Willingness for interprofessional collaboration of undergraduate students

Disposição para colaboração interprofissional de estudantes de graduação

Disposición para colaboración interprofesional de estudiantes de graduación

ABSTRACT

Objective: To analyze the willingness for interprofessional collaboration of undergraduate students. **Method:** Cross-sectional, descriptive study, carried out with 82 students from ten undergraduate courses at a public university. The intention for interprofessional collaboration was verified through the Jefferson Scale of Attitudes Related to Interprofessional Collaboration. **Results:** The sample was composed mostly of female individuals, in the age group of 20 years, between the 2nd and 4th semester of graduation. The average score of the scale used was 129.3 points. **Conclusion:** In the scope of education, mainly at higher education level, many teaching - learning initiatives are carried out collectively, which favors a positive perception for collective work. The willingness for interprofessional collaboration of students presented a high score; there was no statistically significant difference between the different undergraduate courses, sex and the training phase.
keywords: Learning; Interprofessional Education; Teaching; Nursing; Professional Training.

RESUMO

Objetivo: Analisar a Disposição para a colaboração interprofissional de estudantes de graduação. **Método:** Estudo transversal, descritivo, realizado com 82 estudantes de dez cursos de graduação de uma universidade pública. A intenção para a colaboração interprofissional foi verificada através da Escala Jefferson de Atitudes Relacionadas à Colaboração Interprofissional. **Resultados:** A amostra foi composta na sua maioria por indivíduos do sexo feminino, na faixa etária de 20 anos, entre o 2º e 4º semestre da graduação. O escore médio da escala utilizada foi de 129,3 pontos. **Conclusão:** No âmbito da educação, principalmente de nível superior, muitas iniciativas de ensino-aprendizagem são realizadas de forma coletiva, o que favorece a percepção positiva para o trabalho coletivo. A disposição para a colaboração interprofissional dos estudantes apresentou alto escore; não houve diferença estatística significativa entre os diferentes cursos de graduação, sexo e a fase de formação.
Descritores: Aprendizagem; Educação Interprofissional; Ensino; Enfermagem; Capacitação Profissional.

RESUMEN

Objetivo: Analizar la voluntad de colaboración interprofesional de estudiantes de graduación. **Método:** Estudio descriptivo, transversal, realizado con 82 estudiantes de diez carreras de pregrado de una universidad pública. La intención de colaboración interprofesional se verificó a través de la Escala de actitudes de Jefferson relacionadas con la colaboración interprofesional. **Resultados:** La muestra estuvo compuesta mayoritariamente por individuos del sexo femenino, en el grupo de edad de 20 años, entre el 2º y 4º semestre de egreso. La puntuación media de la escala utilizada fue de 129,3 puntos. **Conclusión:** En el ámbito de la educación, principalmente a nivel de educación superior, muchas iniciativas de enseñanza-aprendizaje se llevan a cabo de forma colectiva, lo que favorece una percepción positiva del trabajo colectivo. La disposición a la colaboración interprofesional de los estudiantes presentó una puntuación alta; no hubo diferencia estadísticamente significativa entre los diferentes cursos de pregrado, sexo y la fase de formación.
Descritores: Aprendizaje; Educación Interprofesional; Enseñanza; Enfermería; Capacitación Professional.

Desirée Pires Diniz[1]
0000-0002-6332-8738

Beatriz Maria Jorge[1]
0000-0002-9203-4691

Guilherme Oliveira De Arruda[1]
0000-0003-1690-4808

Fernando Pierette Ferrari[1]
0000-0002-8867-9833

José Rodrigues Freire Filho[2]
0000-0003-1306-9368

Rodrigo G. dos Santos Almeida[1]
0000-0002-4984-3928

[1]Federal University of Mato Grosso do Sul, Brazil
[2]University of São Paulo, Brazil.

Corresponding author:
Rodrigo Guimarães dos Santos Almeida
E-mail: rgclaretiano@gmail.com

INTRODUCTION

Improving access to health services, adequate use of specialized resources, ensuring care for chronic health conditions, patient safety, reducing the number of complications and hospitalizations, hospital stay, professional turnover, care error rate, and mortality justify the investment in interprofessional collaboration[1]. Added to these benefits are the current needs to transform the health workforce, which have required changes in the training model of professionals for more collaborative practice[2].

Interprofessional collaboration has stood out for nearly four decades in the health area, being a strategic agenda incorporated in the reform of the education and health care model[3]. In the Brazilian context, it is also linked to the complexity of the epidemiological transition added to the triple burden of diseases faced by the population: infectious and parasitic diseases, external causes, and non-communicable chronic conditions are the basis for the development of collaborative work[4].

