Amazonian Medical students' knowledge of indigenous languages and brazilian Sign language (Libras)

Conhecimento dos acadêmicos de Medicina da Amazônia acerca das línguas indígenas e da Libras

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ABSTRACT

Introduction: The quality of communication between the health professional and the patient is an important pillar for efficient health care. The state of Roraima is characterized by having a high percentage of indigenous individuals, in addition to other groups that demand specific communication languages.

Objective: This study aimed to comparatively evaluate the levels of knowledge of Medical students and newly graduated medical professionals from Universidade Federal de Roraima (UFRR) and students from other undergraduate courses at UFRR, who do not belong to the health area, of the Brazilian Sign Language (LIBRAS, Língua Brasileira de Sinais) and the Macuxi, Yanomami and Wapichana indigenous languages.

Method: This is a cross-sectional, observational and descriptive study, with a quantitative approach, involving 202 participants, which used a structured questionnaire applied virtually as the data collection tool.

Results: The present study assessed 80 students or newly graduated doctors (39.6%), 47 engineering students or newly graduated ones (23.3%) and 75 Law students or newly graduated ones (37.1%). Of all participants, 100 were men (49.5%) and 102 were women (50.5%). There was an association between studying medicine and knowing how to speak at least one indigenous language (p = 0.0004). This relationship was not demonstrated for the Law and Civil engineering courses. An association was also identified between studying or having studied Medicine and being interested in learning LIBRAS (p = 0.0159) or being interested in learning an indigenous language (p = 0.0054). This association was not identified in students who studied or were studying Law or Civil engineering.

Conclusion: Although medical participants have a higher level of knowledge about indigenous languages and LIBRAS when compared to the other courses, this does not guarantee effective health care in its entirety, since there was great difficulty related to the process of communication between them and indigenous and deaf individuals.

Keywords: Medical Education; LIBRAS; Indigenous Languages; Deaf People; Indigenous.

RESUMO

Introdução: A qualidade da comunicação entre o profissional de saúde e o paciente é um importante pilar para uma atenção em saúde eficiente. O estado de Roraima caracteriza-se por possuir um alto percentual de indígenas, além de outros grupos que demandam linguagens de comunicação específicas.

Objetivo: Este estudo teve como objetivo avaliar comparativamente os níveis de conhecimento dos estudantes do curso de Medicina e dos profissionais médicos recém-formados pela Universidade Federal de Roraima (UFRR) e dos discentes de outros cursos de graduação da UFRR, que não pertencem à área de saúde, acerca da Língua Brasileira de Sinais (Libras) e das línguas indígenas Macuxi, Yanomami e Wapichana.

Método: Trata-se de um estudo de corte transversal, observacional e descritivo, com caráter quantitativo, envolvendo 202 participantes, o qual utilizou como ferramenta de coleta de dados um questionário estruturado aplicado de forma virtual.

Resultado: O presente estudo envolveu 80 estudantes ou profissionais recém-formados em Medicina (39,6%), 47 estudantes ou profissionais recém-formados de Engenharia (23,3%) e 75 estudantes ou profissionais recém-formados de Direito (37,1%). Dentre a totalidade dos participantes, 100 eram homens (49,5%) e 102 mulheres (50,5%). Houve associação entre cursar Medicina e saber falar pelo menos uma língua indígena (p = 0,0004). Essa relação não foi evidenciada nos cursos de Direito e Engenharia Civil. Também foi identificada a associação entre estar cursando ou ter cursado Medicina e ter interesse em aprender Libras (p = 0,0159) ou ter interesse em aprender uma língua indígena (p = 0,0054). Essa associação não foi identificada entre os alunos que cursaram ou estavam cursando Direito ou Engenharia Civil.

Conclusão: Apesar de os participantes de Medicina possuírem um maior nível de conhecimento a respeito de línguas indígenas e Libras, quando comparados aos outros cursos, isso não garante uma atenção em saúde efetiva em sua integralidade, uma vez que se evidenciou uma grande dificuldade no processo de comunicação entre eles com indígenas e pessoas surdas.

