Original Article

https://doi.org/10.1590/2317-6431-2020-2405

Audiology Communication Research
ISSN 2317-6431

An analysis of asynchronous hearing health teleconsulting at the Rio Grande do Norte Telehealth Center

Uma análise das teleconsultorias assíncronas em saúde auditiva do Núcleo de Telessaúde do Rio Grande do Norte

Victor Vasconcelos Barros[1,2], *Aryelly Dayane da Silva Nunes*[1,3], *Kaio Ramon de Aguiar Lima*[1], *Josiane Araújo da Cunha*[1,4], *Antônio Higor Freire de Morais*[1,5], *Ricardo Alexsandro de Medeiros Valentim*[1,6], *Sheila Andreoli Balen*[1,2,7]

ABSTRACT

Objective: To identify the profile of asynchronous hearing health teleconsulting at the Scientific-Technical Center for Telehealth in Rio Grande do Norte (RN). **Methods:** This study is retrospective and descriptive. Teleconsulting records from January 2015 to December 2019 on the telehealth platform of the Telehealth Center of RN were analyzed. The teleconsultations were filtered and categorized by two speech-language therapists regarding the applicant's state of origin, gender and profession, theme and objective of the question. **Results:** Among the teleconsultations carried out in the period, the ones regarding the hearing health area were included in this study. In decreasing order of frequency, the requesting professionals were: community health agents, speech-language therapists, endemic disease control agents, doctors, nurses, public health agents, nursing technicians and assistants and others. As for the objectives of teleconsulting, from higher to lower frequency, were identified questions about: conduct, evaluation, treatment, relations among factors, etiologies, prevention, symptoms, implementation, access to the health system and others. Concerning the themes, in descending order, were observed questions about hearing loss, hearing aid devices, tinnitus, otitis, school health program, otoacoustic emissions, otalgia, labyrinthitis and tympanic perforation. **Conclusion:** Asynchronous teleconsulting on hearing health was more frequent on female applicants, community health agents and speech-language therapists, concerning the theme of hearing loss and hearing aid devices, to make decisions for conducts and evaluation in the health area hearing.

Keywords: audiology; hearing; telemedicine; remote consultation; primary health care

RESUMO

Purpose: identificar o perfil das teleconsultorias assíncronas na área da saúde auditiva do Núcleo Técnico Científico de Telessaúde do Rio Grande do Norte (RN). **Métodos:** este estudo é retrospectivo e descritivo. Foram analisados os registros das teleconsultorias de janeiro de 2015 a dezembro de 2019 na plataforma de teleconsultoria do Núcleo de Telessaúde do RN. As teleconsultorias foram filtradas e categorizadas por dois fonoaudiólogos quanto a estado de origem, gênero e profissão do solicitante, tema e objetivo da questão. **Resultados:** entre as teleconsultorias realizadas no período, foram incluídas, neste estudo, as teleconsultorias na área da saúde auditiva. Em ordem decrescente de frequência, os profissionais solicitantes foram: agentes comunitários de saúde, fonoaudiólogos, agentes de combate a endemias, médicos, enfermeiros, agentes de saúde pública, técnicos e auxiliares de enfermagem e outros. Quanto aos objetivos das teleconsultorias, de maior a menor frequência, foram constatadas perguntas sobre condutas, avaliação, tratamento, relações entre fatores, etiologias, prevenção, sintomas, implantação, acesso ao sistema de saúde e outras. Em relação às temáticas, em ordem descendente, foram observadas perguntas sobre hipoacusia, dispositivos auxiliares de audição, zumbido, otite, programa saúde na escola, emissões otoacústicas, otalgia, labirintite e perfuração timpânica. **Conclusão:** as teleconsultorias assíncronas sobre saúde auditiva tiveram maior frequência por solicitantes do gênero feminino, agentes comunitários de saúde e fonoaudiólogos, sobre a temática da hipoacusia e de dispositivos auxiliares de audição, com objetivo de tomada de decisões para condutas e avaliação na área da saúde auditiva.