To strengthen the Unified Health System (Sistema Único de Saúde - SUS), overcoming barriers related to professional training in health, with an emphasis on the principles of comprehensiveness and social needs is necessary. Thus, interprofessional collaboration is seen as one of the strategies to advance in this direction, as the SUS constitutes a space with recognized potential for the development of interprofessional practices[5].

The implementation of interprofessional collaboration in health can be achieved through the application of pedagogical strategies anchored in the assumptions of Interprofessional Education (IPE)[6].

In terms of training, IPE is the main educational strategy indicated for the development of interprofessional collaboration, but its application is still a challenge, especially in the meso and micro-political dimensions of the Brazilian reality. The macro dimension has important milestones that provide adherence to the IPE, among which the National Policy on Permanent Health Education (Política Nacional de Educação Permanente em Saúde - PNEPS) seeks to transform and qualify health care, by encouraging the organization of actions and services in an interprofessional and intersectoral perspective to guarantee the principles of universality, equity, and integrality[7].

In the list of PNEPS actions, one of the most robust strategies for the development of interprofessional collaboration is the Education through Work for Health Program (Programa de Educação pelo Trabalho para a Saúde - PET-Saúde), which in its latest editions has focused on promoting IPE with Higher Education Institutions (HEI) and health services from the formation of the Pedagogical Curriculum Projects (PCP) of undergraduate courses in the health area, to the teaching-service-community integration through permanent education, initiatives aimed at the Health Care Networks (Redes de Atenção à Saúde - RAS) with an emphasis on strengthening Primary Health Care (PHC)[8].

Given this context, this study aimed to analyze the willingness for interprofessional collaboration of undergraduate students who are candidates to participate in the PET-Saúde program - edition with a focus on Interprofessionality.

METHOD

This is a cross-sectional, descriptive study carried out with 82 candidates for the selection of the PET-Saúde Interprofessionality edition of a public institution in the Midwest of Brazil.

Students from the Biological Sciences, Physical Education, Nursing, Pharmacy, Physiotherapy, Medicine, Veterinary Medicine, Nutrition, Dentistry, and Psychology courses applied to participate in the project.

On a pre-established date and time, the students were informed about the objective of the research and expressed their acceptance by signing an informed consent form. They later answered the Jefferson Scale of Attitudes Related to Interprofessional Collaboration (Escala Jefferson de Atitudes Relacionadas à Colaboração Interprofissional - EJARCI). The instrument has twenty items that must be answered using a seven-level Likert-type agreement/disagreement scale. This scale varies ordinally from one to seven, with the lowest level as completely disagree (1) and the highest as completely agree (7)[9].

In Brazil, the adaptation and validation process[10] was carried out with primary care professionals, and its application to health care students is also appropriate. To guarantee the understanding and comprehension of the instrument in the student population, a pilot test was carried out with five subjects who were not participating in the project. All five students

pointed out the instrument as understandable, with no need for adaptation.

For data analysis, items 3, 5, 8, 9, 12, 15, 16, and 19, which determine negativity, were recoded into equivalent scores. The accuracy of the internal consistency and reliability of the EJARCI instrument was verified using Cronbach's Alpha. Data were analyzed based on absolute and relative frequencies, as well as measures of central tendency (means and medians) and variability (standard deviation - SD and percentiles corresponding to the 1st and 3rd quartiles).

As the studied sample had a size greater than 30, the Kolmogorov-Smirnov test with Lilliefors correction was performed to verify the approximation of the data with the normal distribution, for the general scores and according to each item of the EJARCI. We found that the data did not follow a distribution close to normal, and a p-value < 0.05 (rejection of the hypothesis of normality of the data) was observed for general and item analysis.

Thus, we chose to perform non-parametric tests to compare medians and linear correlation. To compare the median scores overall and by EJARCI items, according to the variables gender, age group, and course as the first option, we used the Mann-Whitney test. To compare the semester and course variables we used the Kruskal Wallis test. To verify the correlation between the EJARCI scores, the semester, and the age of the participants, we applied the Spearman correlation test. A significance level of 5% was adopted for the applied tests. Analyzes were performed using the SPSS version 20 statistical program.

This study is part of the research project entitled "Interprofessionality in the perception of students, teachers, professionals and users of the Unified Health System" approved by the Research Ethics Committee of the Federal University of Mato Grosso do Sul Foundation, CAEE 2284569.1.0000.0021 and approval opinion 3,780,149.

RESULTS

The sample consisted mostly of female individuals (74.4%). There was a predominance of individuals aged up to 20 years (53.7%). Regarding the undergraduate course, 76.8% said they were enrolled in the undergraduate course they chose as their first option. Among those who said they were not in their first-choice undergraduate course, 13.4% mentioned the medical course as their first-choice course.