Palavras-chave: Educação Médica; Libras; Línguas Indígenas; Pessoas Surdas; Indígenas.

INTRODUCTION

The Brazilian Federal Constitution defines health care as the government's responsibility and a right for everyone, including social minorities. Thus, to ensure this right, the Brazilian Unified Health System (SUS, *Sistema Único de Saúde*) was established in 1990, whose principles and guidelines consist of universal access, comprehensiveness and equality of health care, participation, decentralization, right to information and preservation of user autonomy without prejudice or privileges[1,2].

The Brazilian Sign Language (LIBRAS, *Língua Brasileira de Sinais*) was established as a form of communication and expression for people with hearing impairment, through Law Number 10,436 in 2002, established by the National Policy for the Integration of People with Disabilities[2]. This Law was regulated and officially recognized in 2005 by Decree Number 5,626, aiming to determine its mandatory characteristic in professional and higher education courses[3].

According to the Brazilian Institute of Geography and Statistics (IBGE, *Instituto Brasileiro de Geografia e Estatística*) there are more than 2 million people with some degree of deafness in Brazil[4]. More than 1 billion people have currently some degree of hearing impairment (deafness) worldwide. Deafness is defined as the partial or total loss of the ability to detect sounds, which can be attributed to genetic causes or injuries to the hearing system[5]. The state of Roraima in Brazil is characterized by having a demographic density of 2.01 inhabitants/km, with approximately 19,095 people who have some degree of hearing impairment[4].

Studies indicate the dissatisfaction of deaf people with health care, as they are unable to convey what they are feeling, experiencing fear, anxiety, distress, in addition to feeling discriminated against. The reduction in autonomy during the consultation and the fact that deaf people are not understood usually leaves them distressed, making the consultation even less beneficial [6,7].

Furthermore, Roraima is the Brazilian state that proportionally holds the highest percentage of indigenous people, having 32 indigenous lands, equivalent to 10.33.32° hectares, 46.2% of the territory, with an estimated population of 55,000 indigenous people, distributed in 413 communities and 8 indigenous peoples (*Ingarikó, Macuxi, Wapixana, Wai Wai, Yanomami, Patamona, Sapará and Taurepang*)[8].

Taking into account the reality of Roraima and considering that good-quality communication between doctor and patient is one of the pillars for effectiveness in health care, it is concluded that the existence of flaws in this process can result in misdiagnoses, inadequate treatments and undirected use of resources[6,9].

Adequate doctor-patient communication is an instrument of quality and safety, and professionals must be prepared and trained to establish a relationship in which the exchanged information provides a reduction in risks and increase in quality in health care, without causing harm to those involved. Thus, this study aims to comparatively evaluate the levels of knowledge of medical students and medical professionals recently graduated from Universidade Federal de Roraima (UFRR) and students and professionals recently graduated from other undergraduate courses at UFRR (Law and Civil engineering) that do not belong to the health area about the Brazilian Sign Language (LIBRAS) and the *Macuxi, Yanomami* and *Wapichana* indigenous languages.

METHOD

This is a cross-sectional, observational, quantitative and descriptive study involving 202 participants. The present study included students and recently graduated professionals from the Medicine, Law and Civil engineering courses at UFRR, over 18 years of age. All participants who did not meet the inclusion criteria were excluded from the study, as well as participants who declared themselves indigenous or having indigenous ancestry, as this could characterize a research bias regarding knowledge of indigenous languages.

Data collection took place between 2020 and 2021, being carried out through the virtual application of a semi-structured questionnaire. Participants were invited to join the study and only after signing the Free and Informed Consent Form – TCLE – they answered the data collection instrument.

The results were evaluated using descriptive statistical analysis (relative and absolute frequencies) and inferential analysis (Pearson's Chi-square test). For this purpose, Microsoft Excel and R 4.1.0 software programs were used. This study was approved by the Research Ethics Committee of Universidade Federal de Roraima under Opinion number 5,049,028.