Descritores: audiologia; audição; telemedicina; teleconsultoria; atenção primária de saúde

Study carried out at Universidade Federal do Rio Grande do Norte – UFRN – Natal (RN), Brasil.
[1]Laboratório de Inovação Tecnológica em Saúde – LAIS, Universidade Federal do Rio Grande do Norte – UFRN – Natal (RN), Brasil.
[2]Programa Associado de Pós-graduação em Fonoaudiologia, Universidade Federal do Rio Grande do Norte – UFRN – Natal (RN), Brasil.
[3]Programa de Pós-graduação em Saúde Coletiva, Universidade Federal do Rio Grande do Norte – UFRN – Natal (RN), Brasil.
[4]Secretaria de Saúde Pública do Estado do Rio Grande do Norte – SESAP – Natal (RN), Brasil.
[5]Instituto Federal do Rio Grande do Norte – IFRN – Mossoró (RN), Brasil.
[6]Departamento de Engenharia Biomédica, Universidade Federal do Rio Grande do Norte – UFRN – Natal (RN), Brasil.
[7]Departamento de Fonoaudiologia, Universidade Federal do Rio Grande do Norte – UFRN – Natal (RN), Brasil.
Conflict of interests: No.
Authors' contribution: ADSN, KRAL and SAB were responsible for the study design. VVB, KRAL and SAB were responsible for data collection and analysis. Everyone contributed to the writing of the manuscript. VVB, JAC, AHFM, RAMV and SAB were responsible for revising the final draft of the manuscript.
Funding: Fundação Norte Rio Grandense de Pesquisa e Cultura (FUNPEC). process no. 54/2015.
Corresponding author: Sheila Andreoli Balen. E-mail: sheila@sheilabalen.com.br
Received: August 21, 2020; **Accepted:** November 30, 2020

INTRODUCTION

The Brazilian Unified Health Service (UHS) covers about 211 million inhabitants. Of these, 3.5 million in the state of Rio Grande do Norte and 4 million in the state of Paraíba[1].

Brazil is one of the few countries that provides a public health service, being accessible to the entire population, native or not, offering everything from basic health care, such as blood pressure assessment, to highly complex services, such as surgical procedures [2]. However, there is the demand greater than the capacity to offer services[3] and the need for regulators to manage this demand for services, mainly of low and medium complexity[4].

Given the difficulties in accessing health services and promoting permanent education for health professionals, the Ministry of Health established the Telehealth Brazil Program[5]. The program was created due to the possibility of strengthening and improving the quality of primary health care in the Unified Health System - UHS, through Information and Communication Technologies (ICT), facilitating the interaction between primary care professionals and specialized care professionals. The aim was also to reduce unnecessary referrals, streamline customer service and, thus, obtain better cost-effectiveness. In 2011, the program was renamed National Telehealth Program Brazil Networks, which was expanded and includes teleconsulting, telediagnosis, teleregulation, telemonitoring and tele-education actions[6].

The asynchronous teleconsulting service that started to be made available by the Telehealth Program Brazil Networks also involved Speech-Language Therapy. Currently, there are 26 Telehealth centers in 23 states linked to the program and, among these, there are reports of the inclusion of speech-language therapists in six centers: Maranhão (MA), Minas Gerais (MG), Mato Grosso do Sul (MS), Rio Grande do Norte (RN), Rio Grande do Sul (RS) and Santa Catarina (SC)[7].

The Scientific-Technical Center for Telehealth in Rio Grande do Norte has been in operation since 2011[8], with the inclusion of professors from the University of Rio Grande do Norte, speech-language therapists, as of 2015, through asynchronous teleconsulting in the areas of hearing health and auditory rehabilitation. From 2018, the program started to have a scholarship holder, speech-language therapist, master's student, for 20 hours in teleconsulting activities in the area of hearing health and in the development of educational content offered through web lectures, accessible both within the teleconsulting platform and through the YouTube channel of the Telehealth Center in Rio Grande do Norte.

The different centers in the country, in general, receive resources from the Telehealth Program, for training the use of the platform with primary care professionals. Asynchronous teleconsulting consists of the performing of a question by a health professional, electronically sent to a teleconsultant, which can deal with handling, referrals, service implementation policies, clinical conduct and procedures, health actions and issues related to the process of working in primary care. There are professionals from different training areas registered on the platform, who can be teleregulators or teleconsultants.

