REVISTA CEFAC
SPEECH, LANGUAGE, HEARING SCIENCES AND EDUCATION JOURNAL
Rev. CEFAC. 2021;23(3):e12320 https://doi.org/10.1590/1982-0216/202123312320

Original articles

Student perspective on public health training in speech-language-hearing undergraduate programs at public universities in Northeastern Brazil

Maurício Wiering Pinto Telles[1]
https://orcid.org/0000-0002-5568-6877

Letícia Jadsa Lemos Chaves[2]
https://orcid.org/0000-0001-5424-3188

Milyane Cardoso do Nascimento[2]
https://orcid.org/0000-0003-4574-2078

Maria Helena Dantas Abreu[2]
https://orcid.org/0000-0002-1581-9305

Luiz Roberto Augusto Noro[1]
https://orcid.org/0000-0001-8244-0154

[1] Universidade Federal do Rio Grande do Norte – UFRN, Centro de Ciências da Saúde, Programa de Pós-Graduação em Saúde Coletiva, Natal, Rio Grande do Norte, Brasil.

[2] Universidade Federal do Rio Grande do Norte – UFRN, Centro de Ciências da Saúde, Departamento de Fonoaudiologia, Natal, Rio Grande do Norte, Brasil.

Research support source: Programa de Bolsas de Iniciação Científica da Universidade Federal do Rio Grande do Norte - PIBIC/UFRN.

Conflict of interests: Nonexistent

Received on: October 26, 2020
Accepted on: January 29, 2021

Corresponding address:
Maurício Wiering Pinto Telles
Rua General Gustavo Cordeiro de Faria, S/N
CEP: 59012-570 – Petrópolis, Natal, Rio Grande do Norte, Brasil
E-mail: mauwiering@gmail.com

ABSTRACT

Purpose: to analyze the students' understanding of public health training in the speech-language-hearing programs at public universities in Northeastern Brazil.

Methods: a qualitative, multiple-case study that interviewed key informing students of seven universities in the Northeast to collect data. The analysis was based on the theme content analysis technique, having as theoretical reference the conception of curricula.

Results: three categories emerged from the analysis: public health training experiences, influence of the experiences at the Unified Health System (*Sistema Único de Saúde* - SUS) on the speech-language-hearing therapist's training, and potentials and limitations in public health training.

Conclusion: the public university students of Northeastern Brazil perceive public health training as a means to prepare them for their future inclusion and professional practice at SUS.

Keywords: Education, higher; Speech, Language and Hearing Science; Public Health

INTRODUCTION

Throughout history, health training has undergone many changes influenced by debates, disputes, and tensions that took place under various political and cultural circumstances.Internationally, the Flexner report of 1910, whichaimed to provide the means to transform the medical education in the United States and Canada, privileging scientific and institutionalized training, stands out as one of such examples[1], as well as preventive and community medicine, which mainly criticized the segmented and specialized medical practice, proposing instead the patient's overall health care[2].

In Brazil, strategies meant to draw health professionals training closer to the population's health needs appeared in the 1980s,with the Teaching-Care Integration Program created in 1981[3]. Other initiatives were also put into practice with the creation and implementation of the *Sistema **Único** de Saúde* (Unified Health System, SUS), aiming to change the health professionals' training. These initiatives include the UNI Project (standing for A New Initiative), the National Incentive Program for Curricular Changes in the Medicine Programs (PROMED), the National Curricular Guidelines for health undergraduate programs, the VER/SUS Project (Experiences and Internships in the Reality of the Unified Health System), the National Health Training Redirecting Program (Pró-Saúde), and the Health Practical Training Program (PET-Saúde)[3].

These programs and projects were developed in the Brazilian reality with some contribution from formulations of the Brazilian Health Reform movement (RSB), which since the late 1970s strived for social reforms, incorporating democratic principles in the field of health and changing professional practices in their training and work[4]. Converging with the RSB movement, public health arose as a field of knowledge focused on comprehending health and explaining its social determinants with practices that gave priority to health promotion and prevention, as well as the care of conditions and diseases with the attention turned to the collectivity[2].

Different university programs in the field of health, such as the speech-language-hearing (SLH) sciences, have implemented curricular change processes to redirect professional training, supported by the above mentioned projects and programs and by some of the bases of public health[4-7]. Specifically, the SLH professionals have historically worked only with rehabilitation issues in an outpatient/technicist approach, backed by the hegemonic medical model. The profession began in Brazilal ready associated with the need for rehabilitation of schoolchildren with communication disorders[8,9].

Since the last decade,SLH pathology has been trying to be more closely dedicated to the social, collective issues and the population's health needs – particularly since it was included in the Family Health Care Support Centers (NASF, its Portuguese acronym) – currently renamed to Extended Family Health and Basic Care Center (NASF-AB) – and in the Health Care Networks[10-12]. This inclusion made the SLH therapists realize the need to redirect their work in primary health care, based on the health promotion and public health paradigms. Nevertheless, such a broad, processual, and dynamic perception of health is not always seen in the SLH therapists' practices. This reveals the importance of including SLH therapy in the projects and programs that aimed to redirect professional training[10,13].