RESULTS

This study involved 202 participants, both undergraduate students and recently graduated professionals from three courses at UFRR: Law, Civil engineering and Medicine. Thus, 80 medical students or professionals (39.6%), 47 engineering students or professionals (23.3%) and 75 Law students or professionals (37.1%) participated. Of the participants, 100 were men (49.5%) and 102 women (50.5%).

When asked whether they would be interested in learning LIBRAS, 61 (81.3%) Law course participants answered yes, while 14 (18.7%) answered they were not interested. In Civil engineering, 32 (68.1%) participants answered yes and 15 (31.9%) said they were not interested. Among the medical

course participants, 71 (88.7%) said they were interested in learning, while 9 (11.3%) said they were not. Thus, of the entire sample, 81.2% said they were interested in learning LIBRAS and 18.8% said they were not.

When answering about their knowledge and abilities to communicate in LIBRAS, none of the Law course participants considered they would have excellent communication, 03 participants reported having good communication, 07 would have regular communication, 39 would have communication considered poor and 26 stated that they would not be able to communicate. Among the participants in the civil engineering course, none stated they would have communication considered excellent or good, 02 stated that communication would be regular, 26 said that they would have poor quality communication and 19 would not be able to communicate. Finally, in the medical course, 01 participant reported that they would have excellent communication, 01 good, 19 with regular quality, 44 poor and 15 would not be able to communicate (Figure 1).

It is observed that 29.7% of the assessed individuals would not be able to communicate in LIBRAS, 53.9% would have poor communication, 13.8% regular communication, 1.9% good communication and only 0.5% would have excellent communication in LIBRAS.

When asked whether LIBRAS would be an important subject for the curricular matrix of their undergraduate course, 56 Law course participants answered yes and 19 no; 16 Civil engineering participants said yes and 31 no, while among the medical course participants 59 answered yes and 21 no. It is observed that 64.8% of the assessed individuals believe that knowledge of LIBRAS is necessary for their profession,

of which 45.0% belong to the medical course, 12.2% to the Civil engineering course and 42.7% to the Law course. On the other hand, 35.6% stated that such knowledge would not be important for their professional practice, with 29.6% of them from the medical course, 43.6% from the Civil engineering and 26.76% from the Law course.

When asked whether they had had any disciplines during their undergraduate course focused on the teaching of LIBRAS, 59 participants from the Law course answered no and 16 answered yes; 44 from the Civil engineering course said no and 03 said yes and 72 participants from the medical course answered no and 08 answered yes. The present study showed that 175 people (86.6%) did not have any subject focused on the teaching of LIBRAS during their undergraduate studies and only 27 (13.3%) did so. Of the participants who had never taken any subject related to LIBRAS, 41.1% were from the medical course, 24.1% were from the Civil engineering course and 33.7% were from the Law course. In an isolated analysis of each course, it is observed that 90.0% of the undergraduate students and graduates of the medical course did not take LIBRAS during their training; the data are similar to the other courses with 93.62% in Civil engineering and 78.6 % in the Law course.

When asked whether they were interested in learning the *Macuxi* indigenous language, 26 Law course participants answered yes and 49 answered no; 9 Civil engineering participants said yes and 38 said no. In the field of medicine, 38 answered that they were interested and 42 were not. Therefore, 63.8% of the assessed individuals were not interested in learning the *Macuxi* language. Of the students who showed interest, 52.0% belong to the medical course, 35.6% to the Law course and 12.3% to the Civil engineering course.

