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Evaluation of the training of nurses in basic health units through telenfermagem

Avaliação da capacitação dos enfermeiros em unidades básicas de saúde por meio da telenfermagem

Evaluación de la capacitación de los enfermeros en unidades básicas de salud a través de la teleenfermería

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Abstract

The Telenursing Project is an activity that gathers both the extension and research of the School of Nursing, Federal University of Minas Gerais, included in the National Program for Telehealth. It offers new ways of providing assistance, collaborating with the transformation of practical realities by offering Distance Education for the healthcare team. The present study evaluated the continuing distance education for the nursing staff of the Basic Health Units. This is a descriptive study, in which a qualitative approach was used, performed in municipalities registered by the program. The sample comprised 17 participants. Data collection was performed through interviews, which were recorded and transcribed. Three categories emerged from the analysis: the significance of the Telenursing Project in terms of assistance; the use of Telenursing in the process of distance training, and; use of the tools in the Telenursing Project. The results showed that distance education is a teaching and learning strategy in health that makes use of information technology resources that contributes to the continuing education of nursing professionals, providing better care delivery.

Keywords: Telenursing; Distance education; Telehealth.

Resumo

O Projeto Telenfermagem é um projeto de extensão e pesquisa da Escola de Enfermagem/UFMG integrante do Programa Nacional de Telessaúde. Visualiza novas formas de prestar assistência colaborando para transformação das realidades práticas ao oferecer Educação a Distância para a equipe de saúde. O presente trabalho avaliou a educação permanente adistância para a equipe de enfermagem das Unidades Básicas de Saúde. Trata-se de um estudo descritivo, de abordagem qualitativa, realizado nos municípios cadastrados pelo programa. A amostra constituiu-se de17 participantes. A coleta de dados empregou entrevista, gravada e transcrita. Da análise emergiram três categorias: importância do Projeto Telenfermagem para assistência; Telenfermagem no processo de capacitação adistância e utilização das ferramentas do Projeto de Telenfermagem. Os resultados demonstraram que Educação a Distância é uma estratégia de ensino-aprendizagem em saúde com recursos tecnológicos de informação que contribui para a formação permanente dos profissionais de enfermagem, proporcionando melhor prestação da assistência.

Palavras-chave: Telenfermagem; Educação a distância; Telessaúde.

Resumen

Teleenfermería es un proyecto de extensión e investigación de la Escuela de Enfermería/UFMG del Programa Nacional de Telesalud. Objetiva visualizar nuevas maneras de prestar asistencia, colaborando para la transformación de las realidades prácticas de Educación a Distancia para profesionales del área. Este trabajo evaluó la educación permanente a distancia para profesionales de enfermería de las Unidades Básicas de Salud. Estudio descriptivo, de abordaje cualitativo, realizado en los municipios catastrados por el programa. La muestra acompañó 17 participantes. Los datos fueron obtenidos por medio de entrevistas grabadas y transcritas. Tres categorías emergieron del análisis: importancia del Proyecto Teleenfermería para la asistencia; Teleenfermería en el proceso de capacitación a distancia; y utilización de herramientas en el proyecto de Teleenfermería. La Educación a Distanciaes una estrategia de enseñanza-aprendizaje en salud, que utiliza recursos tecnológicos de información y contribuye para la formación permanente de los profesionales de enfermería, proporcionando mejor asistencia.

Palabras-clave: Teleenfermería; Educación a distancia; Telesalud.

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INTRODUCTION

The transformations in our society caused by technological advances intensify the globalization process and reach the various levels of society, producing several changes in economic systems, behaviors, consumption modes, as well as the perception of the world and of the reality and, especially, the methods of learning and gaining knowledge[1].

With the technological advancements, the new forms of education promotion expand the methodological and organizational possibilities and offer various environments for didactic instruction and training purposes. With this, it is understood that the new information and communication technologies in the educational process can be a valuable strategy[2].

Education should be thought of asan exercise of appreciation in terms of experiences and individual creativity, seeking new tools for the job. Thus, educating becomes the (re) invention and (re) construction of knowledge in a personalized manner, transposing the mere preparation of the professional for the job market and achieving qualifications with an eye to transforming reality. With this attitude, this individual becomes a critical (re) evaluator, which favors the discovery of his strengths and limitations, helping him to develop his skills[3,4].