Nowadays, the studies on health training have been particularly pointing out the need to provide interprofessional education to overcome the scenario in which professionals graduate with a deficient logic in terms of teamwork. This is due to an excessively technical, hospital-centered focus, tothe detriment of primary care, with a lack of leadership to improve the health system and of skills to act according to the population's needs, besides other deficient issues[14-16]. This reality reveals that the SLH education is still predominantly based on traditional, professor-centered pedagogical practices (limiting innovative ones), with fragmented curricula[17].

Therefore, it is necessary to conduct studies to provide evidence of the actual condition of the undergraduate SLH programs, and thus provide references to aid the curricular change processes, guided by their inclusion in SUS and their learning the population's health needs, particularly with the contribution of public health. In this sense, this article aimed to analyze the students' understanding of thepublic health training they receive in the SLH programs at public higher education institutions (HEI) in Northeastern Brazil.

The relevance of analyzing the students' understanding of the training they receive is justified by their potential to influence the curriculum because of their close relationship with it – based on their intentions, experiences, and ideologies, acting as coauthors in the learning process[18]. Also, carrying out this study at the HEI of the Northeast – which still have an incipient inclusion of SLH therapists in SUS[19,20]– may help

identify potentials and limitations of the undergraduate SLH programs in training professionals whose profile is focused on the Brazilian public health system.

METHODS

This paper was approved by the Research Ethics Committee of the Onofre Lopes University Hospital of the *Universidade Federal do Rio Grande do Norte* (Federal University of Rio Grande do Norte), RN, Brazil, under evaluation report number 3.735.493, complying with the guidelines of Resolution 466/12 of the National Health Council. The participants, in their turn, signed the informed consent form.

This is qualitative, multiple-case research, approaching the public health training in the SLH programs at public HEIin Northeastern Brazil, which signed an agreement letter to participate in this study. Students of seven public HEI that offer SLH programs – out of the eight existing ones in the Region – participated in the research: *Universidade Federal do Rio Grande do Norte* (Federal University of Rio Grande do Norte, UFRN), *Universidade Federal da Paraíba* (Federal University of Paraíba, UFPB), *Universidade Federal de Permambuco* (Federal University of Pernambuco, UFPE), *Universidade Estadual de Ciências da Saúde de Alagoas* (Alagoas State University of the Health Sciences,UNCISAL), *Universidade Federal de Sergipe, campus São Cristóvão* (Federal University ofSergipe, campus of São Cristóvão, UFS – São Cristóvão), *Universidade Federal de Sergipe, campus Lagarto* (Federal University of Sergipe, campus of Lagarto, UFS- Lagarto), and *Universidade Federal da Bahia* (Federal University of Bahia, UFBA).

Data were collected inconversational interviews with key informing students, indicated by professors working with public health at the HEI where this study was conducted. To participate in the research, the students should meet at least three of the following criteria, of which the first one was necessary: having concluded at least 50% of the program, participating or having participated in student activism or another social movement, participating or having participated in research projects or public outreach programs in public health, participating or having participated in Structuring Teaching Cores (NDE, in Portuguese) or other commissions established to reformulate the curriculumand/or pedagogical project,having achieved a mean grade of seven (out of 10) in the curricular public health courses. These criteria were meant to identify the key informing students who were identified to some extent with public health and its training.

The interviews were developed with questions that stimulated the students to report their perception of public health training in the programs in which they were enrolled – including the potentials and flaws perceived, and their teaching-learning experiences in the context of SUS. Of the seven interviews, one was conducted in-person while six were conducted via Skype videocall. All the interview audios were recorded and transcribed, and their data were analyzed with Theme Content Analysis[21]. Hence, a detailed reading was first carried out on all that had been communicated to dive into the content. The exploration and interpretation of the material made it possible todevelop afterward three analysis categories: 1) Public health training experiences; 2) Influence of the experiences at SUS on the SLH therapist's training; 3) Potentials and limitations in public health training. Lastly, the material produced was organized into an analysis matrix, in which the data were organized according to the categories that emerged while exploring and interpreting the content.

Thetheoretical reference for data analysis was the understanding of curricular practices[18,22], based on the perception that the curriculum is a text under continuous development, with a relational and constructionist nature. Thus, the students are perceived as actors and authors of the curricula – i.e., people involved in their training process and capable of influencing the documentary conception of the curriculum and even surpass it[18,22].

RESULTS

The data analysis identified the perception of SLH students at the public HEI of the Northeast regarding the public health training in the programs in which they were enrolled. Based on the interviews, three analysis categories emerged,which will be individually presented in this section.

Public health training experiences

The interviewees reported that thepublic health contents that contributed to their SLH training are those that help the professionals work at SUS. Based on their programs'training experiences, the content they mentioned deals with interprofessional work, practices in the NASF-AB, the principles of SUS, the unique therapeutic project, and health education.

