. Indeed, our students had not previously performed a simulation session with a migrant patient. This new situation generated uncertainty about how the simulated scenario could develop and if they would provide adequate care.

3.1.1.2. Language barrier. Almost all the students mentioned that the main difficulty they will find will be the language barrier, which will impede them from having fluid communication with the patient. Their main concern was being able to communicate with the patient and the availability of a translator.

3.1.1.3. Cultural differences. The scarcity of study participants who perceived cultural differences with the patient as a possible difficulty is striking. Although the migrant patient had different cultural customs, the students had to provide her with adequate diabetes care in the simulated scenario, taking into account her customs and daily routines.

3.1.2. What is missing in my training

The participants identified the need to include specific training in caring for migrant patients. They also perceived certain training deficiencies.

Table 2
Categories and their corresponding subcategories emerged from the content analysis, including examples of significant quotes provided by participants.

Categories		Subcategories	Student quotes (student = S)
Pre-simulation case category	What difficulties I will find	Insecurity and uncertainty	'The truth is, I'm a bit nervous because I'm not sure about what I'm going to find' (S5)
			'I think it's going to be a difficult case' (S20)
		Language barrier	'I think the greatest difficulty is the language barrier' (S8)
			'I fear that she does not speak Spanish, and I won't be able to explain anything' (S23)
		Cultural differences	'In this case, I believe that the main difficulty we will find is the cultural difference, they do not think about health as we do' (S38)
	What is missing in my training	In intercultural communication	'To know how to communicate with someone who does not understand us' (S24)
			'The lack of experience with patients who do not speak my language well, and not being able to speak other languages could result in me not providing high-quality care' (S50)
			'If the patient does not speak Spanish, there should be a translator, or if not, she should come with someone who speaks the language' (S2)
		In cultural adaptation of the care	'Know more about their culture and habits' (S18)
			'What I need to know is how to make what I say fit with their religion' (S23)
Post-simulation case category	Positive aspects	Making ourselves understood	'Despite it being the first visit, I was able to find out what she normally eats, and teach her how to change some things' (S32)
			'I think she understood the most important things' (S24)
		Search for communication strategies	'I used drawings of food to ensure that she understood me better' (S3)
			'The trick is to speak slowly, with simple words, and then ask her to repeat the most important things' (S41)
	Aspects to be improved	Lack of cultural adaptation	'The truth is that I don't know much about what Moroccans eat, and of course, it makes it impossible for me to provide advice about the changes needed in her diet' (S21)
			'I learned about health

(continued on next page)

Table 2 (*continued*)

Categories	Subcategories	Student quotes (student = S)
		education for people who are from here, and of course, the number of migrant patients is increasing' (S11)
	Mistakes that are common to other patients	'Now I just realized that I did not consider the time needed for the patient to assimilate the information I was providing' (S33)
		'I did not tell her how to identify hyperglycemia or hypoglycemia' (S1)
Learning acquired	Assess the cultural context	'I think that perhaps I should ask more about other cultures, although I've learned a lot about the Muslim culture in this case' (S18)
	Become aware of the added difficulties of these patients	'For these patients, everything is hard; they don't understand the language well, and also, we don't know much about them. We should take this into account' (S10)
		'I imagine myself in their situation, and I don't know how I would deal with it' (S23)
	Communication techniques	'I became aware of the importance of non-verbal communication when communicating with the patients' (S34)
		'Giving oral and written information and using pictograms improve the language barrier' (S3)
Learning to be strengthened	Cultural competence	'We need more information about how to better approach people from other cultures, and how to address their health problems' (S24)
		'I think I need to have more knowledge about the cultures around us, and their relationship with health' (S38)
	Intercultural communication tools	'A wider spectrum of techniques to overcome the communication problems, if a language barrier exists, you can't have good feedback with the patient' (S32)

3.1.2.1. In intercultural communication. In agreement with the main difficulty that the students assumed they would find, the language barrier, almost all of them coincided in the need to re-enforce their training in communication skills. However, some students indicated that breaking down the language barrier should not be their responsibility, but the responsibility of translators, professional or not. It should be noted that students only perceive that the use of language is essential in communication, ignoring other communication strategies. Consequently, the students focused their attention on not understanding the patient's language.

