Telehealth Academic League of Maranhão: results and challenges in the local implantation of Telehealth

Caio Graco Bruzaca — Ex-Coordinator of the Academic League of Telehealth of Maranhão (LTS) - Federal University of Maranhão - Brazil

Rafael Toledo Enes Nogueira — Founding Member of the Academic League of Telehealth of Maranhão - Federal University of Maranhão – Brazil

Anderson Brito da Silva — Founding Member of the Academic League of Telehealth of Maranhão - Federal University of Maranhão – Brazil

Lucas Valadão de Brito Soares — Founding Member of the Academic League of Telehealth of Maranhão - Federal University of Maranhão – Brazil

Wânnia Ferreira de Sousa-Bruzaca — Ex-Member of the Academic League of Telehealth of Maranhão -Santa Teresinha College - Brazil

Philippe Costa Carvalho — Ex-Member of the Academic League of Telehealth of Maranhão - Federal University of Maranhão – Brazil

Serlyjane Penha Hermano Nunes — Federal University of Maranhão – Brazil

Ilana Mirian Almeida Felipe — Academic League of Telehealth of Maranhão Co-Advisor - Federal University of Maranhão - Brazil

José Albuquerque de Figueiredo Neto — Academic League of Telehealth of Maranhão Advisor - Federal University of Maranhão - Brazil

Abstract

Aims: To present the results of the Maranhão's Telehealth Students League (LTS) activities. Materials and Methods: Qualitative longitudinal retrospective analysis. Results: Were made activities focused in professional training via web and a Health Education project focused in adolescent. Conclusion: Although the low infra-structure and the short supply of human resources, the LTS has shown an excellence center for telehealth development even in health education than in professional training.

Keywords: Telemedicine; Information Technology; Health Education; Community-institutional relations

Resumen

Liga Académica de Telesalud de Maranhão: resultados y desafíos durante la implantación local de la telesalud

Objetivos: Presentar los resultados de las actividades de la Liga Académica de Telesalud de Maranhão (LTS). Materiales y métodos: análisis cualitativo longitudinal retrospectivo. Resultados: actividades desarrolladas en Capacitación Profesional a Distancia y proyecto de extensión en Educación en Salud enfocada a adolescentes. Conclusión: A pesar de débil infraestructura y la escasa oferta de recursos humanos, la LTS resultó ser un centro de excelencia para el desarrollo de la telesalud, tanto para la educación sanitaria como la capacitación profesional.

Palabras clave: Telemedicina; Estudiantes de Medicina; Relaciones comunidad-institución; Tecnología de la Información; Educación para la Salud

Resumo

Liga Acadêmica de Telessaúde do Maranhão: resultados e desafios na implantação local da Telessaúde

Objetivos: Apresentar os resultados das atividades da Liga Acadêmica de Telessaúde do Maranhão (LTS). Materiais e Método: Análise longitudinal retrospectiva qualitativa. Resultados: Atividades desenvolvidas em Capacitação Profissional a Distância e Projeto de Extensão em Educação em Saúde voltada para adolescentes. Conclusão: Apesar da baixa infraestrutura e pouca oferta de recursos humanos, a LTS mostrou-se um centro de excelência para o desenvolvimento da Telessaúde tanto para educação em saúde quanto para capacitação profissional.

Palavras-chave: *Telemedicina; Estudantes de Medicina; Relações comunidade-instituição; Tecnologia da Informação; Educação em Saúde*

INTRODUCTION

In the last decades, the Brazilian public health system was reformulated and restructured focusing mainly on better care and better access to health care[1]. New technologies have been created to improve health care, developing new areas of knowledge such as the telehealth and medical informatics, whose main objectives are the training of professionals and students, as well as improving the quality and accessibility of the population to multiprofessional care even in very distant places[2,3].

The state of Maranhão has an enormous geographic dimension, being the eighth largest state in Brazil, which implies excessive spending on the health system and risks to the life of patients living in areas far from the large urban centers[3,4]. In this context, the telehealth is a powerful tool to solve the problem of distance and guarantee better accessibility to the health system. They can also be used for distance education (EAD), using Information and Communication Technologies (ICT)[5].

The University Network of Telemedicine (RUTE) is a joint initiative of the Ministry of Science and Technology, Ministry of Education, Ministry of Health, supported by the Funding of Studies and Projects (FINEP) and coordinated by the National Education and Research Network (RNP) which aims to support the improvement of existing telehealth projects in school hospitals and encourage the emergence of future interinstitutional works[3,4,6].