The teleregulator is a professional with a university degree, with experience in primary care, who analyzes and classifies the questions sent by professionals from remote municipalities. The teleconsultant is a health professional, also of higher education level, who responds to the queries of the requesters based on scientific evidence appropriate to the locoregional characteristics and with educational character, within 72 hours after receiving them. This service contributes to avoid or indicate referrals within UHS Health Care Networks[9].

From teleconsulting, it is possible to analyze frequent demands to assist in the continuing education of primary health care professionals and facilitate their search in reliable sources, with clear answers based on scientific evidence. One of the main objectives of teleconsulting is to contribute to a reduction in the number of referrals to other care levels, an aspect that was identified in a study that evaluated the impact of the Telehealth Program Brazil Networks in the state of Rio Grande do Norte[10]. In the same study, it was shown that the program was well evaluated by health professionals, and at the time of the study, the program had a coverage of 72% of the municipalities in Rio Grande do Norte. It has contributed to permanent health education and verification of challenges yet to be overcome, such as the digital inclusion of many professionals and the lack of structure of basic health units, concerning connectivity and physical structure[10,11].

Telehealth contributes to lowering general barriers, often created by distance, poor travel infrastructure, bad weather and uneven distribution of health care providers in urban and rural contexts, or even in regions of the world[12]. Teleconsulting is aimed at health professionals, especially those in primary care, at medium and higher levels, so that they can have support from experienced professionals in different topics for work processes, which effectively contributes to the education of health professionals, strengthening ties and reducing distances[13].

Given the above, the objective of this study was to identify the profile of asynchronous teleconsulting in the area of hearing health at the Scientific-Technical Center for Telehealth in Rio Grande do Norte.

METHODS

This is a primary, retrospective and descriptive study. The database of the Telehealth platform (http://telessaude.ufrn.br/) was used, based on the filter available on the platform itself, and the teleconsultations carried out from January 1, 2015, to December 31, 2019, were identified. Teleconsultations registered in the hearing health area by requesters were included and so the ones that were within this theme.

In the data analysis, the following information from the teleconsultations was extracted: the place of origin, training of professionals, topics covered and objective of teleconsulting. As for the locations, the origin of teleconsultations by cities in Rio Grande do Norte and Paraíba was observed. About professionals, they were categorized into: higher education (doctors, speech-language therapists, physiotherapists, nutritionists, dental surgeons, nurses, social workers, psychologists, administrative supervisors and health visitors); medium level (community health agents, nursing technicians, social action agents, agents to combat endemic diseases, public health agents, nursing assistants, oral health assistants and social workers); basic level (community health workers and public health workers).

The analysis of the topics and objectives of teleconsulting was carried out by two speech-language therapists, independently. Each speech-language therapist categorized the themes and objectives broadly and freely, based on the questions formulated

by the professionals. In cases of divergence, they obtained assistance from a third party for a tiebreaker, to define the categories of teleconsulting themes and objectives.

From the obtained information, a descriptive analysis of the absolute and relative frequency of each theme and objectives of the teleconsultations was carried out.

RESULTS

The database of the Scientific-Technical Center for Telehealth in Rio Grande do Norte platform had 16,272 asynchronous teleconsultations, received from January 1, 2015, to December 31, 2019, of which 2,422 were returned, in cases of incomplete or inadequate inquiries and 13,850 answered and completed. Using the filter in the database hearing health area, 267 teleconsultations were identified, of which 62 were returned by the teleregulator, due to the absence of information or queries, remaining 205 teleconsultations. Of these, 42 were excluded because, although they were registered in the area of hearing health, they were not related to this theme. Thus, the sample of this study consisted of 163 asynchronous teleconsultations, representing 1% of the teleconsultations carried out in this nucleus.

The data obtained highlighted that the majority (72.39%, n=118) of the teleconsultations included were carried out by the state of Rio Grande do Norte, while 24.53% (n=40) originated in Paraíba. There were five teleconsultations of unregistered origins.

Regarding the gender of the professionals, 51.53% (n=84) were women. The analysis of the profile of professionals who started teleconsulting revealed a higher frequency of participation by community health agents (36.8% n=60), as well as speech-language therapists (15.95% n=26) and agents to combat endemic diseases (7.97% n=13) (Figure 1).

When analyzing the educational levels of the requesting teleconsultants, the majority (52.76%) had completed high school, followed by complete higher education (41.10%) and, to a lesser extent, users with basic education (3.68%), and 2.45% of the teleconsultants did not describe their education.