The incorporation of technology in education is of great value, as it provides knowledge and growth, as well as updating and improving the professional, and it should then be organized to work on the educational needs identified in each group.

The new information and communication technologies used in different fields of knowledge have contributed to the growth and credibility of Distance Learning (ODL), which is a strategy for permanent education in the face of new technologies, as a pedagogical innovation in education. This pedagogical model enables a critical analysis of the practice, allowing us to reflect on ways of providing healthcare.

The ODL gains new dimensions with digital technologies. These technologies will expand the possibilities for diversification of the training processes and the dissemination of information and knowledge, providing virtual and interactive learning environments that undoubtedly bring new challenges and alternatives for thinking about the formative and capacity building processes[2].

Considering the principles of universal access, hosting, completeness, humanization of care, and public participation, the proposed ODL enables the qualification of health professionals; more specifically, those who are part of the Family Health Program (FHP)[2]. This policy instituted by the Health Ministry aims to strengthen the Unified Health System (UHS) based on the needs of the labor process, since the training of professionals is directly linked to improving care and institutional development.

The access to continuing education through ODL is a strategy that helps to ensure that the health professionals of FHP face the difficulties of daily work with the support of new information and communication technologies[5]. This type of education makes self-learning easier, with the help of organized learning resources, presented in different information media.

It is understood that the ODL is capable of democratizing access to knowledge and promoting opportunities for continuous learning for life and work, meeting the needs of learners in terms of availability of time and learning rhythms. The ODL meets the needs of professionals, who are subjects of their own history, who are critical and creative individuals who are involved in an educational context[5].

The employment of distance learning in the National Telehealth Program has a key role in healthcare, since it provides for the professional a new concept for education and support, thus ensuring the exchange of knowledge between educational institutions and workers.

The National Telehealth Program provides an information network between the municipalities participating in the program in each state, making a connection between the Telehealth nuclei of the 14 states: Amazonas; Tocantins; Ceará; Paraíba;Pernambuco; Rio Grande do Norte; Goiás; Mato Grosso do Sul; Espírito Santo; Minas Gerais; Rio de Janeiro; Sao Paulo; Rio Grande do Sul, and; Santa Catarina, which make up the national network of Telehealth with the university centers of reference of each region. The program increases the resolution of the service in primary care as well as reducing referrals to major urban centers, thus contributing to greater agility in service and improving the quality of care in primary care in the UHS. Therefore, the program increases quality and speed of care provided by the UHS.

To achieve the proposal of the UHS, the Center for Telehealth of Minas Gerais - Nutel/MG - deals with various organizations such as the Ministry of Health and the Federal University of Minas Gerais, with the participation of the following units: the School of Nursing; the Faculty of Medicine; the Faculty of Dentistry; the Clinical Hospital, and; the Laboratory of Scientific Computing. At Nutel/MG, technologies of information and communication are used as tools in the process of qualification of health professionals to discuss the clinical cases through videoconferencing and teleconsultations.

The pioneering experiment, started in 2003 in partnership with the Prefecture of Belo Horizonte, contributed to the implementation of the National Telehealth Program of the Ministry of Health, along with the Municipal Health Secretariat. The Telenursing Project provides a framework that allows contribution to the empowerment of the nurses of the PSF team inserted into the Basic Health Units (BHU) of the municipalities registered by the National Telehealth Program, using new information and communication technologies. This process focuses on improving assistance to the user for the qualification of nursing professionals, providing the workers with the safety to act in different care situations[6].

For nursing professionals, ODL is a strategy employed with the aim of responding to the training needs defined by the professional scene in the country. The development and incorporation of technology meet the need for increased opportunities for the participation of nursing professionals in training programs, enabling their inclusion in educational activities[6].

Among the advantages of this model are: the use of the internet as a tool to provide the training activities; the possibility of multi-professional work; ease of access, especially in places lacking experts; the favorable cost/benefit ratio, since it tends to be relatively lower and lower; the range of a large number of people at the same time in different locations; the discussion of issues directed to the problems of daily work, in the search for solutions; the evaluation of the learning activity, and; the transformation of the practice during the educational process, highlighting the opportunities for feedback, ensuring effectivity[6].

The Telenursing Project provides the use of two lines of work: theme videoconferencing and teleconsultations. With regard to videoconferencing themes, these are scheduled to meet local demands raised initially with nursing professionals, belonging to the BHUs of the municipalities registered by the program with the availability of technological resources required for the project.