In order to support and expand the Telehealth in the state of Maranhão, in October 2006, the Academic League of Telehealth of Maranhão (LTS) was founded whose activities began in the Biological Information Process Laboratory (PIB). Next, a partnership was established with the Nucleus of Telehealth (NTS) of the University Hospital of the Federal University of Maranhão (HUUFMA) to provide a better development of RUTE in the state[6,7]. Currently, the LTS is composed of professors and students of the technological areas, such as medicine, dentistry and nursing of UFMA, with physical headquarters in the Nucleus of Telehealth (NTS) of HUUFMA.

This study aims to present the qualitative results of the actions carried out by the League of Telehealth (LTS) in the state of Maranhão, Brazil, from the moment it was founded to the present day.

METHOD

This is a longitudinal, qualitative and retrospective study of the experience report on the results of the activities developed by the Telehealth League of Maranhão (LTS). An active search of reports and minutes books was carried out, from the year of its implementation (2006) to the present day. A qualitative focus group survey was also conducted with the founding and current members of the league to obtain more information that was not included in such records.

RESULTS

The LTS began its activities in October 2006, in the GDP (PIB), where its members participated in several research projects that led to the development of technologies applied to health. These projects were divided into two main groups, the first was the use of computers to aid diagnosis, in which algorithms were developed that help the physician in the interpretation of the tests, such as mammography and electrocardiogram. The other project developed in this laboratory was the electronic medical record for patients in the Cardiology and Mastology sector of HUUFMA[8,9].

In 2007, the LTS entered into a partnership with the NTS, with the main product of this partnership being the implementation of RUTE in Maranhão. The NTS infrastructure enabled the promotion of various tele-education activities, using ICT, focusing on multiprofessional training. One of the activities was the "1st Update Course of Maranhão in Primary Care", in partnership with the Virtual University of Maranhão (UNIVIMA). This was the first course in Maranhão where public health professionals from the interior of the state had the opportunity to participate in health training without having to go to the capital.

At the same time, activities focused on undergraduate students were held. The LTS in partnership with the NTS has been involved in RUTE projects such as Special Interest Groups (GIS) such as the telepathology, the pediatric teleradiology and the telecoloproctology; besides the "Course of Updating in Gastroenterology", the NETGASTRO.

In 2008, many partnerships were held with other Academic Leagues, such as the League of Telehealth (LITEL) of the Federal University of Minas Gerais (UFMG). This year, LTS members were co-founders of the Brazilian League of Telehealth, with the objective of conducting multicenter activities focusing on a better exchange among the undergraduate students in the health and exact areas in the different regions of Brazil.

In 2009, the LTS participated in the First National Meeting of Academic Leagues in Belo Horizonte (MG), during

the IV Brazilian and International Congress of Telehealth and the II Workshop of the Laboratory of Excellence and Innovation in Telehealth Latin America and Europe, where it was made the partnership with other telehealth leagues for the study of Telehealth. During that time, the GIS of the Telehealth Leagues was created, which had as sole representative of the northeast the study group of Maranhão.

In 2010, another LTS partnership was signed, this time with the Telemedicine League of the University of São Paulo (USP), the Health Management League of USP and the Junior Medicine Company of USP, when the transmission took place, in real time, through web conferencing, of the 5th Introductory Course of the Health Management League of the University of São Paulo, held in São Paulo (SP) and remotely for students and health professionals in São Luís (MA)[10].

From 2011, the main focus of LTS was the Extension Project "Health on the Screen", which aimed at the production of audiovisual resources for health education, targeting adolescents of school age. This university extension project was funded by the Foundation for Research and Scientific and Technological Development of Maranhão (FAPEMA) in partnership with the Technical College of Nursing of the University College (COLUN) of UFMA.

When the "Health on the Screen" project was carried out, it was observed that the quality of health information, whether in video or text on the Internet, had poor quality. This was observed from a project on evaluation of videos on anorexia and bulimia. Finally, a project for the qualification of information on the Internet "Stethoscope 2.0" was drawn up along the lines of the European standardization project Health on Net code of conduct.

At the same time, the LTS developed other telehealth projects, offering technology, adapted to the reality of Maranhão aiming at a better health care, such as the Collaborative Network of Telehealth of Maranhão, financed by FAPEMA. This is aimed at teleassistance, using the second opinion in dermatology and electrocardiography in distance and courses via webconference for many municipalities distant from the capital of Maranhão.

In addition, this network also aimed to create the "Virtual Hospital" project, which could enable better patient care and a second opinion program for professionals from the interior of the state, thereby reducing the flow of patients from those cities to the capital in search of specialized medical care. The LTS also works with the Postgraduate Program in Maternal and Child Health, the PPGSMIN, of UFMA, where not only a laboratory is created to develop

telehealth, but also the discipline of Telemedicine for undergraduate and post-graduate students.