Most of the students were from the nursing course (26.8%), were in the 2nd (29.3%) or 4th semester (29.3%) of graduation. Table 1 shows the number of respondents by undergraduate course and gender.

Table 1 – Absolute and relative frequencies of student respondents by undergraduate course and gender. Campo Grande, MS, Brazil, 2019.

Courses	Female		Male		Total	
	n	%	n	%	n	%
Biological Sciences	-	-	1	100.0	1	1.2
PE	-	-	3	100.0	3	3.7
Nursing	16	72.7	6	27.3	22	26.9
Pharmacy	8	88.9	1	11.1	9	10.9
Physiotherapy	6	75.0	2	25.0	8	9.8
Medicine	7	87.5	1	12.5	8	9.8
Veterinary Medicine	2	100.0	-	-	2	2.4
Nutrition	9	81.8	2	18.2	11	13.4
Dentistry	6	54.5	5	45.5	11	13.4
Psychology	7	100.0	-	-	7	8.6
Total	61	74.4	21	25.6	82	100.0

Source: Survey data, 2019.

When applying the test to obtain the Cronbach's Alpha Coefficient, we found a value of 0.42, which points to a low internal consistency of the instrument in this study. The mean score of the items was 6.47 (SD=1.26), and items such as 15 (mean = 4.71), 18 (mean = 6.03) and 19 (mean = 5.69) showed variability (SD=1.92, SD=1.56 and 1.73, respectively) which clashed with the other items.

Table 2 displays the mean and median EJARCI scores by degree course. There were no significant differences in EJARCI scores between undergraduate courses.

Table 2 – Mean and median score and result of the comparison of willingness to interprofessional collaboration (EJARCI) of students between undergraduate courses. Campo Grande, MS, Brazil, 2019.

Courses	Mean	Median	p*
PE	132.6	133.0	
Nursing	129.5	132.0	
Pharmacy	130.2	131.0	
Physiotherapy	128.8	127.5	
Medicine	130.8	132.0	0.961
Veterinary Medicine	129.0	129.0	
Nutrition	128.6	128.0	
Dentistry	130.4	130.0	
Psychology	126.7	127.0	

*Kruskal-Wallis test

Source: Survey data, 2019.

The mean and median EJARCI scores for the sample were 129.3 (n=77; SD=6.0) and 130.0 (P25% = 125.0 and P75% = 134.0), observing the minimum value of 116.0 and maximum of 140.0.

The medians of the general EJARCI score for females, for students aged 20 or over, who were studying nursing, and who reported not taking the undergraduate course they defined as their first choice, were higher. However, there were no statistically significant differences between the medians of the general scores and by items of the EJARCI, according to the variables gender, age group, whether the chosen graduation was the first option, and the course (Table 3).

Table 3 – Comparison of medians of items and EJARCI general score according to independent variables. Campo Grande, MS, Brazil, 2019.

Item	Independent variables											
	Gender			Age group			First option			Course		
	Male	Female	p*	Up to 20 years old	20 years old or more	p*	Yes	No	p*	Nurs†	Others	p*
I-1	7.0	7.0	0.781	7.0	7.0	0.627	7.0	7.0	0.660	7.0	7.0	0.288
I-2	7.0	7.0	0.374	7.0	7.0	0.851	7.0	7.0	0.504	7.0	7.0	0.743
I-3	7.0	7.0	0.071	7.0	7.0	0.889	7.0	7.0	0.614	7.0	7.0	0.497
I-4	7.0	7.0	0.083	7.0	7.0	0.299	7.0	7.0	0.481	7.0	7.0	0.074
I-5	7.0	7.0	0.959	7.0	7.0	0.699	7.0	7.0	0.573	7.0	7.0	0.539
I-6	7.0	7.0	0.559	7.0	7.0	0.924	7.0	7.0	0.720	7.0	7.0	0.516
I-7	7.0	7.0	0.698	7.0	7.0	0.537	7.0	7.0	0.838	7.0	7.0	0.358
I-8	7.0	7.0	0.676	7.0	7.0	0.152	7.0	7.0	0.514	7.0	7.0	0.152
I-9	7.0	7.0	0.131	7.0	7.0	0.795	7.0	7.0	0.921	7.0	7.0	0.958
I-10	7.0	7.0	0.303	7.0	7.0	0.475	7.0	7.0	0.335	7.0	7.0	0.797
I-11	7.0	7.0	0.951	7.0	7.0	0.613	7.0	7.0	0.814	7.0	7.0	0.984
I-12	6.0	7.0	0.221	7.0	6.5	0.862	7.0	7.0	0.819	6.0	7.0	0.524
I-13	7.0	7.0	0.358	7.0	7.0	0.545	7.0	7.0	0.881	7.0	7.0	0.855
I-14	7.0	7.0	0.897	7.0	7.0	0.272	7.0	7.0	0.688	7.0	7.0	0.341
I-15	5.0	5.0	0.626	4.5	5.0	0.242	5.0	5.0	0.552	5.0	5.0	0.607
I-16	7.0	7.0	0.644	7.0	7.0	0.762	7.0	7.0	0.824	7.0	7.0	0.633
I-17	7.0	7.0	0.351	7.0	7.0	0.739	7.0	7.0	0.461	7.0	7.0	0.873
I-18	7.0	7.0	0.427	7.0	7.0	0.458	7.0	7.0	0.652	7.0	7.0	0.785
I-19	6.0	7.0	0.433	7.0	6.0	0.291	7.0	7.0	0.716	6.0	7.0	0.397
I-20	7.0	7.0	0.966	7.0	7.0	0.404	7.0	7.0	0.965	7.0	7.0	0.900
Geral	129.5	131.0	0.972	130.0	131.0	0.724	130.0	131.0	0.859	132.0	129.0	0.807