Figure 1. Quality of communication in LIBRAS by students and recently graduated professionals from the Medicine, Law and Civil engineering courses at UFRR.
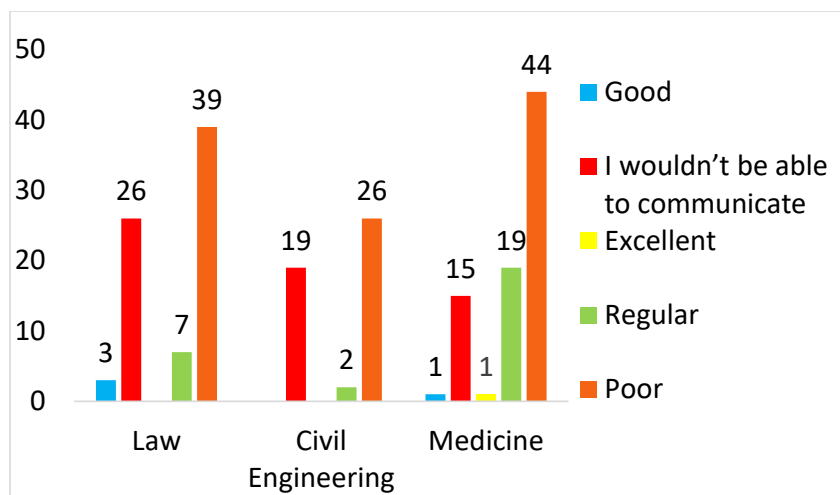
Source: Created by the author (2023).

Regarding the question "Are you interested in learning the *Yanomami* indigenous language?", 27 participants from the Law course said yes and 48 no; 6 Civil engineering participants said yes and 41 no, while in medicine, 37 answered yes and 43 no. Thus totaling 132 negative responses (65.3%) and 70 affirmative responses (34.6%). The lack of interest in learning the *Yanomami* indigenous language was prevalent in all courses. Among the students who are interested in learning it, 52.8% belong to the medical course, 8.5% to the Law course and 38.5% belong to the Civil engineering course.

Still focusing on the participants' interest in learning an indigenous language, they were asked if they would be interested in learning the *Wapixana* indigenous language. To this question, 28 participants from the Law course answered yes and 47 no; 9 from Civil engineering answered yes and 38 no and 48 from the medical course answered that they were interested and 32 that they were not. Totaling 133 negative responses (65.84%) and 69 affirmative responses (34.16%). The lack of interest in learning the *Wapixana* indigenous language was also prevalent in all courses. Of the students who were interested, 46.3% were from the medical course, 40.5% from the Law course and 13.0% from the Civil engineering course.

When asked whether they thought it necessary for their course curriculum to include a subject that taught indigenous languages, such as the *Macuxi* language, 15 Law course participants answered yes and 60 no, only 1 Civil engineering participant answered yes and 46 no, while in medicine, 35 answered yes and 45 no. Therefore, 151 people (74.5%) do not consider it necessary for the *Macuxi* indigenous language to be included in the course curriculum. However, among the students who believe it is necessary, 68.63% are from the

medical course, 29.41% from the Law course and 1.96% from the Civil engineering course.

Regarding the need for a subject that taught the *Yanomami* indigenous language in the curriculum, 17 Law course participants responded yes and 58 no. In Civil engineering, 02 participants answered yes and 45 no and of the medical course participants, 41 answered yes and 39 no. Overall, 142 participants (70.30%) believe that the *Yanomami* indigenous language is not necessary in the course curriculum, while 60 (29.70%) believe that it is necessary. Finally, when answering about the *Wapixana* language, 18 participants from the Law course answered yes and 57 no, 01 from Civil engineering answered yes and 46 no and 32 from the medical course answered yes and 48 no. Of the study participants, 151 (74.75%) believe that the *Wapixana* indigenous language is not necessary in the course curriculum, while 51 (25.25%) believe that it is necessary.

When asked if they had studied any discipline at the university focused on the teaching of indigenous languages, in the Law course 05 participants said yes and 70 said no, all Civil engineering participants (47) answered no and in the medical course, 05 answered yes and 75 no. Therefore, only 4.95% of the participants had a discipline focused on the teaching of indigenous languages during their undergraduate studies at UFRR.