After consensus among the researchers, the following themes were considered: auxiliary hearing devices, otoacoustic emissions, labyrinthitis, otalgia, otitis media, hearing loss, perforation of the tympanic membrane, School Health Program, tinnitus and others. The most frequent theme was hearing loss (45.40% n=74), followed by auxiliary hearing devices (individual sound amplification device - ISAD and cochlear implant - CI) (12.88% n=21) and tinnitus (9.2% n=15) (Figure 2).

Regarding the objectives, the following were characterized: access to health services, hearing assessment, conduct, etiology, additional information, implementation of health services, prevention, relationships between factors, symptoms and treatment. The most frequent was about conduct (31.28% n=51), followed by evaluation (11.04% n=18) and etiology (9.2% n=15) (Figure 3).

DISCUSSION

The analysis of the data showed that Rio Grande do Norte was contemplated with a greater number of teleconsultations carried out in the area of hearing health, when compared to the state of Paraíba, which may be related to the higher frequency of training in the municipalities of Rio Grande do Norte, in the period. When checking the records of the Telehealth Program during the period from 2015 to 2019, it was found that 68 training exercises were carried out in municipalities of Rio Grande do Norte and 28 in municipalities of Paraíba. This aspect may be relevant to be pointed out, as it demonstrates the need for prior training so that primary care professionals start using the system to forward their questions via the Rio Grande do Norte teleconsulting platform. It is through these training exercises that many professionals become aware of the existence of this service[14].

The relationship of greater female participation also came close to the profile of a previous study on teleconsulting[15], associating the fact that the female gender is the most frequent among health professionals, with Speech-Language Therapy being one of the professions composed, approximately, by 90% of women[16].

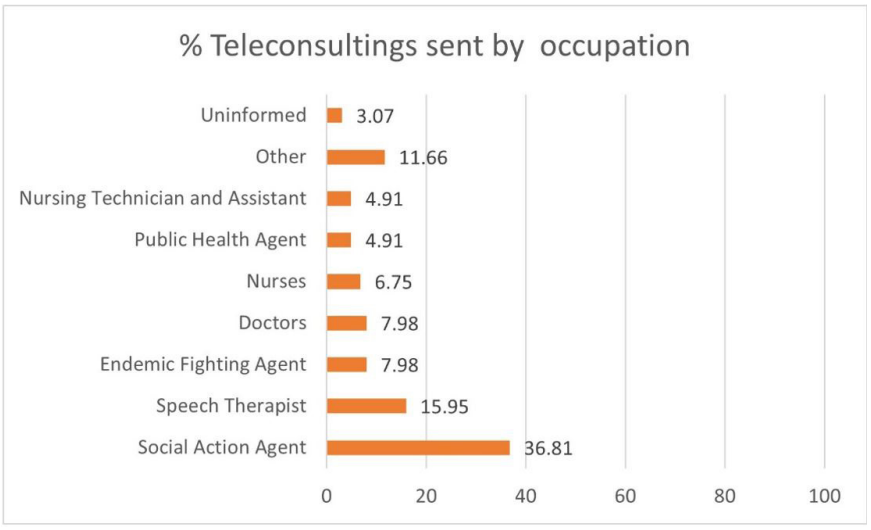

Figure 1. Professionals requesting hearing health teleconsulting at the Telehealth Center in Rio Grande do Norte (2015-2019)
Caption: %=percentage; NI=not informed

