Challenges in the training of indigenous nurses in Mato Grosso, Brazil

Abstract The training of nurses in Brazil remain a challenge for the university, given the existing ethnic diversity and regional particularities. Thus, the aim of this study was to identify the challenges in the training process of indigenous nurses in Mato Grosso, Brazil. It is an exploratory and qualitative study, carried out with 11 indigenous nurses. Data analysis was based on Paulo Freire’s interculturality. It was verified that both participants sought the integration of indigenous traditional knowledge with scientific technical knowledge during their practices, which facilitates a satisfactory interaction with the community. During nursing undergraduate school, they had little or no contact with contents related to indigenous health and at the end of the training they observed they were not prepared to meet the diverse health demands. Historically, they are subordinated in relation to non-indigenous people, which manifests as disadvantages in the teaching-learning process, related to technical / technological as well as social aspects.

Key words Education, Nursing, Nursing education programs, Professional competency, Cultural diffusion
Introduction

The education of indigenous peoples dates back from the colonial period, having as its initial proposal the dissemination of religious aspects. However, over the years, this education has been incorporated into the daily lives of these communities, aiming to approximate them to non-indigenous lifestyles and consumer goods. The expansion of this education reduced the illiteracy rates of the Portuguese language, as well as established a school culture in indigenous communities, especially among children and young people.

Regarding higher education, indigenous people started joining it in the mid-1990s, through the celebration of agreements between the National Indian Foundation (FUNAI, Fundação Nacional do Índio) and some private and community institutions. The Federal Law N. 12.711/2012 made it possible to offer special or supplementary openings in regular courses, which expanded the possibilities for the academic education of indigenous populations.

The insertion of indigenous people into academic spaces brings some challenges, considering the university’s difficulties in establishing a dialogue with these peoples, who have different cultural traditions, history and social processes. These particularities require an intercultural communication, based on the understanding of the dynamics of indigenous knowledge with the knowledge acquired in undergraduate school.

Although the higher education sector has been working on interculturality as a way of minimizing the invisible barriers that marginalize the minorities, in health courses, the curriculum model centered on the biomedical conception, restricted to the health-disease process, based on the biologist, curative and hospital-centric view still predominates, which opposes traditional knowledge.

The current curricular model of most Higher Education Institutions (HEIs) causes subordination of indigenous knowledge, eliminates the possibility of traditional knowledge and extinguishes the possibility of knowledge production of these peoples.

Therefore, as a way of guaranteeing the rights to cultural diversity and empowerment of traditional knowledge in care practices, the Indigenous Health Care Subsystem (SASI, Subsistema de Atenção à Saúde Indígena) was created, based on the perspective of differentiated attention within the organizational and care sector of health services and as part of the Unified Health System (SUS, Sistema Único de Saúde).

It is organized through 34 Indigenous Special Districts (DSEI, Distritos Especiais Indígenas) distributed throughout the national territory. It is a territorial and population base responsible for the operationalization of the referral and counter-referral indigenous care. In this organizational structure there are still the base centers that work through health teams directly inside indigenous communities.

The situation is not different in the academic context; the absence of pedagogical projects that can contemplate a minimum number of indigenous interculturalism elements causes some obstacles to the newly graduated indigenous individuals, especially regarding the challenging of the contradiction of deconstructing the hegemonic knowledge of Western medicine, and at the same time, the task of learning or relearning with indigenous peoples new practices of traditional medicine. This constitutes a new training process for the indigenous professional that goes beyond the pathological question, as cosmological and spiritual issues must be considered and may influence care practices.

In the state of Mato Grosso, Brazil, these circumstances are even more challenging, as the state has the largest ethnic diversity of indigenous people in the country, with diverse habits and customs. Therefore, aware of these characteristics and the desire for intercultural training, in 2001 the Universidade do Estado de Mato Grosso (Unemat) created the indigenous intercultural college, a pioneer in Brazil and Latin America. However, this training focused on undergraduate degrees, especially in teacher training. During this period, other state HEIs also sought to establish affirmative actions and means to integrate indigenous peoples into the university.

As a result of this movement, many indigenous people have been admitted to state HEIs, particularly in health courses. Among these courses, Nursing stands out, as many indigenous people want to contribute to the community by providing the basic health needs for their people on a daily basis and ensure the preservation of traditions.

Nevertheless, the increase in the admission of indigenous people in universities did not represent the increase in the number of indigenous nurses in the state, as the course dropout rate is still high. Perhaps, one of the reasons for this scenario is the disorganized creation of nursing courses in the country that do not meet regional characteristics.