As shown in Figure 2, the capacity of the 202 participants to communicate in the 03 indigenous languages included in the study (*Macuxi*, *Yanomami* and *Wapichana*) can be assessed. The responses were 55 "I could not communicate" and 20 "poorly" regarding the Law course; 39 "I could not communicate" 1 "regular" and 7 "poorly" regarding the Civil engineering course

Figure 2. Capacity of students and recently graduated professionals from UFRR Medicine, Law and Civil engineering courses to communicate with indigenous people who do not speak Portuguese.
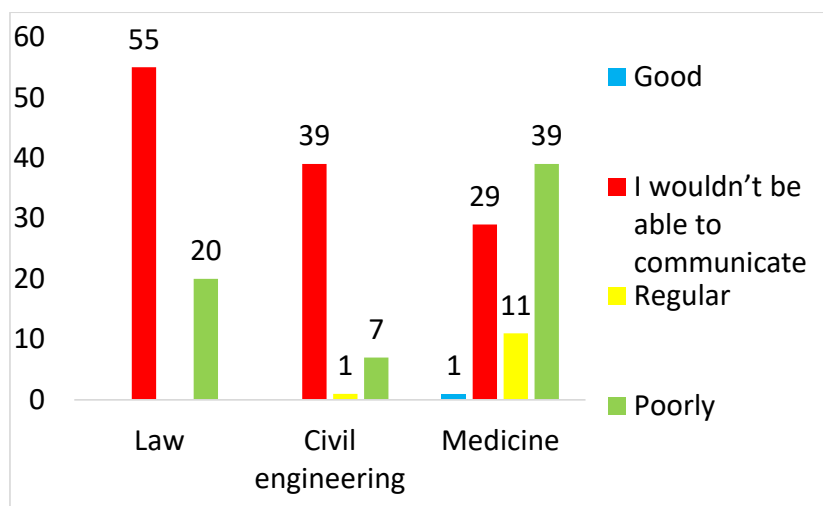
Source: Created by the author (2023).

and 1 "good" response. 29 "I wouldn't be able to communicate" 11 "regular" and 39 "poorly" regarding the medical course. It is observed that 60.89% of those assessed would not be able to communicate in any of the indigenous languages investigated in this study, 32.67% would have poor communication, 5.94% would have regular communication, 0.5% would have good communication and none of those assessed would have an excellent communication.

When asked if they knew how to speak any of the 3 indigenous languages investigated in the study, 73 of the Law course participants said no, 01 said they knew how to speak *Macuxi* and 01 said they knew how to speak *Wapichana*. In the Civil engineering course, all participants (47) stated that they did not know how to speak any indigenous language and finally, in the Medicine course, 67 answered that they did not know how to speak any indigenous languages, 03 knew how to speak *Macuxi*, 01 knew how to speak *Wapichana* and 09 knew how to speak *Yanomami*. It is noteworthy that the option "I don't know any indigenous languages" is predominant in all three courses, corresponding to 92.57% of the respondents, followed by 4.45% who speak the *Yanomami* language, 1.98% who speak *Macuxi* and 1% of the respondents speak the *Wapixana* language.

The last question of the data collection instrument was: "Have you ever communicated with any indigenous person who did not speak Portuguese?". In the Law course, 64 said no and 11 said yes, in the Civil engineering course 44 said no and 03 said yes and in the Medicine course 15 said no and 65 said yes. It can be observed that of those interviewed, 39.11% have already communicated with an indigenous person who does not speak Portuguese and 60.89% have not had such experience. Of the people who have had this experience, 82.28% belong to the

medical course, 3.80% to Civil engineering course and 13.92% to the Law course.