> Topics on interprofessionality, on health education, on how to build resources, how to prepare a waiting room [...]. Also, the unique therapeutic project, for example. These are things that add up and open [...] our minds a little as SLH professionals to allow other professions to also take part, and show them some of what we know. (I4)

> I think it's very important for the SLH therapist to know how the NASF is formed too. Especially because some SLH therapists get there and don't know what the practice is like at NASF. They often work in an outpatient perspective, and that's not what it is, it's not an outpatient center. (I7)

> When we speak of principlesat SUS, of social health determinants, this is what trains me both as SLH therapist and especially as a health professional. I believe, after all, that knowing the basics of our health system is the most important for us to have an idea of what our work will be like. Regardless of working in private or public services, we need to know everything to become a good professional, right? (I1)

When asked whether their program's SLH training prepares the professional to work at SUS, the interviewees answered positively. This understanding is based especially on the curricular courses that discuss public and collective health and the content developed in them, as previously mentioned. However, one HEI student said she did not believe the training she was receiving in her institution was focused on SUS, as the curricular courses were mostly concentrated on individual, fragmented clinic work.

> At the [HEI] I believe so. Because since the beginning of the program we have many things focused on public health. Since the first term we already have an idea of public health, see? (I5)

> No. The SLH curriculum at [HEI] is focused on clinical work, on work with individual clinics mostly favoring those who can pay for such individual attention; it's not aimed at training to work at SUS [...]. We don't receive training for interprofessional work, either; we don't know what it is, so it's very difficult for the students when they start an internship in public health because we don't have such knowledge, we don't have such practice, we don't know what to do. (I7)

Nonetheless, few of the interviewed students knew or had already heard of the National Curricular Guidelines (NCG) for the SLH undergraduate programs. This is the document that guides the development of the curricula and that, among other things, approaches the professional profile to work at SUS. Those who reported knowing it could not explain the main themes it approaches.

> Some parts [of the NCG] say [...] our education should be focused on offering support to the population. I understood it this way. It has to be a humanistic education mostly focused on giving support to the population. (I7)

> I don't remember if this is in the NCG, but I remember something like this, that the student's training must be focused on this, on working in public health services. (I1)

It was also perceived that the students participated little in the development and discussion of their program's curriculum.There is limited inclusion of students in the Structuring Teaching Core or joint board commissions to discuss the programs' pedagogical projects and curricula. Only two of the interviewees reported the participation of students in these settings.

> The Structuring Teaching Coreis formed with professors and two representative students. I used to participate because I'm from the students' representative council, so I participated in it. It was I and another classmate; we would go to the meetings and discuss at first, and get to know the curricula of other programs, and so on. (I1)

> About that [a setting to discuss the program's curriculum], no. We have a group that meets;there'seven a public health room in the department. But not to discuss that specifically. (I6)

It was identified, concerning practical experiences at SUS, that the students are introduced into thereality of health servicesin their required curricular internships. Only one HEI student – whose curriculum is focused on problem-based learning (PBL) – reported that they are introduced to SUS since the beginning of the program. It was further reported by the students that, despite not having practical experience before the internships, they made technical and observational visits to health services and institutions.

The interviewees pointed out that their experiences at SUS were mostly not limited to curricular courses and

public health internships. However, the practical experiences of the other courses are mainly concentrated around SUS-related teaching clinics or the university hospital. If the teaching clinics do not have the service related to a given program, they focus on most of the SUS practical activities concentrated around the public health curricular courses (especially primary care)and the courses on hospital SLH therapy, being inserted in the university hospitals.

> [...] The second one was public health at the schools and maternities.In the second cycle, we spent [...] the first semester at the schools, where we developed health promotion and prevention actions both for the students and the teachers [...]. At the maternity, we instructed the mothers, the binomial mother and baby in this case, regarding breastfeeding. So, every class, before approaching the issue, we gave the mother these instructions [...]. As for the third cycle, in which I am now, each class goes to the Family Health Centers. My class stays at a specific community health center, although on some occasions we visit some specialty centers [...]. (I3)

> So, since the first semester, we already go observe some services, as the [teaching clinic] for example, which is the SLH teaching clinic though it is part of SUS, so, it is SUS after all. So, we have [teaching clinic] ever since the first semester; we also visit it in the child health courses, the child SLH courses; we visit the maternities, where they conduct the infant hearing screening test [...]. I also visited the Canguru Unit, thehospital, the hospital ICU also [...]. (I1)

Influence of the experiences at SUS on the SLH therapist's training

The students identified different manners how the experiences they had at SUS are important to their training as SLH therapists. One of the points they highlighted is that these experiences are important to overcome the existing fragmentation in these professionals' training, as they are oftentimes inserted in the context of SLH clinic, which attends the subjects individually, focusing on SLH disorders. This perspective is relevant because it deals with what the students had reported about understanding (presented in the previous item), that the program trained professionals with a profile to work at SUS.