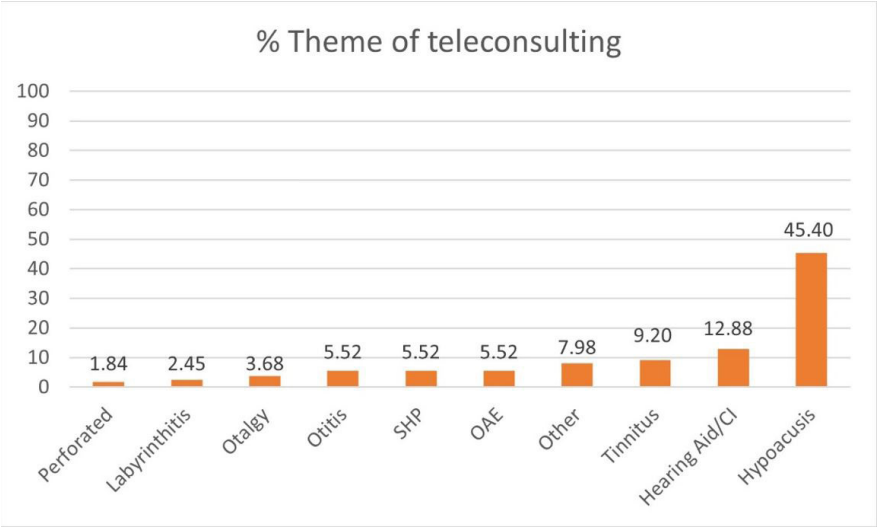

Figure 2. Frequency of teleconsulting themes
Caption: %=percentage; SHP=school health program; OAE=otoacoustic emissions; HA=individual hearing aid; CI=cochlear implant

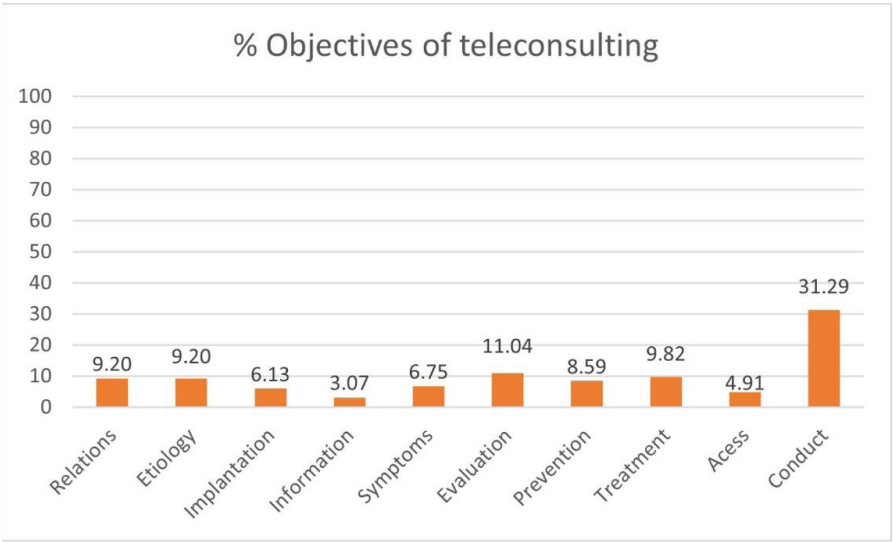

Figure 3. Frequency of occurrence of teleconsulting objectives
Caption: %=percentage

It was possible to observe the participation of community health agents as the main professionals using the platform for teleconsulting in hearing health. This data is interesting because it is ahead of the number of speech-language therapists who asked questions and pointed out as the group of greatest interest in other studies[17], in addition to fulfilling one of the main objectives of the Telehealth Program Brazil Networks to facilitate the qualification of access to specialties, improving decision-making for referrals[18].

The potential advantages of telehealth are particularly attractive in the field of global hearing health care, in which there is a shortage of hearing health professionals, capable of detecting hearing impairment early.

The highest occurrence of teleconsultations being in the State of Rio Grande do Norte may also have been induced by the training offered in the municipalities, since 70.1% of the training carried out by the center, during the period studied, occurred in the state of Rio Grande do Norte.

A relevant fact is that even less frequently compared to speech-language therapists, doctors and nurses, in addition to all other health professionals, also asked questions in the field of hearing health, information that reinforces the concept that teleconsulting allows interprofessional interaction effectively[19].

Among higher education professionals, the higher frequency of speech-language therapists (Figure 1) requesting answers from the teleconsulting speech-language therapist evidenced their desire for continued training in certain points of their professional practice.

The high demand for information on hearing loss and hearing aid devices has shown that, even with consolidated public policies for hearing health, there is still low dissemination of hearing health promotion to the population.

The frequent appearance of teleconsultations on the subject of hearing aid devices (Figure 2) also highlighted the importance of continuous monitoring, since the retention of information and guidance provided to users of these devices, regardless of the degree of hearing loss, is reduced[20].

Considering that the most addressed topic was hypoacusis, the importance of conducting training for public health agents is resumed, from identification to conduct[21], and teleconsulting itself is a tool for continuous monitoring of these training exercises, together with other means of tele-education, such as web lectures.