Therefore, a good planning articulated with the policies and teaching strategies directed at
Method

This is an exploratory study with a qualitative approach, following the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist. The study was conducted in Mato Grosso, the third largest state in territorial extension of Brazil, which is bordered to the states of Amazonas, Pará, Rondônia, Tocantins, Goiás and Mato Grosso do Sul, and with an international border (Bolivia). It has 48 indigenous ethnic groups, distributed among three biomes, the Amazon Rainforest, the Pantanal (swampland) and the Cerrado (savannah).

The state of Mato Grosso has two public universities, with a Nursing course at seven university campuses. Both universities have quotas for indigenous people, with the state university with a fixed reserve of 5% in each course and the federal university with varying percentage, according to availability of vacancies. The main ethnicities present in these universities are: Arara, Bakairi, Bororo, Chiquitano, Guató, Irantxe, Karajá, Nhambiquara, Paresi, Terena, Umutina, Xavante and Yawalapiti.

The study included self-declared indigenous nurses, who received their nursing training at the public universities of Mato Grosso and with a minimum of 12 months’ professional practice in indigenous health (village and / or indigenous health facility). Nurses who did not understand the Portuguese (Brazil) language were excluded. The study sample was a non-probabilistic one, used the snowball sampling strategy, and the sample size was calculated by the data saturation method, until the study objective was achieved. Thus, 11 indigenous nurses entered the study, without dropouts.

Initially there was contact with an indigenous nurse known by the research team, which allowed getting to know and meeting with the other study participants. Data were collected between October and December 2017, through individual interviews, following the guiding question “How was your Nursing training, taking into account the knowledge of indigenous culture and the acquired scientific knowledge?”. The participants had the opportunity to freely explain, without interference from the researcher, their experiences with the academic background and their effective role as a nurse in the indigenous community. A multimedia recorder was used to increase the power of recording and to capture the communication elements, given the language variations.

The interviews lasted an average of 25 minutes and were conducted in the environment of choice of participants. To preserve anonymity, an alphanumeric code was used, so that the letter “N” indicates nurse, and the numerical element that accompanies the set only indicates the order of the narrative in the analysis development.

Thus, after the conclusion of the interviews, the empirical material was transcribed and analyzed using the content analysis technique, in the thematic modality, following three steps: pre-analysis, material assessment, treatment of results: inference and interpretation10. The analysis was based on the interculturality of Paulo Freire’s educational thinking. The Interculturality does not only include the existence of cultural diversity and its particularities, but also focuses on the appreciation, respect and encouragement of intercultural relations in the teaching-learning space, so as to enable human potential and foster popular and scientific knowledge11.

Based this analysis, three categories emerged: 1) Integration of indigenous popular knowledge with the knowledge acquired during training; 2) Necessary knowledge to work with indigenous people; and 3) Difficulties faced during training as a nurse.

This study respected all ethical aspects in research, with the approval of the National Research Ethics Council (CONEP) and Certificate of Presentation for Ethical Appreciation (CAAE). All study participants signed the Free and Informed Consent Form (FICF).

Results

The indigenous participants of the study were aged 22 to 52 years old, predominantly males, married with children and with an average of eight years of practice as nurses. The first job opportunity was in an indigenous area (village) or in an Indigenous Health Facility (CASAI) in polo municipalities. Regarding complementary education, there was a predominance of lato sen-
su postgraduate studies in indigenous health and family health.

In Category 1, for some participants, the success of care practices occurs to the extent that it does not violate traditional knowledge. For this purpose, they first point out the respect for culture as the best way, so that there is a balance between both medicines (traditional and western). However, some declare that the lack of this knowledge about indigenous health during the training did not cause too much damage only because they were indigenous and knew the care culture of their people.

In Category 2, nurses express the need for inclusion of indigenous health content during the training, considering the greater number of ethnicities and aspects that determine the health-disease process. They reveal that there is little concern / motivation by the course / faculty to meet state demands and consider the existing ethnic diversity. They also emphasize the importance of direct experience with indigenous health and the daily care of these communities during internship activities, as essential for the training of nurses.

In Category 3, the difficulties faced during training as a nurse, originate especially from basic education, worked only in relation to the science of strengthening the indigenous cultural identity in the villages and late contact with technologies (computer and internet access). They suffer prejudice and/or exclusion due to the presence of the culturally marginalized stereotype from non-indigenous people and still face financial demands that put a strain on their living costs, which constitutes a challenge to their stay at the university (Chart 1).