Videoconferencing allows integration, in real-time, and the receiving and sending of high quality audio and video between the connection points. For its realization, equipment for the capture and playback of audio and video, which may be connected to similar equipment, is required. This equipment includes a computer with internet access and a microphone and camera installed and configured. In some cases, however, there are limitations to the conference, such as poor image quality, bandwidth, noise in the audio, the number of frames transferred per second, and the impossibility of a multipoint connection, as can sometimes happen with equipment dedicated to video conferencing.

Videoconferences add numerous advantages, such as the reduction of the movement of patients to specialized centers, professional training by means of classes taught remotely, health care improvement in areas of difficult access, and interaction between the university and the BHU.

The approach of relevant topics in videoconferences leads the nursing professional to reflect and discuss their professional practice as well as to upgrade himself, at each relevant time point, with the use of new technologies for their own development. This process of continuing education in nursing represents a great impact on the improvement of knowledge management, quality of care, and patient service satisfaction[7].

As to the teleconsultations, they are made possible through an electronic messaging system, in which the professional prepares his question and forwards it to the coordination of the project. This coordination will pass along the question to expert consultants for review and suggestion of referrals regarding the clinical case presented.

The teleconsulting features two modes: online, where the professional schedules a discussion of a case study in real-time with an expert, and offline, which is a non-presence mode used in elective cases by means of electronic messages, in a safe environment. The teleconsulting and videoconferencing system can be accompanied by professionals of the BHU connected to the network, using voice features, images, and chat[8].

Since utilising this technology since 2008 in the Telenursing Project in the National Telehealth Program, we acknowledge that the access to information and communication technologies enables ease of geographical access and low cost, in addition to enabling the professional to carry out his own training in the institution itself, without having to be away from his workplace.

Considering the use of these tools for professional training, this study aims to evaluate the distance continuing education for the nursing staff of the BHU of the municipalities registered by National Telehealth Program regarding the development of the healthcare practices.

The results of this research can contribute to the scientific understanding of this subject by presenting actions aimed at creating strategies for addressing the challenges related to the technological advances of information and communication in the telenursing scenario.

MATERIAL AND METHOD

This is a descriptive study, inwhich we adopted a qualitative approach, conducted in the municipalities of the state of Minas Gerais registered by the National Telehealth Program. The subjects of this study were nurses who work in the BHU of the 50 municipalities of the state of Minas Gerais registered by the program. As a selection criterion it was defined that the nurses participating in the study were those who had presented an average frequency of above 50% in the videoconferences of the Telenursing Project/EEUFMG, in the period from August to December 2011. According to the inclusion criteria, the following municipalities were selected: Várzea da Palma; Ouro Branco; Serro; Entre Rios, and; Conceição da Barra de Minas, totaling 28 nursing professionals. Of this total, 17 nurses were interviewed.

Data collection began with individual contact by phone with nurses who work with the nursing staff of the BHU of the municipalities previously selected. Initially, the purpose of the work was explained, clarifying that the data collected would be used only for scientific purposes and released without exposing the participants, who may refuse to participate in the study without any disorder or damage. After agreeing to take part in the study the subject would receive by mail a Letter of Consent (LC) containing information about the purpose, methodology, data analysis, and dissemination of results in order to preserve the confidentiality and privacy, while

safeguarding the anonymity of participants according to the rules contained in Resolution 196/96 of the National Health Council under number 0514.0.203.000-10.

The participants were instructed to return the signed consent form, so that the web conferencing could be scheduled, since it was the chosen tool to collect research data. For each subject a room using a closed and dedicated system was created, and access to it was restricted through a unique login and password to conduct the interview. The instrument used in web conferencing guided fundamental questions such as: What is your opinion regarding the activities of the Telenursing Project developed in your municipality? How do you evaluate the use of Telenursing tools in the training process of the staff and the care practices? And: describe positive and negative aspects concerning the offline and online use of videoconferencing and teleconsulting.

To ensure the anonymity and confidentiality of the study participants, the fragments of the speeches, when presented in the results, were identified and coded by the letters "ER", "OB", "VP" and the number relating to the order of their interviews.

The interview was recorded and transcribed in full, and then the technique of content analysis was employed. Considering the characteristics of the study and the methodological strategy planned, the path chosen to analyze the empirical data was the technique of content analysis of the thematic content[9].