Although the LTS has carried out activities in Telehealth and Telemedicine, the development of this area is still a challenge, and more institutions need to put the fundamentals into practice to better develop activities such as NTS or GDP (PIB). A major problem encountered in developing the activities was the low number of students involved, mainly because there is a lack of interest and information on the part of the students of the various courses and because there are no clinical activities in the league.

During the meetings, when it was asked about the LTS's contribution to the professional training of its members, it was a consensus among the members, whether founders or current ones, that this group of studies was very important in their formation, since participation in it allowed an exchange between several areas of knowledge. It was reported the possibility of working with new technologies, which will certainly be present in the future professional life of each member, as well as the possibility of a great exchange of information and experiences with professionals from different areas and in several Brazilian states, thus allowing a personal and professional growth that could not be guaranteed only with the knowledge acquired in the graduation.

On the theme: "LTS and the future of Telehealth in Maranhão"; A large part of the members of the group believes in further development, socialization of knowledge and technologies, as well as the use of this tool for health care in a short span of time. While some believe that most new technologies will not be applied diffusely in a short span of time. In addition, there are those who hold the importance of the student body as an institutional element that will accelerate this process in the state.

DISCUSSION

The first activities developed by LTS members were related to the development of new technologies. Although the LTS has developed many activities and tools, these have not been widely used by health professionals in Maranhão. Thus, in the near future, it will be a priority of the group to socialize these technologies using tools such as print media and virtual media like Web 2.0[11,12].

The activities of this group were mainly focused on the tele-education perspective, unlike the experience of the Telehealth League of Amazonas (LATTAM)[13]. In this experiment, the telehealth was focused mainly on second opin-

ion, tele-assistance and education and health promotion. On the other hand, the LTS had its activities based on tele-education aimed at undergraduate and graduate students. The development of distance learning courses was one of the great marks of this group of students[14].

As a result, the partnerships with various institutions across the country allowed for the exchange of information, not only for group members, but also for the entire local academic community, through classroom recording, live transmission of surgeries, videoconferences, and webconferencias[15].

The activities of LTS can be compared with activities carried out in southeastern Brazil, where there are many Telehealth Leagues, especially the activities carried out by LITEL[16]. In this group of students, the main focus was health education, through the project of university extension "Se Liga na Saúde" ("Pay Attention to Health"), which aimed to train the Community Health Agents (ACS) during the rural internship of medical students.

The LTS developed similar activities, with the university extension project "Health on the Screen". With the creation of educational videos in accessible language, this project managed to reach the target audience with creative situations and stories, having been executed in the University College linked to UFMA[16].

When comparing the activities of LTS with the LITESA (Telehealth League of the Pontifical Catholic University of Rio Grande de Sul), formed by students from the south of Brazil, many similarities are observed, despite the cultural and socioeconomic differences between the states of Maranhão and Rio Grande do Sul[17]. With a focus on medical education and training of health professionals using ICT, the LITESA has established partnerships not only with other regions in Brazil, but also with other countries, such as the United Kingdom.

Using remote presence tools, following the trend of other regions of Brazil, the LTS transmitted many courses in areas far from the capital, despite the low availability of broadband connection in the state of Maranhão, which was a great impediment to the development of telehealth. Nevertheless, it was possible to conduct many courses, in which professionals from remote areas were trained, without having to go to the reference centers[2,4,12,14].

In addition to the low availability of broadband connection, other problems were encountered during the course of the activities. The main ones were related to the deficiencies in the infrastructure of the institutions in the interior of Maranhão, including not only the equipment and the physical structure for the LTS, but also the lack of human resources trained in telehealth. Once these obstacles are solved, with investments by both universities and government, it is expected that the development of telehealth in the state of Maranhão will promote improvements in patient care and accessibility to the health system[1,3,18,19].

In a unique way, the LTS developed the evaluation project of health videos and information on the internet. Although it did not focus on the state of Maranhão, it was relevant to do so, as it is concerned with standardization and quality of health information. It was unprecedented and brought in a real way that before were just assumptions about the quality of the material on health on the internet, including obtained prominence in a congress among professionals[20,21,22,23].

CONCLUSION

Despite the difficulties inherent to lack of local infrastructure and the low supply of human resources on telehealth, the LTS has become a center of academic excellence for the execution of projects related to telemedicine and telehealth, both in the scope of professional training and in education in health and health care delivery via ICT.

ACKNOWLEDGMENTS

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