* Mann Whitney test

† Nursing

Source: Dados da pesquisa, 2019.

Table 4 shows the proportions of responses for each EJARCI item, categorized into degrees of agreement. We observed that the answers to item 15 ("negative") were more dispersed between the different degrees of agreement, so that only about a quarter of the respondents disagreed and there were greater proportions of indifference and agreement, in comparison to other inverted items.

Table 4 – Proportional distribution of responses for each EJARCI item according to the Degree of Agreement. Campo Grande, MS, Brazil, 2019.

Item	Grau de Concordância													
	I totally agree		I agree		I partially agree		Indifferent		I partially disagree		I disagree		I totally disagree	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
I-1	79	96.3	-	-	1	1.2	2	2.4	-	-	-	-	-	-
I-2	61	74.4	11	13.4	7	8.5	1	1.2	2	2.4	-	-	-	-
I-3	1	1.2	2	2.5	1	1.2	5	6.2	7	8.6	9	11.1	56	69.1
I-4	74	90.2	5	6.1	2	2.4	1	1.2	-	-	-	-	-	-
I-5	-	-	1	1.2	1	1.2	1	1.2	1	1.2	8	9.8	70	85.4
I-6	74	92.5	3	3.8	1	1.3	1	1.3	1	1.3	-	-	-	-
I-7	58	71.6	16	19.8	6	7.4	1	1.2	-	-	-	-	-	-
I-8	2	2.4	-	-	2	2.4	2	2.4	3	3.7	9	11.0	64	78.0
I-9	5	6.2	1	1.2	2	2.5	1	1.2	-	-	3	3.7	69	85.2
I-10	79	96.3	3	3.7	-	-	-	-	-	-	-	-	-	-
I-11	74	90.2	4	4.9	3	3.7	-	-	-	-	-	-	1	1.2
I-12	-	-	2	2.4	1	1.2	6	7.3	11	13.4	18	22.0	44	53.7
I-13	74	90.2	5	6.1	-	-	-	-	-	-	-	-	3	3.7
I-14	51	62.2	20	24.4	8	9.8	2	2.4	1	1.2	-	-	-	-
I-15	5	6.2	8	9.9	11	13.6	12	14.8	14	17.3	10	12.3	21	25.9
I-16	1	1.2	1	1.2	-	-	2	2.4	2	2.4	10	12.2	66	80.5
I-17	68	82.9	4	4.9	2	2.4	1	1.2	3	3.7	1	1.2	3	3.7
I-18	46	56.1	16	19.5	11	13.4	1	1.2	4	4.9	1	1.2	3	3.7
I-19	-	-	5	6.1	12	14.6	5	6.1	4	4.9	13	15.9	43	52.4
I-20	78	95.1	1	1.2	1	1.2	1	1.2	1	1.2	-	-	-	-

Source: Survey data, 2019.

Table 5 shows the correlations evidenced between the EJARCI items. All of them were positive and with

small/null (0 < r < 0.25) or weak intensity (0.25 < r < 0.50). Among them, the one with the highest coefficient (r = 0.431) was the correlation between items I-11 and I-19, that is, the ideas of health professionals should contribute to decisions regarding patient care and that professionals who work together cannot be equally held responsible for the service they provide, respectively.

The second most intense correlation between items I-1 and I-13 stands out (r = 0.406), that is, health professionals should be seen as collaborators and not as superiors or subordinates, and professionals should consider that their colleagues can contribute to the quality of care.