The operationalization of the thematic analysis, at first, was unfolded in the pre-analysis stages, in which the data obtained was selected, analyzed, and transcribed by means of fluctuating readings, which consisted of an exhaustive reading of the material for the assimilation of the totality and subsequent grouping of speeches, identifying the approximations in the text. In the second section of the analysis, after the organization of these themes, the lines were grouped into thematic categories. The third stage corresponded to the aggregation of the thematic categories in light of the theoretical framework for analysis and discussion.

RESULTS AND DISCUSSION

The analysis of testimonies allowed the construction of three basic categories, namely: the importance of the Telenursing Project for care; telenursing in the distance training process, and; the use of Telenursing Project Tools.

The importance of the Telenursing Project for care

Technological developments in the communications industry have revolutionized the relationship between individuals and communities. The new technologies of information and communication allow you to view new forms of exercising the provision of healthcare, when changing the practices of care offered to the population and, thereby, consolidate the reference and counter-reference system of the municipality health services.

Telehealth involves the use of information and communication technologies to transfer data, clinical, administrative, and educational services in health that can be used by all professionals who are engaged in the health area. Within this environment is Telenursing, which provides distance guidance to practitioners and aids in the training of the nursing staff and undergraduate and postgraduate students, as well as allowing the observation of new forms of providing assistance, contributing to the transformation of local practice[6,8,10].

It is understood that the incorporation of new technologies has presented a positive impact on health. On the one hand, educated patients who demand more information, guidance, and investment in relation to their own health, and, on the other hand, health professionals and internet users, who use new tools to provide more qualified assistance. This opinion was confirmed by the following testimony:

> *I think the project is very interesting. The conference calls are a good opportunity for learning and recycling knowledge, since we live in a small town and we are not always able to go to other cities to take courses. (ER1)*

In the nursing area, the preparation of the staff for service delivery has been focused on as a strategy for the improvement of nursing care, and, consequently, in healthcare. It can be verified that this is an important alternative to overcoming the difficulties encountered in the education, training, and continuing education of nursing staff, defined by the professional scenario in the country[6,10].

Therefore, the awareness of health professionals regarding the use of computer technology to enhance the development of their activities is necessary in order to benefit the patient, reduce costs, and rationalize work. The computer has become an effective tool to streamline the decision making process, in addition to increasing professional productivity and satisfaction, and improving nursing care to the patient, as explained in the opinion below:

> *I consider the project an excellent vehicle for professional training, as in most cases we cannot update ourselves as routinely as we should. (ER2)*

Information and communication technology can modify daily work and professionals take advantage of the benefits to create new opportunities and occupy their spaces in the processes of change. The major technological advance, directly connected to computers and the internet in the areas of computing and communication, allow an exchange of data and information with no time and space limitations[11].

The Telenursing Project features an optimal level of network connectivity for access and the sharing of information, since the essence of the internet is summarized as the transmission of information in an electronic format with speed and reliability. This proposal enables the grouping of professionals with common interests, as interconnection and global connectivity have made possible the development of partnerships and collaborative work, integrating institutions and abolishing distances, as the following report shows:

> *I think this project is an excellent tool for professional training. The topics are relevant and the debates enriching. (OB3)*

Nursing professionals today work in the information age and in a global society, in which the focus of nursing care transcends national and regional boundaries. Discussions around topics that originated in local needs and that are addressed by teachers and service professionals help to facilitate the process of training and permanent qualification in health care, providing critical analysis and reflective practice for interventions in the work process[7].

The awareness of professionals when faced with the use of computer technology for their training enables the providence of individualized care to patients without borders, with the development of a systematic and organized practice.

Telenursing in the process of distance training

The renewal of knowledge is a process that occurs in an increasingly agile manner, making professionals seek constant updates.

In the work environment there is a need for greater training, requiring from professionals a more open profile, the capability of adapting to change. They should also be provided with the necessary tools, and motivation to learn continuously. For this, the technology emerges as a base training resource that enhances the diffusion of ODL, expanding the forms of access to information. This strategy is able to cover a greater number of people and mainly allows these people to match education and work, this being one of the differences between ODL and classroom learning, since professionals have a restricted time to specialize themselves when faced with their work day and the overload of activities undertaken within the organization[12].

The Telenursing Project arises in this technological environment with the proposal to inform students of undergraduate and postgraduate courses, nurses and nursing workers inserted in the BHU about everyday issues and updating them, thus allowing for reflection on new care practices.