> That's because we have many experiences at SUS, we have a world in there, right? We see different types of people, we deal with various types of cases, we get in touch there with other professionals, we have a better experience when we are in such a setting. And like it or not, with time we get an experience that is at the same time intellectual, personal, and professional. We get much more at SUS than we would if we were at the SLH clinic, which like it or not is a setting where you're in a box with all its supervisors that are there to... you know, hold your hand. (I5)

> [...] As I said, the training is more focused on the outpatient service and so on. If we didn't have the public health practice, we would end up being only at the clinic, in that limited setting. (I2)

Another of the students' standpoint on the influence of their experiences at SUS on their training is that this is an opportunity to learn in practical terms what is discussed in the theoretical curricular courses. Such a practice, according to the students,broadens the look to the users' health, not limiting it to attending the pathology-related demands.

The interviewed students reported that the experiences at SUS can contribute to a change in SLH practice and, consequently,this professional's greater inclusion in the system. The reports even demonstrate that students saw new work perspectives due to their insertion in SUS and the relationship between the public health theoretical presuppositions and the practice at the health services.

> As I told you [...] getting experiences and learning the practical experience because there is no useattending the classroom and getting only theory, theory, theory. We end upforgetting. When we go practice, we learn it again, we learn new things, we put into practice what we had learned. (I5)

> [...] I began with a totally different view from what I have today, because, first thing, I didn't know SLH therapists could work in a health center, for example. I knew they could work at the hospital, but I didn't know about the health center, because I had never seen it in my experience. I didn't know about the NASF, about the many other things there are, and so I opened my eyes to that and saw that it is much broader than I had thought. So, everything we learned was important. (I6)

The interviewees who participated or are participating in public health outreach programs, suchas the PET-Health/Interprofessionality, highlighted that this learning setting was significant to the training. The main points listed by the students as relevant to their professional training were the opportunity to practice in various SUS services, the possibility of working in the perspective of interprofessionality, the opportunity to have greater contact with the Family Health Strategy teams and NASF-AB professionals, and understanding the importance of teamwork.

> I'm having an experience at PET-Interprofessionality, where I'm working in the context of practices at a university here, and we make home visits and care with the Multi-professional Health Residency team. Then we clearly see how the professional's sensitivity and [...] awareness as part of the team influence the health process. (I4)

> [...] In my case, the practical aspects of the research, of the outreach, were much richer than the internships. I don't mean that the required internships, the required contents weren't good; they were very good! But the outreach was much better to me. Because I saw things therethat go beyond the basic; things we see at NASF, Family Health Unit, Community Health Center. I had the opportunity of seeing the Psychosocial Care Center and many other things people often don't even think the SLH therapist could work with, or that the professional can develop, and that was very important to me. (I1)

Potentials and limitations in public health training

The main themes related to potentials in public health training at the public HEI in Northeastern Brazil were related to the public health curricular courses that are offered as part of the programs, as well as to the professors who work in this field. Regarding the curricular courses, the students' evaluation is that they prepare the future professional to work at SUS, as they experience different realities at the health services and can thus relate to what they learned in theory. Three students pointed out that public health is approached throughout the program, potentializing the SUS-focused training.

Entering the practical field was mentioned by the interviewees as a facilitator in the SLH therapist's training at SUS, besides the good relationship between the curricular items and health teams that work in this context. As reported by the students, the faculty usually seek health services with a potential for the SUS experience to provide significant learning.

> So, that's why I like the course a lot, and its curricular aspect, too, I like that. It's all very well approached;we have a lot of support from the beginning to the end of the program. I've never seen a health program so focused on public health as the public health courses we have here in the SLHprogram. (I5)

> [...] I believe that, especially in health applied to SLH, we managed to understand better how the SLH therapist will be useful in a health center. (I6)

> The part of the practices, I think they go to such places… They always set the practices to happen in places wherethey know we will learn a lot because the team there is already [...] very united and all, see? I guess that's what it is. (I2)

Concerning the professors who teach the public health curricular courses, the students reported that they are people who try to make learning easier, with the methodology they use and the knowledge about SUS they share. Although only one of the programs in the scope of this research did not have a traditionally structured curriculum, the students report that in the curricular courses, the professors use active methodologies to provide significant learning.

> The public health professors use many active methodologies in training [...] This makes the class much more interesting; the student gets more involved, and I believe they learn more because when the student does something, they learn more, making it less likely for them to forget. (I6)

> They also encourage us to always improve and seekto develop more the part related to SUS. For example, when we participate in outreach with either [professor] or [professor], as well as research, they encourage us to approach the scientific aspect, look up papers, make presentations. This is very good. Also, they always tell us that few SLH therapists areworking at SUS, sothey encourage us to be productive and enlargethe field where we can be included as SLH therapists in public health, in collective health. (I2)

Although the students identified the public health courses as a potential in training, the curricular structure

of the SLH programs was pointed out as fragile in various contexts. One of them was the course load, considered too intense by the interviewed students, which makes it more difficult to have significant learning. Such a course load, according to the reports, makes it more difficult to go in-depth in certain contents of the public health courses.

The need for creating new public health curricular courses was also pointed out by three of the interviewed students. According to them, some topics are not approached but they consider important to SLH training (such as public policies, epidemiology, health surveillance, and mental health); these should be approached, then, in new courses.