Although the theme of the School Health Program was not among the most commented, it is interesting to note that 66% of the teleconsultations on the topic involved hearing health, but they did not come from speech-language therapists, showing the importance of the Telehealth Program in other multidisciplinary programs.

Regarding the main objective of teleconsulting in hearing health, the conducts stood out (Figure 3), revealing the importance of evidence-based health, so that professionals, even if beginners or specialists in other areas, can act safely and in the most effective way, from referral to the rehabilitation process, thus avoiding unnecessary referrals and keeping patients within primary care, when appropriate[22].

Another study also brought up conduct as the main topic addressed in the teleconsultations, which is a great indicator of the use of teleconsulting by health professionals for the discussion of management, referrals, service implementation policies, clinical conduct and procedures, health care actions. health and issues related to the work process in primary care[17].

Different from what was found, other studies pointed out a greater search for treatment and etiology. Although conduct is still among the most addressed topics, it appeared to a lesser extent in the analyzed teleconsultations. The difference may have occurred due to the focus of the study, since, in teleconsulting focused on Medicine, there is a greater demand for pharmacological treatment[23,24].

Despite the low demand for additional information, the responses from the teleconsultations indicated references and/or complementary materials, in addition to the answer to the question, encouraging continued training among health professionals.

In this study, the proportion of teleconsultations in hearing health in the Telehealth centers in Rio Grande do Norte and Paraíba was higher, when compared to other studies, which ranged from 0.2% to 0.8% of the teleconsultations in the studied centers[17,25]. This variation may be related to a gradual insertion of Speech-Language Therapy in Telehealth.

It is inferred, therefore, that perhaps the low demand for teleconsultations in the area of Speech-Language Therapy in the Telehealth Program Brazil Networks may also occur, due to the lack of knowledge of professionals working in primary health care in the municipalities, as well as the very limited insertion of speech-language therapists in the teams of the Telehealth centers in other states, acting as teleregulators and teleconsultants. Another aspect to be pointed out is the non-inclusion of the theme of Telehealth in the content of curricular subjects in undergraduate courses in Speech-Language Therapy, although this reality has started to change due to the need that Speech-Language Therapy graduates can attend under supervision, even if at a distance from the patient[26]. The Federal Council of Speech-Language Therapy has regulated the activity of telephone speech-language therapy, including teleconsulting among its official practices[27]

It was observed, however, that there is still a lower demand for teleconsulting for the adequate supply capacity, which indicates the need to rethink the professional agenda to facilitate the access of speech-language therapists to the Telehealth portal during the face-to-face service period[25]. In other countries, even in the private health service, it is still possible to observe difficulty in adhering to teleconsulting. In future studies, it is necessary to identify in more depth the reasons for the occurrence of this difficulty[28].

It is noteworthy that Telehealth has an important role in expanding access to specialized health services, with the participation and involvement of basic and medium level professionals, namely community health agents, being notorious. These professionals are extremely important for the actions developed by the Family Health Strategy (FHS) teams, as they have a very close relationship with the users of health services in their territory. In this way, the qualifications they receive through teleconsulting can translate into the improvement of the active search actions provided by them, since they are the ones who have the greatest contact with the population in the territory. Thus, the importance of Telehealth to shorten paths and establish stronger links between the health service that is on the front end is evidenced. With this, the qualification and expansion of access to other specialties occur in a much faster and less bureaucratic way. Both professionals with higher education can use teleconsulting to improve or evaluate their conduct, and other professionals with a medium and basic education can consult the service to improve care for the population.

CONCLUSION

The profile of asynchronous teleconsulting in the area of hearing health in the studied Telehealth Program showed a predominance in the municipalities of Rio Grande do Norte, compared to Paraíba. The teleconsultations were requested by the community health agents, followed by speech-language therapists, with a higher frequency of female professionals, on the subject of hearing loss and hearing aid devices, related, predominantly, to conduct, assessment and treatment.

ACKNOWLEDGEMENTS

To "Fundação Norte Rio Grandense de Pesquisa e Cultura", for the support granted to carry out the research, and to the Ministry of Health, for the promotion of the Scientific-Technical Center for Telehealth in Rio Grande do Norte.