When performing the univariate inferential statistical analysis using the chi-square test, with a confidence interval of 95% and a possibility of sampling error of 5% (p-value equal to or less than 0.05), a statistically significant association was demonstrated between the undergraduate course and knowing an indigenous language, so that being a medical student is associated with knowing how to speak at least one indigenous language (p = 0.0004). This relationship was not evident in the Law and Civil engineering courses. A statistically significant association was also identified between being a student or having been a student of medicine and being interested in learning LIBRAS (p = 0.0159) or being interested in learning an indigenous language (p = 0.0054). This association was not identified in students who studied or were studying Law or Civil engineering (Table 1).

DISCUSSION

The level of knowledge and quality of communication of students and recently graduated professionals of the UFRR medical course in LIBRAS and in the most predominant indigenous languages in the state of Roraima (*Macuxi*, *Yanomami* and *Wapichana*) was evaluated and as a comparison parameter, we applied the same data collection instrument to students and recently graduated professionals from Law (Social Sciences) and Civil engineering (Exact sciences) courses. Similar to other studies[10,11], it was demonstrated that more than 90% of students from the 03 undergraduate courses do not communicate adequately with deaf people, 39.59% of whom are medical students. However, more than 80% of those

Table 1. Chi-square test between variables and outcomes.

Variable	Outcome	Chi-square value	*p-value*
Undergraduate course	To know LIBRAS	0.9401	0.6250
Undergraduate course	To know at least one indigenous language	15.3030	**0.0004**
Undergraduate course	Interest in learning LIBRAS	8.2797	0.0159
Undergraduate course	Interest in learning an indigenous language	10.4230	**0.0054**
Sex	To know LIBRAS	0.6284	0.4279
Sex	To know at least one indigenous language	0.0015	0.9682
Sex	Interest in learning LIBRAS	0.9369	0.3331
Sex	Interest in learning an indigenous language	2.7283	0.0985
Age range	To know LIBRAS	4.4840	0.1062
Age range	To know at least one indigenous language	3.6818	0.1587
Age range	Interest in learning LIBRAS	4.0387	0.1327
Age range	Interest in learning an indigenous language	1.6725	0.4333

Source: Created by the author (2023).

assessed are interested in learning, with the majority of those interested in obtaining such academic knowledge belonging to the medical course.

Silva and Benito (2016), when evaluating nursing students in Brasília, point out that 90% of the participants would not be able to communicate with deaf people[6]. The study by Oliveira et al. (2022), involving medical students, showed that this percentage would be 82.9%. Therefore, showing results very similar to those of the present study[10].

It stands out when analyzing the communication skills in LIBRAS of the participants in this study, that the options "I could not communicate", "poorly" and "regular" are predominant in the 03 courses and that the options "good" and "excellent" communication, despite being present only in the medical course, corresponded to only 1.25% of the sample, that is, a very low percentage. One of the explanations for this difficulty is the lack of knowledge of the language or the lack of an interpreter[12,13,14].

Although the study participants mentioned the lack of a LIBRAS interpreter as an impediment to communication, the profession of LIBRAS translator and interpreter is regulated by Law number 12,319 since 2010 and this regulation arose from the efforts of Brazilian deaf communities aimed at cultural and linguistic recognition and/or the strategies used by translators and interpreters themselves to have their work recognized and valued[15].

One justification for the participants' lack of knowledge of LIBRAS would be their lack of interest in obtaining such knowledge; however, this study showed that despite the significant lack of knowledge, the majority of the participants demonstrated an interest in learning. More than 60% of those interviewed believe that LIBRAS should be included in the curriculum of undergraduate courses. Despite that, it is known that currently, the factor that contributes to many undergraduate students not acquiring knowledge, even though they are interested in doing so, is the fact that the subject is often not offered in an appropriate way related to the course, nor with a compatible workload[16]. It is advocated that medical schools should train professionals who know people's health needs, as well as the forms of nonverbal communication and the risks that lack of knowledge can promote[17]. However, it is observed that the National Curricular Guidelines for medical courses do not provide detailed guidance regarding the objectives, content, methodology and workload of the LIBRAS subject, being up to each educational institution to decide on it.