The third strongest correlation was between I-3 and I-4 (r = 0.386). Therefore, between the propositions that teamwork cannot be the result of interdisciplinary teaching and that academic institutions should develop interdisciplinary teaching programs to increase collaborative practice.

There was also a positive and weak correlation between the semester and the I-2 (r = 0.275), an item that refers to the proposition that all health professionals should be responsible for monitoring the effects of interventions on their patients. There was no correlation between age and the EJARCI items and the overall score.

Table 5 – Correlations between EJARCI items applied to university students linked to PET-Saúde. Campo Grande, MS, Brazil, 2019.

Item	Itens correlacionados*
I-1	I-13†
I-2	I-12‡, I-14‡, I-17†, I-20†
I-3	I-4†, I-8†
I-4	I-3†
I-5	I-11†, I-12‡, I-16†, I-17‡, I-19‡
I-6	I-7‡, I-16†
I-7	I-6‡, I-12‡, I-19‡
I-8	I-3†, I-15‡
I-9	-
I-10	I-12†, I-13†, I-16†, I-17‡
I-11	I-5†, I-16‡, I-19†
I-12	I-2‡, I-5‡, I-7‡, I-10†, I-14‡, I-16†, I-17‡, I-19‡
I-13	I-1†, I-10†
I-14	I-2‡, I-12‡
I-15	I-8‡
I-16	I-5†, I-6†, I-10†, I-11‡, I-12†, I-19†
I-17	I-2†, I-5‡, I-10‡, I-12‡
I-18	-
I-19	I-5‡, I-7‡, I-11†, I-12‡, I-16†
I-20	I-2†

* Spearman's linear correlation test
†p<0.01 ‡p<0.05

Source: Survey data, 2019.

DISCUSSION

In many countries, the workforce in health services is predominantly female, around 75% of the workforce. This predominance of females among health professions can be observed since their graduation, being even more present in professions such as nursing, whose category represents 80% of the health workforce in the Brazilian context[11].

Studies linking collaborative work, sex, and gender are still incipient. A study carried out[12] confirms that gender inequality can contribute to the failure of collaborative practice, as the characteristics of gender status result in different expectations. Health care is often associated with a female role[11]. Femininity in the health area, even though it is a social achievement, is still not seen in an equal way among professionals.

According to data from the National Institute of Educational Studies and Research Anísio Teixeira (*Instituto Nacional de Estudos e Pesquisas* - Inep), the search for qualification is predominant among females with an average of 19 years old, which corroborates the findings of this research[13]. Regarding the course option, most participants attended the chosen career, but a small portion had the medical career as their first option, which is still the most disputed graduation in the entry of professions in the health area.

Participation in programs that provide opportunities to carry out university extension activities, such as PET-Saúde, is also quite diversified, as shown in table 1. Even though it is a public call prepared by the graduation pro-rector, published on the IES website, the adherence to such a project is also influenced by the support and encouragement of courses and their collegiate bodies; as well as the availability of students to participate in activities. This difficulty in participating is pointed out in the study[3], which discusses that the differences between the available hours of students from different courses can create problems so that there is adequate time for the promotion of IPE. It adds that organizational support through institutional policies and administrative commitment is essential for the development and implementation of the IPE.

in the psychometric test that verified the instrument's consistency (Cronbach's Alpha Coefficient), it had a low value (0.42). Internal consistency refers to the degree to which the questionnaire items are correlated with each other and with the overall survey result, which represents a measure of its reliability. Its value can be affected both by the number of items that

make up the instrument, its response variance, and the sample size[14].

A Brazilian study with a smaller sample size (63 individuals) carried out with health professionals from the PHC presented an alpha value of 0.71[15]. In addition, results of the variability of responses for some items of the instrument in this study raise an indication of inconsistency. Thus, the divergence of findings may be related to the variance of responses among respondents whose populations are different: professionals already in professional practice and students in the process of graduation.

Another fact that can also influence the answers is the distribution of negative and positive questions in the instrument. So the item 15 "Due to the difference in each function, there are not many areas that allow overlapping responsibilities between health professionals who provide care to patients/clients" presented more dispersed answers between the different degrees of agreement and even greater variability represented by the relationship between the standard deviation and the mean observed for the data referring to the item.

The original authors of the EJARCI[9] instrument indicate the possibility of its application in different practice scenarios (students and professionals). When developed, we applied to a large population of healthcare students at three universities. No national studies involving students were found, which could perhaps elucidate this fact, which indicates the need for further investigations with this population to consolidate the instrument used or the need to create other tools that can support the understanding of the interprofessional collaboration, above all, considering the perspectives according to the different undergraduate courses.

As for the score obtained by the EJARCI, no statistically significant difference was observed regarding the disposition for interprofessional collaboration among students from different undergraduate courses. We noticed that the scores are very similar between courses and higher than the general average of other studies[9,15].