Discussion

For the indigenous, the meaning of health or even the perspectives for the training and achievement of health knowledge; the fundamentals that go through the learning process throughout the undergraduate Nursing course are associated to the set of traditional knowledge originating from their ethnic dimensions. This knowledge constitutes a form of social representation of the way they understand the health-disease process.

But for this purpose, the indigenous traditional knowledge and technical-scientific knowledge must communicate harmoniously, whether in the literature or in the discourses and pedagogical practices during undergraduate school, aiming to strengthen the student’s / future nurse’s learning, from the perspective of instrumentalizing multiple therapeutic resources.

Studies with indigenous people reinforces the importance of the articulation of intermediality in therapeutic practices, since these peoples have particular perceptions regarding health, disease and illness. For this integration, in the experience of the study participants, the best way is the respect for culture, which according to Paulo Freire, when considering the other regarding their particularities and traditions, there is sharing of knowledge and the establishment of mechanisms to ensure recognition, appreciation and equality.

In Brazil, the national legislations applied to training, such as the Law of Guidelines and Bases of Brazilian Education (LDB) and the National Curriculum Guidelines (NCG) have, among their purposes, the promotion and dissemination of cultural scientific knowledge, both regional and national. In nursing specifically, this legal apparatus leadstowards the recreation of curricular proposals aligned with the pluralism and context of the territory.

However, the training of nurses in several educational projects in the country excludes the integration of several existing cultures, and in the meantime, disregard the ethnic heterogeneities of Brazilian people. They are limited to the imposition, without inclusion. It is noteworthy that the inclusion of indigenous singularities in the curriculum is a complex and broad subject and should start based on the knowledge of the ethnic groups present in each HEI.

Nevertheless, by keeping the didactic-pedagogical direction ‘in a cast’ and verticalized, the training of nurses, as described in the narratives, amputates some care scenarios that may constitute opportunities for professional entry, such as indigenous health. If, on the one hand, the study participants point out that being indigenous was a decisive factor and helped for the conflicts of conceptions of the health-disease process to be minimized during the care of the indigenous population, on the other hand, the knowledge that these nurses have in relation to their culture and ethnicity does not apply directly to others, and may not be supported in non-indigenous contexts, due to the lack of articulation of the knowledge presented during the training.

In this sense, the potential pedagogy to be applied in the training and consolidation of the nurses’ knowledge must answer the challenges of interculturality and the promotion of the
### Chart 1. Distribution and categorization of participants' narratives.

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<thead>
<tr>
<th>Categories</th>
<th>Narratives</th>
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<tr>
<td><strong>Category 1 - Integration of indigenous knowledge with knowledge acquired in training.</strong></td>
<td>We, indigenous professionals have to seek a balance in care, since Western medicine is scientific, while indigenous medicine is the union of spirituality, herbs and blessing. (N3) I think it is this, not to impose my new scientific knowledge on theirs. Always wait for the first step, the customs are presented and then we develop from there. (N7) I have always tried to respect my culture with that of non-indigenous people, and it has worked, in my practice, at work. (N9) There will always be cultural conflicts. In college, the indigenous issue was not much worked on and if I had not been indigenous, I would have been more lost than I was in relation to the health issues of our peoples. (N1) [...] during the Nursing course, indigenous issues were not open to discussion in the classroom. (N6) Our indigenous culture has specificities, so it is important to know these aspects in advance, so there is no conflict and we can strengthen ties with the community. (N8) For those who are indigenous, it is not difficult to articulate knowledge after you graduate. We work together with midwives and shamans, associating knowledge. We are always helping; it is a type of cooperative care. (N10) For the non-indigenous nurse, it is more difficult, it takes time to understand and learn. To avoid conflict, you should value traditional knowledge and try to raise awareness. (N11)</td>
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<td><strong>Category 2 - Knowledge required to work with indigenous people.</strong></td>
<td>Different views of health rather than western European. Perhaps, about the history of Brazil, with emphasis on the indigenous view of colonization, indigenous genocide and impact on the health-disease conception. (N1) The life system! Except that each people has a different system, teachers could at least carry out a amalgamation of some peoples, due to their ethnic diversity and specificities. (N2) I could talk about the ethnic groups, after all each one has its specificity in relation to the territory in which it lives. Go a little into the indigenous health policy of Brazil, especially considering the health-disease process. (N5) [...] none of the nurses in my class came out prepared or with any notion about indigenous health [...]. (N7) It would be important to include the indigenous health content in the Nursing course, since the student graduates and often their first job is in indigenous health. (N8) The university should take the students to the indigenous villages to really know what indigenous health is. Many conflicts occur due to lack of knowledge about indigenous culture and traditions. (N10) [...] I think that bringing students to the indigenous cultural spaces and context and their health views would help in the training. (N6) There should have been an internship in the indigenous basic health units, because if some student wants, after they graduate, to work in the area, they will not be lost, will not waste time, because they will have a more complete training [...]. (N11)</td>
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<td><strong>Category 3 - Difficulties faced during training as a nurse.</strong></td>
<td>Elementary and high school education is precarious, so I had to study more than my colleagues to overcome the deficiencies I had regarding the Portuguese language and the interpretation of case studies. (N2) The biggest difficulty was not having internet skills, because in the village we had no access at the time. (N8) [...] the teaching in the villages is not as developed as in the city, so it is difficult, especially because our mother tongue is different. (N9) The difficulties that we indigenous people face is prejudice. So, we sought support from other colleagues who were also college students. (N5) The difficulty was in the looks of some teachers as well as students. Thus, I sought to overcome this by studying more, so that the prejudice would be lighter. (N6) The worst thing is to feel excluded from the rest of the class because you are the different one, different language, physical characteristics, speed in learning. (N7) [...] financial difficulty, the scholarships helped a lot, it was my salvation to stay in university. (N3) I had difficulty regarding money to pay for the booklets, I sought the content, and used the computer lab to read about the pending content without the booklets. (N11)</td>
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humanities, which have direct effects on several teaching and care environments, in accordance with the demands of reminiscences and heritage that involve these groups. Thus, both indigenous and non-indigenous nurses, according to Paulo Freire, can benefit from a cross-cultural training, and have a positive impact on care, since they will be able to integrate the different types of knowledge, and in addition, aggregate professionals to the legitimated and reference care teams of the indigenous community (shamans, healers and midwives), aiming at the comprehensiveness of a transcultural practice, in which one ceases to consider such knowledge in duality, but as essential and complementary.