> We could study many things if we had more time and so understand them better, especially these issues of laws related to SUS and all, which sometimes get the students confused. We could even learn to like it better if we had more time. (I6)

> What I think is that the SLH curriculum, in general, is too heavy because we see too many things at the same time, and sometimes we can't focus to study more, to improve more, exactly because everything is too hasty. But concerning public health, I really think we are welcome, we are quickly included, right? It goes by quickly, right, because we have to follow the schedule, but I think we are welcome, we can approach many topics that way. (I5)

> I think it's not enough;I think there are many things to public health, there are many fields to work in, many fields of knowledge; and I think we learn way too little in just one semester of classes. (I7)

The non-integration between the public health curricular courses and the other SLH areas was also pointed out by students as a limiting factor in their training. According to them, the lack of such integration leads to fragmented SLH knowledge. Also, their work at SUS becomes more fragile. For these students, understanding the SLH practice beyond the rehabilitation of disorders must be better approached in their training, which could be made easier if the contents were integrated.

> We learn about a disease and how to rehabilitate it; what about the other issues? How are we working with them? I miss that; I think if the teaching were improved regarding these issues, our learning would be much more dynamic in terms of SUS,of how we're working at SUS. (I7)

> I think I would better integrate public health with the other SLH areas, which is an issue that bothers me a lot. It seems likethey're separated but for me, they're not separated, so this bothers me a lot. I think that, if they were integrated from the beginning, it would be a very important thing. (I1)

> I think that's something to be changed; that would be to includemore of public health in the specific courses. Because when we see public health, we think of a group, a group of older adults, a group of children, and that's not what it is [...] So, I think the look of these SLH professionals, they're not SLH professionals, they're voice specialists, they're specialists in motor functions, they're audiologists. They're not SLH therapists, they're audiologists. So, these people and these professionals need to update and try to include some more SLH in their professional practice. (I4)

DISCUSSION

Following the same logic of the results, the discussion is presented based on the categories identified in the data analysis. Moreover, theoretical grounds and publication references found in the literature are provided here,enabling us to analyze the public health training status in the SLH undergraduate programs, from the students' standpoint.

Public health training experiences

Based on the understanding that training involves the transformation of everyday happenings and knowledge of the social being into significant experiences[23], it must be highlighted that "emphasizing and mobilizing the training experience means recognizing in any context of human activity that these activities are already dynamized in a continuous and intense process of understanding the world"[23](p. 165).

Hence the training experience being approached here is in the context of both the vivid and individual experience and the so-called social-historic experience, or the significance experience[24]. Furthermore, the experience is not the knowledge itself, as it is the relationship between the subject and their knowledge; also, the knowledge is not extracted from the subject, but form their relationship with the outside[24]. Therefore,

thepublic health training experience expounded in this analysis is the implication, the relationship, the knowledge built from the students' experience – who is a participant capable of influencing the curriculum[18,22]in terms of the practices, paths, trajectories, teaching-learning processes in public health during their training.

The data analysis revealed that the students understand as relevant to their public health training learning work tools and organization that will give them support when working in health care in the future. These include unique therapeutic projects, health education, NASF-AB, and so forth. In other words, the students'knowledge transformed into significant experience permeates the content learned, instrumentalizing the SLH practice at SUS. Thus, the understanding of public health is narrowed to professional practices in the context of institutional public health. However, this is in truth one field of knowledge aimed at understanding health and explaining its social determinants, as well as the context of practices that give priority to health promotion, prevention, and the care of conditions and diseases,with the attention turned to the collectivity[2]. Nevertheless, this look to public health converges with the current dilemmas faced by this field – which has been increasingly drifting apart from the ideals of the Brazilian Health Reform and drawing nearer a hegemonic public health restoration[25].

Despite this, recognizing contents that value the SLH therapist's inclusion and practice at SUS is relevant in the perspective of drawing the students' training nearer the reality of the population and the health systems, as advocated by the National Curricular Guidelines for the SLH undergraduate programs[26]. Training that prepares the professional to work at SUS proves to be a possibility to qualify them in health care and administration. Moreover, it brings about new attitudes in its employees, administrators, and users, overcoming problems and challenges related to everyday work[27].

Likewise, the training aimed at working at SUS must be guided by integrative curricula that use active methodologies.SLH teaching in Brazil is still predominantly grounded on traditional, professor-centered pedagogical practices, with fragmented curricular, whichlimits the use of innovative practices[17]. In spite of such a scenario, some SLH programs have been advancing in the curricular reformulations based on the population's health needs, with contributions of the inducing policies[17]. However, the challenges of training aimed at working at SUS are still present in some institutions, as one of the interviewees highlights the fragmented look to health and practices in the public system.

The students' unawareness of the National Curricular Guidelines and their low participation in curricular reformation processes reveal the importance of rethinking the pedagogical models. In this case, the students should be central in the process of building their own knowledge, also providing the means to mediate their learning[28]. Moreover, it reinforces the understanding that SLH students, as sociopolitical subjects, must take on issues that are of their interest (such as public health and education)in an organized and collective manner[29].