For achieving the proposal of bringing information by means of technology, two forms of work are used: the thematic videoconferencing and; teleconsultations. Videoconferences occur programmatically aiming to meet the demands of the service.

These are identified in advance in order to structure a semester schedule for the discussion of the suggested topics. The teleconsultations are tools that allow communication between nurses and the teleconsultor by means of electronic messages. The reports collected in the research exemplify the benefits of the tools to the training:

> *The tools are great, because they help in the training of all the health team. (VP6)*

> *As for the training of the staff, it is very good, especially for us in the nursing team. We are always learning, remembering, or even perfecting some content related to our profession. (ER1)*

The proximity between educational institutions and the BHU, mediated by technology through the use of tools provided by the Telenursing Project, results in a transformation process of care practices, improving its realization.

It is noted that the use of ODL linked to technology is a positive strategy to empower nurses in their care practices in the UHS networks, particularly favoring the assistance offered in primary care. This type of education allows the professional to be trained in his own work environment, allowing greater autonomy in the process of teaching and learning, as well as the exchange of knowledge between primary care and the university. Professionals point out the benefits in the following statements:

> *It facilitates the process of the training of technicians and ACS, making the practice more effective for the population. (VP9)*

> *The training helps us, many times, to re-evaluate our service and add new learning. (OB2)*

The use of this methodology for distance learning by means of the videoconferencing and teleconsultation tools can speed up the process for improving professional training and qualify the care practices of the UHS network, making them more effective and able to contribute to increasing problem solving at the site.

Using the tools of the Telenursing Project

Videoconferencing offers advantages, such as reducing patient travel, the possibility of updating professionals by means of ODL, and greater access to information in more remote locations, allowing an exchange of information with major centers. The statements presented in the survey emphasize the positive points of the employment of videoconferencing in the BHU, such as:

> *Learning opportunity, recycling, and exchange of experience with other professionals and the clarification of doubts. (ER1)*

> *Interesting topics; well-trained professionals, and; the exchange ofexperiences are very important. (VP11)*

It is noted that the tool used by the project enables health professionals to exchange information on their jobs through videoconferences. This tool integrates remote areas to major research centers of reference, allowing actions such as a second opinion, in addition to case discussions with the multidisciplinary team, avoiding the unnecessary movement of the patient, improving the quality of treatment and providing, and providing continuing education for health professionals[13].

Videoconferencing presents some obstacles that must be overcome in order to reach what is desired. Among the problems faced, we can mention the difficulty of the handling of the equipment by the health professional; the threat felt by the professional when exposing his questions concerning the use of the videoconference device, and; difficulties in prompting ODL activity to be included in the professional's work process. The BHS also becomes a barrier when there is a development in appropriate technological infrastructure that ends up compromising the activity of videoconferencing through a low quality connectivity due to the internet services available in the cities, which can be seen in the following statement:

> *Understanding difficulty due to various interferences in the online system during the transmission process that ends up forming gaps and thus harming the team's understanding of certain subjects. (OB1)*

The failures in data transmission are due to disparities in internet access and connection inadequacy. Even with the technological framework offered by the Telehealth program for the municipalities, the computer and multimedia features, printer, camera, and internet provided by the municipalities do not meet, in some cases, the optimal speed for good connectivity. The instability and oscillation of the internet coupled with low connectivity and the lack of knowledge held by computer technicians who work with the network in the city have been jeopardizing the participation of health professionals in the project, which can be seen in the following statements:

> *We often do not understand what is being talked about with the audio and the bad images, so it is difficult to monitor the videoconference. (VP16)*
>
> *It is difficult to understand the speech of the speaker, which is sometimes not clear because of the distortion that often occurs during the videoconference. (OB2)*

The consequence of poor connectivity hampers the operation of the project, therefore the municipality should invest in improving the training of computer professionals in order to minimize the transmission problems, as well as offering a quality internet service, contributing to service offerings provided by the Telenursing Project that aims to benefit the population covered by the FHP.