Regarding gender, professional choice as a first option, the current semester, and interprofessional collaboration were also not found to be significant differences in this study.

Mainly regarding gender, the findings are divergent among other studies that carried out such investigation[9,16].

The fact that there is no difference regarding interprofessional collaboration among students from different undergraduate courses and even with the gender of those surveyed, such findings may be related to their condition, given that they are university students.

In the education area, especially in higher education, many teaching-learning initiatives are carried out collectively, which favors a positive perception of collective work. Thus, from the constructivist perspective, group activities, together, offer advantages from this point of view, when compared to those carried out in individual learning environments.

The constitution of subjects, their learning, and their thought processes (intrapsychological) occur mediated by the relationship with other people (interpsychological processes) that produce referential models that are the basis for our behaviors and reasoning, as well as for the meanings we give to things and people[17]. It is worth emphasizing that, even though collective activities may not lead to collaborative skills, they develop in the learner the sense of teamwork[18].

In this atmosphere, much prevails on the collaboration in which when working together, members of a group support each other, seeking to achieve common goals established by the collective, establish relationships that tend not to rank hierarchies, shared leadership, mutual trust, and co-responsibility for conducting the actions[19].

In the original EJARCI scale, the authors divide it into two domains: work relationships (items 1 to 12) and responsibility (items 13 to 20)[9]. In the process of adaptation and validation of the Brazilian version, new factor analysis was not performed to verify the behavior of the items in the original scale[10]. Thus, the importance of conducting studies with a representative sample for the number of items in the instrument that can verify the prevalence of items in the domains and also collaborate with their interpretation is highlighted.

When observing the items that comprise work relationships, most students agree that health professionals should be seen as collaborators and not as superiors or subordinates, and also that professionals should consider that their colleagues can contribute to

the quality of care. These findings converge with a study carried out among students and graduates of the UFRGS dentistry course, which showed positive attitudes about teamwork and collaboration[20].

The difficulty for collaboration between professionals, the development of team practice, and collaborative action are still closely related to the fact that there is an intense division of work between the various health professions. This reality is the result of the hegemonic, hospital-centered, and fragmented training model with an excessive valuation of specific technical skills, which contributes to the training of professionals with important limitations in the ability to analyze the context and work collaboratively as a team[21].

The IPE is shown to be an important tool for transforming this reality, as it has as its greatest horizon the development of collaborative skills for a practice capable of providing quality health care since graduation[1]. The initiatives for the application of IPE in the Brazilian context can be observed through the inducing policies for health education, such as Pró-Saúde, PET-Saúde, and the implementation of National Curriculum Guidelines for undergraduate courses in the health area[22].

Through correlation analysis, we observed that students responded that they disagreed that teamwork cannot be a result of interdisciplinary teaching, as they agreed that academic institutions should develop interdisciplinary teaching programs to ensure adherence to interprofessional collaboration. Thus, if the IPE were inserted from the beginning of graduation, we believe that there would be important changes for professional practice, as the observed result suggests consistency in the disposition for interprofessional collaboration.

In the interprofessional responsibility, based on decision-making and shared responsibility, study participants agreed that all health professionals should contribute to decisions related to patient care, and can be equally responsible for the service they provide. The most advanced undergraduates agree with the proposition that all health professionals should have the responsibility to monitor the effects of interventions on their patients, which may be related to the greater contact of these students with the practice scenarios in their area of expertise (greater experience in practical classes and internships) and with that, a more refined perception of co-responsibility between different professionals in the assessment of interventions implemented with the patient.

In this sense, for this finding, it is important to highlight that, for the health teams to participate and be held accountable, an environment of trust is needed to express opinions, interact and participate in decision-making processes related to the needs of the service. The team members' ability to mesh together during decision-making implies better service results[23].

Interprofessional teamwork is characterized by the integrated and interdependent work of all professionals involved in the assistance. For its effectiveness, all those involved must have the feeling of belonging to a team. The exchange of knowledge establishes a bond between professionals, which enables the approximation and enhancement of participation in the provision of care, which makes the work resolute[24].

Many attributions in the professional area do not yet have a consensus on their performance, nor do they have clarity of functions (common and collaborative practices). Therefore, it is essential that these functions are mapped and defined within each institution and that they are performed following professional autonomy[25], as one of the attributes of interprofessional collaboration is the clarity of functions and objectives[1].

CONCLUSION

The disposition for interprofessional collaboration of the students participating in this study, measured using the EJARCI scale, did not present a statistically significant difference between the different undergraduate courses, nor between gender and training phase - initial and final years.