Influence of the experiences at SUS on the SLH therapist's training

In a study conducted in 2010, authors[30]pointed out that SLH pathology had incipient training at SUS, needing to transcend this scenario to overcome the practices focused on the therapeutic-rehabilitating clinic, centered on the specialized SLH therapist, based on a biomedical conception of health care. To this end, the teaching-service-community integration has been a powerful strategy to favor a new meaning in SLH training, envisaging a teaching-learning process that is closer to the population's health needsand is coordinated with health attention networks. This goes beyond the clinical practice and encompasses health promotion andprevention actions against impairmentsand conditions[4,13,31,32]. However, it is further noticed in the SLH curricula using traditional methodologies that this strategy is often restricted to public health curricular courses. A study found a similar situation in Nutrition programs that use the same methodological approach in their curricula, as the effort to include students in the health services beyond the university hospitals tends to be under the responsibility only of the professors in the field of public health nutrition[33].

In the results, it was highlighted that the students understand that the experiences at SUS contribute to changes in the SLH practice and its greater inclusion in the system. This perspective corroborates a study that points out that one of the reasons for the little inclusion and participation of SLH therapists in primary health care, particularly in the Family Health Strategy, is precisely the deficiency in this professional's training, still little structured for the reality at SUS[34]. This scenario points to the emergency of redirecting the SLH training so they can integrate the public health care serviceswith the knowledge necessary for them to work.

One of the inducing strategies to stimulate redirected training is PET-Health, seen by the interviewed students as a privileged learning setting in the context of SUS. Different studies discuss how this program in its various editions have helped develop interdisciplinary practices and drawn them nearer the population's health needs[13,35,36]. Recently, the Brazilian Speech-Language and Hearing Society issued an e-book dedicated to reported experiences in this strategy and in theNational Health Training Redirecting Program (Pró-Saúde) in the SLH undergraduate programs[37]. Nonetheless, there is still the challenge of including this program's guidelines into the universities' pedagogical projects and curricula, especially due to the biomedical hegemony in the health care training and model.

Potentials and limitations in public health training

As shown in the results, the students see their inclusionat SUS as potential in public health training. The students' recognition of the relevance of being included in this context reinforces the need for them to be given the opportunity of training experiences in that setting, relating such experiences to their knowledge, and thus developing it further. The training can be seen as a transformative process of the everyday happenings (which usually take place as personal and collective projects) into a significant experience[23]. Also, the training experiences at SUS prepares the student to work for the needs of the populationand the health system, as advocated by the National Curricular Guidelines for the SLH undergraduate programs[26].

Another potential according to the students is related to the SLH professors who work with public health. The professors, as well as the students, can influence the curricula. They have theirinterests, ideologies, and experiences and are responsible for conducting or changing the curricula and the training trajectory[18,22]. Hence, as reported by the students, they are directly related to the training. In the case of this study,it was identified from the students' standpoint that the public health professors in the SLH undergraduate programstake on the position of pedagogical mediators, favoring a humanizing and transformative education[38].

As for the fragilities presented, the student identified the fragmented SLH curricula, which overloads them with studies and projects, besides not integrating the knowledge they acquire. In a dialectical approach, authorsdiscuss whether the capitalist ideology strengthened by thespreading of neoliberalism in Brazil lead the curricula of the health undergraduate programs to give priority to biomedical courses,to the detriment of a social and humane training[39]. Such biomedical influence stimulates an alienating process of technification and super-specialization in higher education, with little or no interdisciplinary or interprofessional learning – although in the work setting this is required from the health professionals, especially from those who come to work at SUS[39].

To overcome the dissociation between theory, practice, and social context, medical schools have been trying to direct their curricula in an integrated perspective, achieving important results in the context of both modular and spiral curricular organization,integrative pedagogical actions, comprehensive human health care, student's inclusion in the community, and inseparable theory, practice, and social reality[40]. Hence, based on this study's findings related to SLH sciences, rethinking the logic of didactical-pedagogical organization and of the curriculum – i.e., the device that presents the knowledge chosen for training[18] –, integrating the contents, and learning to learn are greatly relevant to furnish a training closer to the population'shealth needs, in the context of SUS, overcoming the current fragmented logic.

Regarding the contribution to research on public health training in SLH undergraduate programs, it can be stated that this study explored qualitative data that aids the analysis of training experiencesof students who partake in public health curricula, as well as the identification of potentials and frailties in their teaching-learning process. As for limitations of the study, the perceptionswere extracted in interviews with key informing students,one per HEI, which makes it impossible to generalize. Thus, it is important to conduct new studies with other methodological approaches, encompassing a larger number of subjects and involving each HEI's particularities, not only of those in the Northeast but also all over Brazil, both public and private.