3.1.2.2. In cultural adaptation of the care. Some students were aware that cultural diversity needs training on specific competences to be able to adapt the care, and have an idea about some aspects it would address. In this sense, they focused their attention on the need to learn more about the patient's culture to communicate adequately with her. However, some students ignored this need and prioritized providing individualized care involving the patient in this process.

3.2. Post-SC categories, after the simulation scenario

According to the debriefing phase, once the simulated scenario was completed, the nursing students identified certain positive aspects and aspects to be improved during their performance.

3.2.1. Positive aspects

3.2.1.1. Making ourselves understood. The students indicated that they felt satisfied when they were able to communicate with their patients, feeling a certain sense of relief when they did not find the language barrier they expected. As their main concern before entering the simulated scenario was the language use, the students left the scenario with a positive feeling when they felt that they could communicate with the migrant patient.

3.2.1.2. Search for communication strategies. Once all students completed the simulated scenario, some students became aware that they could use different communicative strategies, such as using drawings, speaking more slowly, or asking the migrant patient for feedback if she understood them. To overcome these communication problems, the students utilized different communication strategies, both to adapt their language and to reinforce the messages they wanted to highlight as they considered them more important.

3.2.2. Aspects to be improved

In this sense, it was observed as a determining factor to ask the patient about their habits and not to presuppose.

3.2.2.1. Lack of cultural adaptation. Many students pointed out their inability to adapt their actions to the patient's culture, mainly due to ignorance of Moroccan culture and lack of intercultural training.

3.2.2.2. Mistakes that are common to other patients. On some occasions, the aspects to be improved perceived by the students were not related with the patient's own characteristics, but with mistakes they could have committed with Spanish patients.

3.2.3. Learning acquired

The students perceived that they acquired new knowledge and skills after performing the simulated scenario.

3.2.3.1. Assess the cultural context. To adequately care for migrant patients, the students perceived that an adequate evaluation of the cultural context where these patients live is a crucial factor.

3.2.3.2. Become aware of the added difficulties of these patients. The students showed empathy with the patient with their comments, and with the difficulties they have as migrants.

3.2.3.3. Communication techniques. The students highlighted that they were provided with both verbal and non-verbal communication techniques.

3.2.4. Learning to be strengthened

In addition to the learning acquired, the students were aware that they have training needs to adequately care for migrant patients. In this

sense, they became aware that cultural competence is not only knowledge of the language use and culture, but also other competences related to attitudes and the way of establishing the clinical interview. In this way, the students realized that these competences are basic for adequate healthcare for both migrant patients and patients from their own culture.

3.2.4.1. Cultural competence. In the pre-SC phase, the students believed that they should especially strengthen their language use. However, after their simulation experience, they thought that their main need was cultural competence training, including their communications skills.

3.2.4.2. Intercultural communication tools. The participant's narratives once again showed their request for specific training in communication techniques, specifically in intercultural communication tools.

4. Discussion

The purpose of our study was to explore the views on the use of high-fidelity simulation in fourth-year nursing students to improve their cultural competence.

Before entering the simulation scenario with a Moroccan patient, the students mentioned feeling uneasy and not prepared, just as those in the study by Ndiwane et al. (2017). They believed it would be a difficult case, coinciding with other studies in which migrant patients were defined as *complicated* (Plaza del Pino, 2012) and *problematic* (Meershoek et al., 2011). The students identified the language barrier as the main problem they would find, as opposed to what they described after the simulation experience. In this way, they granted more importance to the cultural differences with the patient and communication skills, being aware these skills are broader than the language use.