The explanation for this fact may be related to the interviewee's profile, which is made up of a sample of university students. In the context of higher education, the constructivist perspective adopted in many institutions values collective work, which can lead to positive perceptions about the benefits of collaborative practice and teamwork. However, regarding the hypothesis in question, further studies must be carried out to corroborate these findings.

The search for participation in projects of this nature, such as Pet-Saúde, was predominant among females, as is the search for qualification

in the health area and even admission to undergraduate courses.

Femininity in healthcare is a reality and a social achievement, but gender inequality is still common among professions. Thus, equality, respect, and professional ethics are themes that should be explored from the perspective of IPE with HEIs.

The correlation analysis applied in this study does not allow us to affirm with certainty causality relationships; however, it allows us to point out that the responses to the items vary in the same direction. An example of this and an important result of this study was that students agree that teamwork can be a result of interdisciplinary teaching, that academic institutions should develop interdisciplinary teaching programs to expand the process of interprofessional collaboration. Thus, the IPE is shown as an adequate strategy for the development of skills that the current health context has demanded from health professionals.

Regarding limitations, this study is characterized as one of the pioneers to verify the availability for interprofessional collaboration among students in the health area, since in the national context the proposed methodology aimed at health professionals was used. Furthermore, the lack of research of this nature in the Brazilian reality can be considered a limiting factor for the study, which does not allow for expanding the evidence found here. Regarding the study participants, the results of the EJARCI general score showed that female nursing students who reported not taking the first-choice degree are more inclined towards interprofessional collaboration. Even though interprofessional collaboration seems to be more accepted by nursing, the results of this study do not allow us to make inferences in this regard, due to the small sample and incipient research on the subject to confirm that interprofessional collaboration has greater nursing adherence and is linked to the process of feminization of collaborative work in health. For this, we recommend carrying out mixed studies that can compare the statistical analyzes discussed here with other findings of a qualitative nature.

In this context, nursing education, supported by national curriculum guidelines, should increasingly encourage and provide opportunities for interprofessional education to make future professionals better prepared, referring to collaborative practices, which are so necessary and urgent in the health sector.

REFERENCES

1. Khalili H, Thistlethwaite J, El-Awaisi A, Pfeifl A, Gilbert J, Lising D, et al. Guidance on global interprofessional education and collaborative practice research: discussion paper. Publicação conjunta do Interprofessional Research. Global e da Interprofessional. Global; 2019 [citado em: 20 de ago. 2020]. Disponível em: https://www.observatoriorh.org/sites/default/files/webfiles/fulltext/2019/guia_orientacion_po.pdf.

2. Portela GZ, Fehn AC, Ungerer RLS, et al. Human resources for health: global crisis and international cooperation. Ciênc. Saúde Colet. 2017;22(7):2237-46. DOI: 10.1590/1413-81232017227.02702017.

3. Reeves S. Why we need interprofessional education to improve the delivery of safe and effective care. Interface. 2016;20(56):185-97. DOI: 10.1590/1807-57622014.0092.

4. Massuda A, Hone T, Leles FAG, Castro MC, Atun R. The Brazilian health system at crossroads: progress, crisis and resilience. BMJ Glob Health. 2018;3(4):e000829. Disponível em: https://gh.bmj.com/content/3/4/e000829.

5. Costa M. V. The interprofessional education in Brazilian context: some reflections. Interface. 2016;20(56):197-8. DOI: 10.1590/1807-57622015.0311.

6. Barr H, Ford J, Gray R, Helme M, Hutchings HL, Machin A, et al. Interprofessional Education Guidelines 2017. United Kingdom: CAIPE; 2017 [citado em: 28 de set. 2020]. Disponível em: https://www.caipe.org/resources/publications/caipe-publications/caipe-2017-interprofessional-education-guidelines-barr-h-ford-j-gray-r-helme-m-hutchings-m-low-h-machin-reeves-s.

7. Peduzzi M. The SUS is interprofessional. Interface. 2016;20(56):199-201. DOI: 10.1590/1807-57622015.0383.

8. Almeida RGS, Silva CBG. Interprofessional Education and the advances of Brazil. Rev.

Latinoam. Enferm. 2019;27:e3152. DOI: 10.1590/1518-8345.3148-3152.

9. Hojat M, Ward J, Spandorfer J, Arenson C, Winkle LJV, Williams B. The Jefferson Scale of Attitudes Toward Interprofessional Collaboration (JeffSATIC): development and multi-institution psychometric data. J Interprof Care. 2015;29(3):128-44. Disponível em: https://pubmed.ncbi.nlm.nih.gov/25311270/.