It was observed that 64.8% of those assessed believe that knowledge of LIBRAS is necessary for their profession and should be included in the course curriculum, of which 45.0% belong to the medical course. This result was lower than that demonstrated in another study, which showed that 95.8% of the students believed partially or totally that offering the LIBRAS subject is necessary in the medical curriculum. Of the 230 participants who answered that they believed (partially or totally) in the need to offer this subject, 55.2% indicated that they thought it should be mandatory and 75.7% preferred it taught as an in-person subject[10]. In line with the obtained results, 92% of those interviewed recognized that communication would be one of the tools for good quality health care, during a consultation or carrying out a procedure. It was also observed that, for 82% of participants, a deaf person, upon entering a health unit or institution, would not be able to communicate with professionals and, for 67% of the interviewees, the use of an interpreter would take away the patient's privacy, when asked to translate the message[6].

Despite the abovementioned scenario, a study that evaluated the curricular matrix of medical courses in Brazil reported that of the 5,317 identified courses, only 2,293 (43.1%) offered LIBRAS as a discipline, 16.7% as a mandatory subject and the majority (83.3%) as an elective subject[18].

Only 13.3% of the participants in the present study had a discipline focused on the study of LIBRAS at UFRR and of the 175 students who did not have it, 41.1% belonged to the medical course To minimize the difficulty of communication between the health professional and the deaf patient, in 2005 Decree N. 5,626 was sanctioned, which regulates Law n. 10,436, officially recognizing LIBRAS as a legal means of communication and expression, in addition to determining its mandatory nature in professional education courses[19]. Despite this, there are still nonconformities in communication between doctors and deaf patients, resulting in a possible loss in the quality of care.

It is worth mentioning that deaf people often stop seeking health services due to the difficulty in communicating with professionals in the area, in addition to the perception of prejudice by the health team and other users of the system. The gap between health professionals and deaf people can directly affect the health status of these individuals and the effectiveness of assistance, impacting health promotion and the prevention of health problems[20,21]. Despite this fact, this study did not show an association between knowing how to communicate in LIBRAS and the undergraduate course attended (p = 0.6250), that is, studying medicine was not associated with knowledge of LIBRAS, identifying only the statistically significant association between studying or having studied medicine and being interested in learning LIBRAS (p = 0.0159). Such interest can represent a good stimulus for courses to further encourage the study of this language.

The fact that Roraima is the Brazilian state with the highest proportional percentage of indigenous individuals

does not change the national reality of poor communication between students and professionals in health courses with indigenous people who do not speak Portuguese[22]. The present study shows that the majority of those evaluated are unable to establish adequate communication in any of the investigated indigenous languages, and that even though the medical course is the only course that has participants who can communicate well, they are the minority (1.25%) in the course, which contributes to an inadequate doctor-patient relationship [23,24,25,26].

This difficulty in communication is mainly justified by the lack of knowledge about indigenous languages (78.21%), both in medicine and in other courses, as demonstrated in the study carried out by Sandes et al. (2018), where they point out that the biggest problem identified was the difficulty of communication and the clash of cultures[27]. Therefore, this lack of knowledge can be attributed to several factors, including the lack of interest in learning an indigenous language. In the present study, it was observed that there is a predominant and similar degree of lack of interest, regardless of the course, in learning any of the covered indigenous languages, although students and medical professionals commonly experience situations in which they have to provide assistance to indigenous people who do not speak the Portuguese language and report extreme communication difficulties.

In addition to the lack of interest in learning, another fact that contributes to the difficulty in communication is that, in contrast to what is recommended by indigenous language revitalization policies[18,19], the participants in this study do not believe that including indigenous languages in their curriculum is something necessary. This factor becomes a matter of extreme concern when it is understood that the health of indigenous peoples cannot be seen only from a technical-administrative point of view and must be treated considering all their specificities and realities [8,28].