REFERENCES

1. IBGE: Instituto Brasileiro de Geografia e Estatística. Projeção da população 2020 [Internet]. Rio de Janeiro: IBGE; 2020 [citado 2020 Jul 1]. Disponível em: ttps://www.ibge.gov.br/apps/populacao/projecao/
2. Brasil. Ministério da Saúde. O Sistema Único de Saúde (SUS): estrutura, princípios e como funciona [Internet]. Brasília: Ministério da Saúde; 2020 [citado 2020 Jul 1]. Disponível em: http://www.saude.gov.br/sistema-unico-de-saude
3. Faria RC, Campos EMS. Demanda espontânea na estratégia de saúde da família: uma análise dos fatores que a influenciam e os desafios na reorientação do modelo assistencial do SUS. Rev Panam Salud Publica. 2012;15(2):148-57.

4. Vieira D, Barbosa S, Barbosa NB, Najberg E. Regulação em Saúde: desafios à governança do SUS Health Regulation: challenges to the Unified Health System governance. Cad Saude Colet. 2016;24(1):49-54.

5. Brasil. Ministério da Saúde. Portaria nº 35, de 4 de Janeiro de 2007. Diário Oficial da União [Internet]; Brasília; 2007 [cited 2020 Ago 21]. Disponível em: http://bvsms.saude.gov.br/bvs/saudelegis/gm/2007/prt0035_04_01_2007_comp.html

6. Brasil. Ministério da Saúde. Portaria nº 2.546, de 27 de Outubro de 2011. Redefine e amplia o Programa Telessaúde Brasil, que passa a ser denominado Programa Nacional Telessaúde Brasil Redes (Telessaúde Brasil Redes). Diário Oficial da União [Internet]; Brasília: Ministério da Saúde; 2011 [cited 2020 Ago 21]. Disponível em: https://bvsms.saude.gov.br/bvs/saudelegis/gm/2011/prt2546_27_10_2011.html

7. Saúde BV em. Núcleos do Programa Telessaúde Brasil Redes [Internet]. 2020 [cited 2020 Jun 30]. Disponível em: https://aps.bvs.br/rede-de-colaboradores/

8. de Freitas IMA. Impactos do Programa Nacional Telessaúde Brasil Redes na Qualidade dos Serviços de Saúde prestados na atenção básica do Estado do Rio Grande do Norte. Natal: Universidade Federal do Rio Grande do Norte; 2016.

9. Barton KS, Wingerson A, Barzilay JR, Tabor HK. "Before Facebook and before social media…we did not know anybody else that had this": parent perspectives on internet and social media use during the pediatric clinical genetic testing process. J Community Genet. 2019;10(3):375-83. http://dx.doi.org/10.1007/s12687-018-0400-6. PMid:30569339.

10. Freitas IMA, Valentim RAM, Guerra CLB No, Veras NVR, Morais AHF, Hekis HR. O impacto do Programa Telessaúde Brasil Redes na Saúde Pública do Estado do Rio Grande do Norte. In: Secretaria de Educação a Distância – SEDIS-UFRN, editor. O RN à luz da Inovação para o Mundo Natal. Natal: SEDIS-UFRN; 2018. p. 223-53.

11. Harzheim E, Gonc MR, Umpierre RN, Siqueira ACS, Katz N, Agostinho MR, et al. Telehealth in Rio Grande do Sul, Brazil: bridging the gaps. Telemed e-Health. 2016;22(11):1-7.

12. Swanepoel D, Clark JL. Hearing healthcare in remote or resource-constrained environments. J Laryngol Otol. 2019;133(1):11-7. http://dx.doi.org/10.1017/S0022215118001159. PMid:30022744.

13. Bernardes ACF, Coimbra LC, Serra HO. Utilização do Programa Telessaúde no Maranhão como ferramenta para apoiar a Educação Permanente em Saúde. Rev Panam Salud Publica. 2018;42(134):1-9. http://dx.doi.org/10.26633/RPSP.2018.134.

14. Vinhal W, Vianna Araújo D, Nunes Aranha R. Histórico da normatização da telessaúde e os impactos da regulação da teleconsultoria na atenção primária em Minas Gerais. 2020;5:58-71. http://dx.doi.org/10.36517/resdite.v5.n2.2020.a5.