10. Abed MM. Brazilian´s cross-cultural adaptation of Jefferson Scale of Attitudes Toward Interprofessional Collaboration: a study in primary care professionals [dissertação]. Goiânia: Universidade Federal de Goiás; 2015 [citado em: 10 de jan. 2020]. 98p. Disponível em: https://repositorio.bc.ufg.br/tede/handle/tede/5479.

11. Borges TMB, Detoni PP. Trajectories of feminization in hospital work. Cad. Psicol. Soc. Trab; 2017 [citado em: 18 de ago. 2020];20(2):143-57. Disponível em: http://pepsic.bvsalud.org/pdf/cpst/v20n2/a04v20n2.pdf.

12. Bell AV, Michalec B, Arenson C. The (stalled) progress of interprofessional collaboration: the role of gender. J Interprof Care. 2013;28(2):98-102. DOI: 10.3109/13561820.2013.851073.

13. Ministério da Saúde (BR). Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira (Inep). Censo da Educação Superior 2018: notas estatísticas. Brasília: Ministério da Saúde; 2019 [citado em: 20 de jul. 2020]. Disponível em: http://download.inep.gov.br/educacao_superior/censo_superior/documentos/2019/censo_da_educacao_superior_2018-notas_estatisticas.pdf.

14. Vieira SM. Introdução à bioestatística. 4. ed. Rio de Janeiro: Câmpus; 2008.

15. Freire Filho JR, Costa MV, Magnago C, Forster AC. Attitudes towards interprofessional collaboration of Primary Care teams participating in the 'More Doctors' (Mais Médicos) program. Rev. Latinoam. Enferm. 2018;26:3018. DOI: 10.1590/1518-8345.2731.3018.

16. Berduzco-Torres N, Choquenaira-Callañaupa B, Medina P, Chihuantito-Abal LA, Caballero S, Gallegos E, et al. Factors related to the differential development of inter-professional collaboration abilities in medicine and nursing students. Front. Psychol. 2020;11:432. DOI: 10.3389/fpsyg.2020.00432.

17. Vygotsky LS. Obras Escogidas II (Pensamento Y Lenguage). Moscú: Editorial Pedagógica; 1982.

18. Costa MV. A potência da educação interprofissional para o desenvolvimento de competências colaborativas no Trabalho em saúde. In: Toassi RFC (Org.). Interprofissionalidade e formação na saúde: onde estamos? Porto Alegre: Rede UNIDA; 2017 [citado em: 20 de jul. 2020] 14-27 p. Disponível em: http://historico.redeunida.org.br/editora/biblioteca-digital/serie-vivencias-em-educacao-na-saude/vol-06-interprofissionalidade-e-formacao-na-saude-pdf.

19. Damiani MF. Understanding collaborative work in education and revealling its benefits. Educ. Rev. 2008 [citado em: 20 de jul. 2020];31:213-30. Disponível em: https://www.scielo.br/pdf/er/n31/n31a13.pdf.

20. Tompsen NN, Meireles E, Peduzzi M, Toassi, RFC. Interprofessional education in undergraduation in dentistry: curricular experiences and student availability. Rev. Odontol. UNESP. 2018;47(5):309-20. DOI: 10.1590/1807-2577.08518.

21. Ministério da Saúde (BR), Secretaria de Gestão do Trabalho e da Educação na Saúde, Departamento de Gestão da Educação na Saúde. Relatório final da Oficina de alinhamento conceitual sobre Educação e Trabalho Interprofissional em Saúde. Brasília: Ministério da Saúde, 2017 [citado em: 20 de ago. 2020]. Disponível em: https://www.educacioninterprofesional.org/sites/default/files/fulltext/2018/pub_relatoria_eip_bra_2017_po.pdf.

22. Brasil. Conselho Nacional De Saúde (CNS). Resolução Nº 569/2017. Dispõe sobre os cursos da modalidade educação a distância na área da saúde. Diário Oficial da União. 2018 fev 19;(seção 1):85-90 [citado em: 15 de maio 2020]. Disponível

em:
https://conselho.saude.gov.br/resolucoes/2017/Reso569.pdf.

23. Silva MC, Peduzzi M, Sangaleti CT, Silva D, Agreli HF, West MA, et al. Cross-cultural adaptation and validation of the teamwork climate scale. Rev. Saúde Pública. 2016;50:52. DOI: 10.1590/S1518-8787.2016050006484.

24. Peduzzi M, Agreli HF. Teamwork and collaborative practice in Primary Health Care. Interface. 2018;22(Suppl 2):1525-34. DOI: 10.1590/1807-57622017.0827.

25. Batista REA, Peduzzi M. Collaborative interprofessional practice in emergency services: specific and shared functions of physiotherapists. Interface. 2018;22(Supl. 2):1685-95. DOI: 10.1590/1807-57622017.0755.

Responsible Editors:
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