It was demonstrated in the present study that a significant portion of the participants (39.1%) had already tried to communicate with indigenous people who did not speak Portuguese, the majority of whom were studying medicine (81.3%). Despite the geographical difficulties, considering that the course activities take place mostly in the state capital and the largest concentration of indigenous individuals is located in the interior of the state in areas that are difficult to access[22], when the health condition of the indigenous patient worsens, they are transferred to hospital units in the state capital, in the municipality of Boa Vista.

Based on the portrayed context, where contact between indigenous people and health professionals in Roraima is routine, it was expected that students would know more about the languages of the original peoples; however, the reality found in this study is that only 16.25% of the students or medical professionals know some of the investigated languages. This fact can generate difficulties in communication and integration between the doctor and the patient, resulting in frequent mistakes, interfering with the reliability between the professional and the indigenous patient, culminating in the dissatisfaction of both[22,27].

Due to the low offer of the teaching of indigenous languages, students do not have the appropriate means to improve and acquire linguistic skills to effectively communicate with indigenous people. According to the obtained results, only 4.95% of the research participants had a subject focused on the teaching of indigenous languages. This fact is often due to the lack of teaching staff with academic training and linguistic profiles that are sufficiently appropriate for this task. Furthermore, most universities lack necessary teaching materials in indigenous academic language. The existence of a wide regional variety of indigenous languages and dialects also makes it difficult to truly effectively master linguistic communication[27,22,29].

It was evidenced in this study that studying medicine is associated with knowing how to speak at least one indigenous language (p = 0.0004), although only 16.25% of course participants knew how to speak one of the languages and that being or having been a medical student is associated with being interested in learning an indigenous language (p = 0.0054). It can be seen that, although still small, there is a greater willingness among medical students to speak and learn indigenous languages. The efficient communication between doctor and patient is essential to guarantee the latter's autonomy, since autonomy is understood as the inherent right to actively decide on the diagnosis and therapeutic procedures to which they will eventually be submitted. Autonomous individuals are able to decide about their own lives, based on their concepts, criteria and freedom. This way, they can take responsibility for their choices[30].

Effective communication implies the construction of concrete bonds, which are characterized as one of the main elements of accessibility. Moreover, the promotion of accessibility, in the context of health, must function as a multiplier factor of this awareness, which will expand the possibilities for building inclusive societies[31]. The Medicine course must, therefore, train professionals who promote equity in the adequate and efficient care of their patients. Therefore, training to care for these individuals prevents the violation of their rights and provides full knowledge of their diagnosis and the treatment to be carried out.

It is noteworthy that the two limiting factors for this study were the fact that it was carried out during the COVID-19

pandemic, which reduced the expected sample, since classes were taking place remotely and the scarcity of scientific publications that assess health professionals' knowledge of indigenous languages.

CONCLUSION

Although Roraima is the Brazilian state with the highest proportional concentration of indigenous people, the low quality of communication between the study participants and this population was evident. This difficulty in the quality of communication is also observed in relation to LIBRAS, despite the interviewees' interest in learning it. The present study highlights a much greater interest in learning LIBRAS than an indigenous language, which suggests that despite there being a large local indigenous population concentration, this fact does not seem to influence the participants' interest.

Although the right to universal health care is guaranteed by the Federal Constitution and by the Unified Health System - SUS, the non-inclusion of LIBRAS and indigenous languages in the academic environment creates gaps that compromise its effective fulfillment. Therefore, in an attempt to improve the obtained rates, it would be important to offer disciplines that teach LIBRAS and indigenous languages. These measures would contribute to greater autonomy, a better doctor-patient relationship, in addition to reducing possible damage and waste of public resources.

AUTHORS' CONTRIBUTION

Poliana Lucena dos Santos: data collection and writing of the manuscript. Diego Guilherme Santos Portella: data collection and statistics. Jam Muhammad Ishtiaq: data collection. Ruy Guilherme Silveira de Souza: research orientation. Bianca Jorge Sequeira: research orientation and writing of the manuscript.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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