This comprehensiveness, pointed out by the study participants, is directed to the understanding of the plurality of indigenous peoples in the country, requiring minimal recognition regarding their differences in relation to the historical, political, social, cultural, economic, ecological, linguistic aspects and those of their own organization, to understand the particularities of caring in the indigenous context. This immersion of pedagogical practices based on intercultural epistemic bases tends to favor interaction with indigenous peoples and integrate knowledge and values.

In the field of action of indigenous health professionals, the biggest challenge is the fact that they felt unprepared to work in heterogeneous interethnic contexts. Training initiatives for indigenous health professionals in which little or no emphasis is given to ethnological and anthropological aspects, further aggravate this situation. This feeling of being unprepared, as observed in the narratives, leads to the absence of actions, such as the inclusion of the indigenous health discipline in the technical and higher education curricula.

However, it can be observed that undergraduate training is still far from contributing to the performance of health professionals that are sensitive to the interethnic, intercultural contexts and the plural realities they belong to, as traditional indigenous practices and knowledge are disregarded; this practice is contrary to what is established by the National Policy on Health Care of Indigenous Peoples (PNASPI, Política Nacional de Atenção à Saúde dos Povos Indígenas) and SASI. This hegemonic practice of western medicine in indigenous health has also been observed in other studies carried out in Brasilia, Mato Grosso, Piauí, Tocantins and Pará.

Understanding the anthropological, pedagogical and linguistic aspects in teaching or extension is essential to understand the interethnic dimensions, as demonstrated by the participants. From this perspective, the student becomes an actor of their learning process as a participative, critical and reflective subject, through the dialogue between educator, student and between the human realities.

In this context, the Ministries of Health and Education established in 2008 the Health Work Education Program (PET-Saúde), which promotes the integration of teaching-service-community in the processes of vocational training in the health area. This new strategy broadens the changes in the training model and redirects health care practices to SUS. The University of Brasilia (UnB) through PET-Indigenous Health already brings a successful experience of building and strengthening intercultural networks in health, designed by indigenous students of the institution.

These successful approaches show that the interlocution of theory and practice, through the epistemological and methodological intercultural bases should be carried out during the undergraduate nursing course, especially in regions such as the state of Mato Grosso, where the population profile shows distinct particularities, such as: demanding the rapprochement with the daily life of these peoples and the rescue of historical and anthropological aspects, which will be the basis for the dialogical practices between the scientific, humanistic, popular and traditional knowledges, and consequently, reach the ways of learning, being and providing care. This strategic direction will favor a more comprehensive training, with the understanding of the work process of nurses in the community and in the presence of care diversity.

One of the ways to reduce these cultural differences is to implement different curriculum proposals aimed at meeting indigenous characteristics, as it is already done in elementary school. However, in higher education, especially in baccalaureate courses such as Nursing, there has been little concern related to meeting the epistemic and methodological amplitude in which it is inserted.