15. Damasceno RF, Caldeira AP. Fatores associados à não utilização da teleconsultoria por médicos da Estratégia Saúde da Família Factors associated with the non-use of telehealth consultancy by physicians of the Family Health Strategy. Cien Saude Colet. 2019;24(8):3089-98. http://dx.doi.org/10.1590/1413-81232018248.28752017. PMid:31389555.

16. Poz MRD, Pierantoni CR, Girardi S. Trabalho em saúde no Brasil formação, mercado de trabalho e regulação da força de trabalho em saúde no Brasil. Rio de Janeiro: FIOCRUZ; 2013. p. 187-233.

17. Lucena AM, Couto EAB, Garcia VS, Alkmim MBM, Marcolino MS. Teleconsultorias de fonoaudiologia em um serviço público de telessaúde de larga escala Speech, Language and Hearing Sciences teleconsultations in a large public telehealth service. Rev CEFAC. 2016;18(6):1395-403. http://dx.doi.org/10.1590/1982-021620161860816.

18. Maeyama MA, Calvo MCM. A integração do Telessaúde nas Centrais de Regulação: a Teleconsultoria como Mediadora entre a Atenção Básica e a Atenção Especializada. Rev Bras Educ Med. 2018;42(2):63-72. http://dx.doi.org/10.1590/1981-52712015v42n2rb20170125.

19. Curioni CC, Thereza M, Cury F. Potencialidades das atividades em nutrição. J Bras Tele. 2013;2(3):93-7.

20. Geraldo T, Ferrari DV, Bastos BG. Orientação ao usuário de prótese auditiva: retenção da informação Guidance to the user of the hearing aid: retention of information. Arq Int Otorrinolaringol. 2011;15(4):410-7. http://dx.doi.org/10.1590/S1809-48722011000400002.

21. Alvarenga KF, Bevilacqua MC, Martinez MANS, Melo TM, Blasca WQ, Taga MFL. Proposta para capacitação de agentes comunitários de saúde em saúde auditiva. Pró-Fono Rev Atualização Científica. 2008;20(3):171-6. http://dx.doi.org/10.1590/S0104-56872008000300006.

22. da Silva MAM, Lopes ÉAS. Conduct of Professionals ' Primary Care After Replies of the Requested Teleconsultings : an initial evaluation Resumen. Lat Am J Telehealth. 2017;4(1):82-7.

23. Marcolino MS, Alkmim MB, Assis TG, Sousa LA, Ribeiro AL. Teleconsultorias no apoio à atenção primária à saúde em municípios remotos no estado de Minas Gerais, Brasil. Rev Panam Salud Publica. 2014;35(5-6):345-52. PMid:25211560.

24. Moreira Lucena A, Alkmim MB, Soares Garcia V, De Araújo Brandão Couto E, Marcolino MS. Speech therapy teleconsultations of a public telehealth service in a developing country. Studies in Health Technology and Informatics. [Internet]. 2015; [cited 2020 Ago 21];216:986. Available from: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84952036750&doi=10.3233%2F978-1-61499-564-7-986&partnerID=40&md5=de899a9f6397d3d1ec8db3ec354e58be

25. Schmitz CAA, Harzheim E. Oferta e utilização de teleconsultorias para Atenção Primária à Saúde no Programa Telessaúde Brasil Redes. Rev Bras Med Fam Comunidade. 2017;12(39):1-11. https://doi.org/10.5712/rbmfc12(39)1453.

26. Fernandes FDM, Lopes-Herrera SA, Perissinoto J, Molini-Avejonas DR, Higuera Amato CA, Tamanaha AC, et al. Uso de telessaúde por alunos de graduação em Fonoaudiologia: possibilidades e perspectivas em tempos de pandemia por COVID-19. CoDAS. 2020;1782(4):3-5. http://dx.doi.org/10.1590/2317-1782/20192020190.

27. Brasil. Conselho Federal de Fonoaudiologia. Resolução nº. 580, de 20 de agosto de 2020. Dispõe sobre a regulamentação da Telefonoaudiologia e dá outras providências. Diário Oficial da União; Brasília; 25 ago 2020.

28. Ranganathan C, Balaji S, Chain S. Key factors affecting the adoption of telemedicine by ambulatory clinics: insights from a statewide survey. Telemed E-Health. 2018:1-8.