CONCLUSION

The analysis of the public health training experiences of SLH undergraduate students of public HEI of Northeastern Brazil contributed to understanding the main aspects involving their relationship with knowledge and the outside realityin their learning process. Hence, it was identified that the students understand public health in SLH training as a learning setting regarding tools and practices necessary to work as SLH therapists at SUS. It can be said, then,

that the students perceive public health in their training as a means to prepare them for their future inclusion and professional practice in the Brazilian public health system.

ACKNOWLEDGMENTS

Gratitude is extended to the *Universidade Federal do Rio Grande do Norte* for the scholarship granted through the PIBIC-UFRN for research.

REFERENCES

1. Almeida-FIlho N. Reconhecer Flexner: inquérito sobre produção de mitos na educação médica no Brasil contemporâneo. Cad. Saúde Pública. 2010;26(12):2234-49.
2. Vieira-da-Silva LM, Paim JS, Schraiber LB. O que é Saúde Coletiva. In: Paim JS, Ameida-Filho N, editors. Saúde Coletiva: Teoria e Prática. Rio de Janeiro: Medbook; 2014. p. 3-12.
3. Dias HS, Lima LD, Teixeira M. A trajetória da política nacional de reorientação da formação profissional em saúde no SUS. Ciênc. saúde coletiva. 2013;18(6):1613-24.
4. Attianezi M, Nunes JA, Guimarães M, Dadalto E, Albuquerque G, Azevedo EHM et al. Fonoaudiologia da Universidade Federal do Espírito Santo (UFES): transição pelo PET. In: Trenche CB, Padovani M, Anhoque CF, Garcia VL, editors. Políticas indutoras: formação profissional em fonoaudiologia. 1ª ed. São José dos Campos: Pulso Editorial, 2020. p. 69-79. E-book.
5. Reis RA, Brasil BC, França MP, Dall'ágo MB, Souza KA, Silva AS et al. A inserção do Curso de Fonoaudiologia no PRÓ/PET-Saúde e Residências da Universidade Federal do Rio Grande do Sul – UFRGS: Trajetórias e Perspectivas. In: Trenche CB, Padovani M, Anhoque CF, Garcia VL, editors. Políticas indutoras: formação profissional em fonoaudiologia. 1ª ed. São José dos Campos: Pulso Editorial, 2020. p. 172-91. E-book.
6. Azevedo AB, Pezzato LM, Mendes R. Formação interdisciplinar em saúde e práticas coletivas. Saúde debate. 2017;41(113):647-57.
7. Gauer APM, Ferreti F, Teo CRPA, Ferraz L, Soares MCF. Ações de reorientação da formação profissional em Fisioterapia: enfoque sobre cenários de prática. Interface (Botucatu). 2017;22(65):565-76.
8. Paiva CHA, Teixeira LA. Health reform and the creation of the Sistema Único de Saúde: notes on contexts and authors. Hist. cienc. saude-Manguinhos. 2014;21(1):15-36.
9. Bacha SMC, Osório AMN. Fonoaudiologia e educação: uma revisão da prática histórica. Rev. CEFAC. 2004;6(2):215-21.
10. Lima TFP, Acioli RM. A inserção da Fonoaudiologia na Atenção Primária do Sistema Único de Saúde. In: Silva VL, Lima MLLT, Lima TFP, Advíncula KP, editors. A prática fonoaudiológica na Atenção Primária à Saúde. São José dos Campos: Pulso Editorial; 2013. p. 25-42.
11. Lemos SMA, Januário GC, Paiva-Vianna KM. Redes de Atenção à Saúde e Fonoaudiologia. In: Marchesan IQ, Silva HJ, Tomé MC, editors. Tratado das Especialidades em Fonoaudiologia. 1ª ed. Rio de Janeiro: Roca, 2014. p. 710-7.
12. Moreira MD, Mota HB. Os caminhos da fonoaudiologia no Sistema Único de Saúde -SUS. Rev. CEFAC. 2009;11(3):516-21.
13. Telles MWP, Arce VAR. Training and PET-Saúde: Speech, Hearing and Language Students' experiences in Bahia. Rev. CEFAC. 2015;17(3):695-706.
14. Frenk J, Chen L, Bhutta ZA, Cohen J, Crisp N, Evans T et al. Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. Lancet. 2010;376(9756):1923-58.
15. Inzuza LM, Montenegro VR, Reyes JR, Contreras MB, Valenzuela CA, González VM. Formation in Interprofessional Education in Nursing and Medical Students Globally. Scoping review. Invest. educ. enferm. 2020;38(2):e6.
16. Miguel EA, Albiero ALM, Alves RN, Bicudo AM. Trajetória e implementação de disciplina interprofissional para cursos da área da Saúde. Interface (Botucatu). 2018;22(Supl.2):1763-76.
17. Garcia VL. A formação profissional em Fonoaudiologia: necessidades de mudanças e políticas indutoras. In: Trenche CB, Padovani M, Anhoque CF, Garcia VL, editors. Políticas indutoras: formação profissional em fonoaudiologia. 1ª ed. São José dos Campos: Pulso Editorial, 2020. p.232-5. E-book.
18. Macedo RS. Atos de currículos: uma incessante atividade etnometódica e fonte de análise de práticas curriculares. Rev. Currículo sem Front. 2013;13(3):427-35.