National studies addressing indigenous health have identified interculturalism as one of the main challenges faced in care practice, permeated by the difficulty of communication and lack of knowledge by professionals (mostly non-indigenous) regarding cultural aspects. These aspects may reflect the curricular fragility of undergraduate education, which is perpetuated even after graduation.
Difficulties with language, following specific contents and differentiated curricular focus (elementary school) were highlighted by participants as elements of this confrontation and complexity in training. Thus, institutional awareness in performing dialogic interaction is the first step towards the accomplishment of interculturality in universities and for the construction of relationships between several socio-cultural groups.

Another paradox observed in the narratives is that although HEIs have implemented affirmative actions for indigenous people, most of them do not have a planned policy of access and permanence that can lead to a good academic performance and provide a quality education. These factors, especially in the early stages, lead to higher dropout rates.

From this perspective, it is not enough to provide financial aid through scholarships, but think of longitudinal strategies that also include pedagogical aspects that involve both the infrastructure issue, as well as the monitoring of weaknesses during the entire process of nursing education.

Several participants also pointed out the prejudice and judgment by non-indigenous people as a routine during the training. However, they seek to use the principles established in the villages such as austerity, strength and collectivity to persist at the university. It is also observed that, although the University theoretically works on the conception of diversity, being open to all social groups, the academic practices are mostly standardized.

According to Paulo Freire, the gaps between indigenous and non-indigenous people in the academic environment can be overcome with the daily practice proposed by the transcultural education that highlights the needs of individuals to cross their own cultural boundaries towards each other, through interaction, contact, acceptance and exchange, which is transformative, meaningful and respectful between those who share their cultural differences in the education system.

Moreover, as or even more important than raising awareness among students and other segments of the institution, is to include the teachers in the intercultural debates, since it will involve the transformation of their pedagogical practices, adding value to the teaching, so that it is inclusive, ethical and emancipatory. The training processes should be focused on this issue, since intercultural education envisions the formation of citizens, as well as overcoming prejudice and discrimination.

All the difficulties reported by the study participants were similar to those reported in national studies that evaluated the access and permanence policies of indigenous students from Brazilian universities. Therefore, it can be observed that regardless of graduation, the challenges faced by indigenous students are common, resembling mainly economic, cultural and historical issues.

Final considerations

The study participants disclose that, in their daily care routine, there is an integration of indigenous traditional knowledge with technical-scientific knowledge. And because they are indigenous, the process of articulating this knowledge is less complex, to the disadvantage of other non-indigenous nurses. The Nursing work they develop with this population is based on respect for their culture and traditions, which strengthens the bonds and health care between the professionals and the leaders of the indigenous community. Although they reported harmonization in care practices with the communities, they recognize that they had no discipline during the undergraduate Nursing training that included the indigenous context and its particularities in the health-disease process, as well as allowing the direct experience with these peoples. Therefore, even with the legal apparatus of NCG, there is still a gap in the nursing course to be overcome, regarding the creation of curricula that consider the territorial context and cultural pluralism, as is the case of the state of Mato Grosso.

Another problem observed is the statement that teachers and the university itself are little concerned or unaware of regional demands and ethnic diversity, as well as their implications and the importance of interculturality in the process of nursing training. And by trivializing the existence of these diversities during academic education, they do not provide the necessary knowledge for the transcultural training of nurses and widen the gap between indigenous and non-indigenous people in relation to health care and nursing practices.

However, the indigenous people have some historical weaknesses, reflecting the fact they had to face opportunized curricula throughout their lives, from the one thought as meeting the needs of an indigenous child in elementary school, to the curriculum established in the context of high school and university. This mismatch contributes to the existence of constant difficulties in both technical / technological and social character,
which result in imposing barriers to the continuity of graduation.

Considering these challenges, it is necessary to broaden the dialogue regarding indigenous education policies, especially regarding the training of indigenous nurses. To do this, adherence to transcultural pedagogical guidelines and practices that take into account interculturality during the undergraduate nursing training should be prioritized, so that, in addition to ensuring access to the University and scholarships, it provides quality training for the different health scenarios.

**Collaborations**

VF Nascimento: Study conception and design, data collection and analysis, preparation of results and discussion, writing and critical review of the manuscript, approval of the final version.

TY Hattori: Data collection and analysis, data discussion, writing and critical review of the manuscript, approval of the final version.

ACP Terças-Trettel: Data collection and analysis, data discussion and writing of the manuscript.
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