As for the teleconsulting tool, it allows an integration in an individualized manner among the nurses inserted into the BHU and the teleconsultant linked to the university, forming a connection between care practice and the institution. The use of the tool for a query can be performed in two ways: online, where the staff presents its clinical case in real-time to the expert, and off-line, where the nurse chooses the expert to whom he will ask the question, briefly explaining his doubt regarding the case that will be answered through the system at any given time. The professionals of the BHU showed positive and negative reactions in relation to the teleconsultations:

> *Good problem solving, knowledge, and it allows greater flexibility in cases that could take time to be resolved. (ER2)*
>
> *The problem we found for requesting teleconsulting refers to the fact that, in some cases, we cannot use the equipment because it is in the office that is normally in attendance. (VP6)*
>
> *Sometimes I have no time to to use the teleconsulting servicethe teleconsulting because I cannot stop the service. (VP8)*

The teleconsulting has facilitated an approximation of the primary care to the university, enabling the exchange of experiences and providing a more skilled attention to the patient, Since it affords the opportunity for several professionals to previously discuss the case. The selected specialists work in a university, which contributes to the trust on the part of the requestor in relation to the second opinion.

It is understood that teleconsulting avoids the referral of patients to other health services in 70-80% of cases. This has a significant financial impact, as well as expanding access and improving the solvability of the healthcare provided to the population[14].

Considering that the demands of healthcare required by the community are often presented as complex and difficult to solve demands at the local level, professionals seek training alternatives to ensure quality care and professional qualification. Thus, the project establishes a period of up to 72 hours for the specialist to forward the response regarding the needs of professionals concerning the doubts raised at that time.

It can be stated that the use of teleconsulting provides great social and economic benefits for the UHS and for the population, especially the more distant counties. First, by providing ODL continuously, retaining professionals in the

locations of action, and second, by reducing the costs of patient referral to a tertiary care center. In addition, it offers higher resolution when anticipating the diagnosis and providing faster access to specialists with greater comfort and convenience for the patient.

However, what is observed in practice is that the use of this tool has not been fully assimilated by professionals. It is necessary to understand the weaknesses in the use of teleconsultations for its effective incorporation into the work processes in health, as well as the formulation of strategies to overcome them.

The UHS has high treatment costs out of the domicile, related to the transportation of patients. Besides the cost, the critical condition of the patient being transported often means transportation is endangering the patient's life. The difficulty of settling professionals at locations far from major centers and smaller resources is a challenge that can be faced structurally by Telehealth. The bigger capacity and cost reduction are guaranteed as the second opinion, by means of teleconsulting, assists in solving simple problems, regardless of the often unnecessary and costly use of sophisticated technologies[15].

It is understood that it is necessary to invest in the awareness of nurses for a greater use of the Telenursing Project tool. The incorporation of lifelong learning as a stage of care work is required. For that, professionals should employ the tools of Telehealth in their work routine, relying on the support of managers who must recognize that, despite the tribulations of everyday life in a BHU, continuing education is a facilitator of actions.

It is understood that the use of tools and instruments of information technology in the training of professionals helps employees in the exercise of their profession, facilitating the service and enabling the exchange of information between professionals and institutions of education and research. It is essential to encourage the increased participation, not only of the nursing staff, but also the gradual involvement of professionals that comprise the healthcare team.

FINAL CONSIDERATIONS

Throughout this study, we sought to evaluate the distance continuing education of the nursing staff of BHU of the municipalities enrolled in the program for the development of care practices. This methodology that makes use of virtual environments requires the understanding of communicative, temporal and spatial, synchronous and asynchronous elements, employing the conception of methodologies and didactics that guide the professional to autonomy and self-education.

It is essential that the professional understands the teaching process in a virtual environment, as a universe that requires a willingness to learn together, in which using new models of information and communication technology become emerging requirements.

The integration of virtual environments in the work process contributes to leading the reflection on education to another level of discussion, such as those that refer to the stages of professional training in the workplace, which involves inserting the professionals in this informational and communicative context that is ahead of the formative processes, to the technological instances as instrumental elements for education.

The technologies of information and communication are methods of education that have enabled service and quality, access and learning in order to democratize knowledge. This form of education has become an efficient method in the Telenursing Project, allowing easy geographical access and low cost, in addition to contributing in a wide spectrum for knowledge acquisition of professionals in the workplace without the need for being away from their daily activities.

The tools employed by the project are configured as an important support for health professionals, enabling closer ties with the university and the sharing of doubts regarding the clinical cases that arise in daily practice. It is understood that videoconferencing, such as teleconsulting, has a positive impact on the professional qualification and problem solving regarding the access to good information in primary care in order to meet the needs of professionals in their daily work.