19. Viégas LHT, Meira TC, Santos BS, Mise YF, Arce VAR, Ferrite S. Speech, Language and Hearing services in Primary Health Care in Brazil: an analysis of provision and an estimate of shortage, 2005-2015. Rev. CEFAC. 2018;20(3):353-62.
20. Santos JAP, Arce VAR, Magno LD, Ferrite S. Provision of Speech, Language and Hearing services in the public municipal healthcare network in the state capitals of Northeast Brazil. Audiol. Commun. Res. 2017;22:e1665.
21. Minayo MCS. O desafio do conhecimento: pesquisa qualitativa em saúde. 14ª ed. São Paulo: Hucitec; 2014.
22. Macedo RS. Atos de currículo e formação: o príncipe evocado. Rev. Teias. 2012;13(27):67-74.
23. Macedo RS. Compreender/mediar a formação: o fundante da educação. 1ª ed. Brasília: Pulso Editorial; 2010.
24. Honoré B. Para uma teoria de la formación. 1ª ed. Madrid: Narcea, S.A. de Ediciones; 1980.
25. Paim JS. A reforma sanitária brasileira e a saúde coletiva: concepções, posições e tomadas de posição de intelectuais fundadores. In: Vieira-da-Silva LM, editor. O campo da Saúde Coletiva: gênese, transformações e articulações com a Reforma Sanitária Brasileira. 1ª ed. Salvador: EDUFBA; Rio de Janeiro: Fiocruz; 2018. p. 191-221.
26. Ministério da Educação. Conselho Nacional de Educação. Resolução CNE/CES 5, de 19 de fevereiro de 2002. Institui Diretrizes Curriculares Nacionais do Curso de Graduação em Fonoaudiologia [Homepage on the Internet]. Diário Oficial da União. 4 mar 2002 [accessed on 2020 Set 26]; Seção 1:12. Available at: http://portal.mec.gov.br/cne/arquivos/pdf/CES052002.pdf
27. Passos E, Carvalho YM. The formation for SUS, opening new trails for the production of the common. Saude soc. 2015;24(1):92-101.
28. Souza C, Iglesias A, Pazin-Filho A. Estratégias inovadoras para métodos de ensino tradicionais – aspectos gerais. Medicina. 2014;47(3):284-92.
29. Lucena NBF, Correia RBF, Telles MWP. Percepção da DENEFONO sobre os impactos da conjuntura política brasileira (2016-2019) no SUS. Rev. Bra. Edu. Saúde. 2020;10(3):35-41.
30. Lemos M, Bazzo LMF. Formação do fonoaudiólogo no município de Salvador e consolidação do SUS. Ciênc saúde coletiva. 2010;15(5):2563-8.
31. Silveira JLGC, Kremer MM, Silveira MEUC, Schneider ACTC. Percepções da integração ensino-serviço-comunidade: contribuições para a formação e o cuidado integral em saúde. Interface (Botucatu). 2020;24:e190499.
32. Mendes TMC, Ferreira TLS, Carvalho YM, Silva LG, Souza CMCL, Andrade FB. Contributions and challenges of teaching-service-community integration. Texto contexto - enferm. 2020;29:e20180333.
33. Recine E, Sugai A, Monteiro RA, Rizzolo A, Fagundes A. Saúde coletiva nos cursos de Nutrição: análise de projetos político-pedagógicos e planos de ensino. Rev. Nutr. 2014;27(6):747-60.
34. Zanin LE, Albuquerque IMN, Melo DH. Speech, language and hearing sciences and the Family Health Strategy: the state of the art. Rev. CEFAC. 2015;17(5):1674-88.
35. Furlanetto DLC, Lima AA, Silva Junior JW, Bastos MM, Pinho DLM. Avaliação dos estudantes do Pró-PET-Saúde sobre as contribuições do Programa Pró-Saúde nos cursos de saúde Campus Darcy Ribeiro – Universidade de Brasília. Tempus, actas de saúde colet. 2015;9(1):11-24.
36. Fonseca GS, Junqueira SR, Zilbovicius C, Araujo ME. Education through work: reshaping the education of health professionals. Interface. 2014;18(50):571-83.
37. Trenche CB, Padovani M, Anhoque CF, Garcia VL. Políticas indutoras: formação profissional em fonoaudiologia. 1ª ed. São José dos Campos: Pulso Editorial, 2020. E-book.
38. Alzate-Ortiz FA, Castaneda-Patino JC. Mediación pedagógica: clave de una educación humanizante y transformadora. Una mirada desde la estética y la comunicación. Educare. 2020;24(1):411-24.
39. Figueiredo GO, Orrillo YAD. Currículo, política e ideologia: estudos críticos na educação superior em saúde. Trab. educ. saúde. 2020;18(1):e0024880.
40. Heinzle MRS, Bagnato MHS. Recontextualização do currículo integrado na formação médica. Pro-Posições. 2015;26(3):225-38.