The students stated that their communication skills improved with this methodology, coinciding with other studies such as the one by Lin et al. (2013) and felt satisfied that the patient was able to understand them. However, they also recognized that they were unable to adapt their messages to the patient's cultural context.

The clinical simulation with the migrant patient made the student become empathetic with migrants, as they became aware of the additional problems they had when finding themselves in a country other than their own, the communication difficulties, and the cultural differences. The development of empathy has been described in other studies that analyzed the use of clinical simulation with diverse groups (Waxman et al., 2020) as an achievement of the use of this teaching methodology.

This project demonstrates the usefulness of high-fidelity clinical simulation for promoting cultural diversity among nursing degree students, without putting real patients at risk. Furthermore, nursing students can make mistakes and practice in a safe environment, as clinical simulation methodology includes the advantage of learning from mistakes, and at the same time, this methodology allows them to acquire advanced communication and technical skills with psychological safety (Fioravanti et al., 2018).

One of the main findings of our study is that the students, after the simulation experience, started to become aware of the importance of evaluating their patient's culture in primary care, and the need to culturally adapt their care, although they confessed not knowing how to do so. This is an important finding, as Purnell stated that '*the awareness of being incompetent is the first step in the process towards cultural competence*' (Purnell, 2013, p.16).

This study highlights the significance of specific training for acquiring an adequate cultural competence in the Nursing Degree. Furthermore, our study provides more insight into the need to include cultural competence in nursing curricula. We highly recommend educators to include lessons related to cultural competence when planning their lessons (Alizadeh and Chavan, 2016; Ozkara San, 2019), as it has been shown that individuals who receive training that is more related to cultural competence, have higher levels of cultural competence (Hui-Ling et al., 2020). However, not many resources are dedicated to innovative strategies aimed at acquiring an adequate cultural competence (Sorensen et al., 2019), and there is a tendency to reduce or eliminate university training on cultural competence, as observed in Spanish universities.

Since we carried out a small-scale qualitative study, there could be limitations related to the transferability of our findings. Although this study has shown the perceptions of the nursing students after taking part in a high-fidelity simulation scenario whose protagonist was a migrant woman, we believe that it is necessary to delve deeper into these perceptions through a broader qualitative study to be able to design new scenarios with diverse patients and to develop the acquisition of cultural competence by nursing students. In this sense, future studies should also analyze the use of high-fidelity clinical simulation in nursing professionals, assessing their cultural competence acquisition. Therefore, this teaching methodology should be expanded to other healthcare and education centers or settings, assessing the acquisition of cultural competence not only by nursing students but also by registered nurses. Finally, the results obtained in our study should be treated cautiously since we address the perceptions of a specific sample. Thus, more research on this topic is recommended to further compare the perceptions on cultural competence acquisition using high-fidelity clinical simulation.

5. Conclusions

The use of high-fidelity simulation provides a positive learning experience, which increases a student's comfort when working with patients of varied cultural origins. Its usefulness in teaching is found in its capacity to develop communication skills and interpersonal skills, such as empathy, in the students.

The ever-diverse social reality, in which the nursing profession takes place, provides evidence on the need to strengthen intercultural education at universities.

Therefore, our study highlights the need to include cultural competence in nursing curricula. Training on intercultural competences and contents in the Nursing Degree must be a fundamental element that is integrated across disciplines at every academic year at university, with the objective being the creation of new nurses who are culturally competent.

CRediT authorship contribution statement

(1) The conception and design of the study, or acquisition of data, or analysis and interpretation of data: D.J.-R.; O.A.; F.J.P.d.P.; A.J.S.-M.; J.I.G-G.

(2) Drafting the article or revising it critically for important intellectual content: F.J.P.d.P.; D.J.-R.; O.A.; A.J.S.-M.; J.I.G-G.

(3) Final approval of the version to be submitted: F.J.P.d.P.; D.J.-R.; O.A.; A.J.S.-M.; J.I.G-G.

Declaration of competing interest

The authors declare that no potential conflicts of interests exist with respect to the research, authorship, and/or publication of this article.

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