This study has presented limitations with regard to the reticence of nurses to participate in it, considering the selected tool for the collection of research data. The tool used was the web conference, which may have inhibited the participation of professionals, considering that it is performed online without direct interaction with the participants.

For future studies, the realization of projects that present a proposal directed to the area of information technology in health, nursing, and telehealth is recommended, thus seeking the improvement of the knowledge of the use of new technologies in healthcare and nursing to increase the skills and abilities of professionals working in the BHU.

Considering the results presented, the need to invest in raising the awareness of professionals in order to make greater use of the project tools is also clear. We may also add to this the need to upgrade the computer technicians of the municipalities to minimize problems and improve connectivity dependent on the network technical conditions, as well as sensitize teleconsultants regarding the limited time for providing an answer, considering the needs of the professionals involved in the process of clinical decision making.

It is believed that the new information and telecommunications technologies allow the visualization of new ways of providing assistance, along with the consideration of local needs and the contribution to transforming the practical realities while providing distance guidance to the health team.

REFERENCES

1. Filho PA. Educação à distância: uma abordagem metodológica e didática a partir dos ambientes virtuais. Educ. rev. 2011 ago;27(2):41-72.
2. Garcia RM, Baptista R. Educação a distância para a qualificação dos profissionais do SUS: perspectivas e desafios. Rev. baiana de saude publica. 2007 jun;31(1):70-8.
3. Guimarães EMP, Martin SH, Rabelo FCP. Educação permanente em saúde: reflexões e desafios. Cienc. enferm. 2010 ago;16(2):25-33.
4. Martins JSA, Brandão MAG, Ferraz VM, Rocha CC, Fernandes DN. Ações Participativas em Comunidade Virtual de Enfermagem. Esc. Anna Nery. 2009 jan/mar;13(1):36-43
5. Oliveira MAN. Educação à Distância como estratégia para a educação permanente: possibilidades e desafios. Rev. bras. enferm. 2007 set/out;60(5):58-9.
6. Guimarães EMP, Maia CCA, Godoy SCB, Ribeiro MAC. Telenfermagem: uma iniciativa para a educação permanente em enfermagem. In: Santos AF et al. Telessaúde: instrumento de suporte assistencial e educação permanente. Belo Horizonte (MG): Editora UFMG; 2006. p. 95-110.
7. Camacho ACLF. Análise das publicações nacionais sobre educação à distância na enfermagem. Rev. bras. enferm. 2009 jul/ago;62(4):588-93.
8. Santos AF et al Experiências brasileiras em telessaúde desenvolvidas em parceria com a comunidade europeia projeto @Lis. In: Santos AF et al. Telessaúde: instrumento de suporte assistencial e educação permanente. Belo Horizonte (MG): Editora UFMG; 2006. p. 75-94.
9. Bardin L. Análise de Conteúdo. Lisboa (POR): Edições 70; 2004
10. Guimarães E, Godoy S, Ferreira C, Melo C. Desafios e tendências na implantação da telenfermagem no programa nacional de telessaude em Minas Gerais. Anais do 4ª Congresso Brasileiro de Telemedicina e Telessaúde, 2009 dez 9-12, Belo Horizonte (MG), Brasil; 2009.
11. Évora YDM. As possibilidades de uso da internet na pesquisa em enfermagem. Revista Eletrônica de Enfermagem. 2004 set/dez;6(3):395-9.
12. Ferraz LL. A Educação a Distância na Educação Permanente dos profissionais da saúde: revisão. Revista Eletrônica Gestão & Saúde. 2013 mar; Ed. Esp: 2118-27.
13. Carneiro VF, Brant LC. Telessaúde: dispositivo de educação permanente em saúde no âmbito da gestão de serviços. Revista Eletrônica Gestão & Saúde. 2013;4(2):494-516.
14. Alkmim MBM, Maia JX, Marcolino MS, Cunha LR, Silva GAC, Figueira RM, et.al. Nove Anos de Experiência em Teleconsultorias para Atenção Primária. Gold Book inovação tecnológica em educação e saúde [online]. 2012 ago. Disponível em: http://www.telessaude.uerj.br/goldbook/artigos/
15. Santos AF. Telessaúde: um instrumento de suporte assistencial e educação permanente. Belo Horizonte (MG): Editora UFMG; 2006.