Technology as distance learning resource in rural and metropolitan internship

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Abstract

The goal of this article is to assess the use of telenursing resources as distance learning method for students of the subject Curricular Training I, Rural and Metropolitan Internship at the School of Nursing of the Federal University of Minas Gerais, in 2009 and 2010. For this purpose a descriptive study to evaluate the use of technological resources of the Telenursing Project was done by the students of Rural and Metropolitan Internship. First, students and professors were trained on the tools used by the Telenursing Project (videoconferences, offline and online teleconsultations and distance learning courses). Then, they had to fill in an evaluation form of the videoconferences as a stage of the study, considering data on user identification, on Primary Care Units, on the approach given to the topic and on video and audio quality. Quantitative data related to the use of teleconsultations was obtained consulting the system. The results found enable to consider the use of telenursing resources as a positive thing both for students and professionals, since it is a tool that brings University and Primary Care Units closer, changing the practice from the theoretical discussion of the practice.

Key words: *Health Education; Telenursing; Distance Learning.*

Resumen

La tecnología como recurso de educación a distancia en el internado rural y metropolitano

El objetivo del presente artículo es evaluar la utilización de los recursos de tele-enfermería como método de educación a distancia por los alumnos de la asignatura Prácticas Curriculares Internado Rural y Metropolitano de la Carrera de Enfermería de la Escuela de Enfermería de la Universidad Federal de Minas Gerais (EEUFMG), en el período de 2009 y 2010. Para esta finalidad se realizó un estudio descriptivo evaluando la utilización de los recursos tecnológicos del Proyecto Tele-enfermería (videoconferencias, teleconsultorías asíncronas y síncronas y cursos a distancia). En un segundo momento se aplicó el formulario de evaluación de las videoconferencias como etapa de su realización contemplando datos de la identificación del usuario, de la Unidad Básica de Salud, del enfoque del tema abordado, calidad de video y sonido. Los datos cuantitativos relacionados con la utilización de las teleconsultorías se adquirieron mediante consulta al sistema. Los resultados encontrados permiten considerar como positivo tanto para los alumnos como para los profesionales, que la utilización de los recursos de Tele-enfermería es una herramienta de aproximación de la Universidad con las Unidades Básicas de Salud, resultando en cambio de la praxis a partir de la discusión teórica de la práctica.

Palabras-clave: *Educación en Salud; Tele-enfermería; Educación a Distancia.*

Resumo

A tecnologia como recurso de educação a distância no internato rural e metropolitano

O objetivo do presente artigo é avaliar a utilização dos recursos de Tele-enfermagem como método de educação a distância pelos alunos da disciplina Estágio Curricular I, Internato Rural e Metropolitano do curso de Graduação em Enfermagem da Escola de Enfermagem da Universidade Federal de Minas Gerais (EEUFMG), no período de 2009 e 2010. Para o proposto realizou-se um estudo descritivo avaliando a utilização dos recursos tecnológicos do Projeto Tele-enfermagem pelos alunos do Internato Rural e Metropolitano. No primeiro momento, realizou-se treinamentos com alunos e professores para demonstração das ferramentas utilizadas pelo Projeto Tele-enfermagem (videoconferências, teleconsultorias offline e online e cursos a distância). Em um segundo momento foi aplicado o formulário de avaliação das videoconferências como etapa de sua realização contemplando dados da identificação do usuário, da Unidade Básica de Saúde, da abordagem do tema, qualidade de vídeo e áudio. Os dados quantitativos referentes à utilização das teleconsultorias foram adquiridos via consulta ao sistema. Os resultados encontrados permitem considerar como positivo tanto para os alunos como para os profissionais, que a utilização dos recursos de Tele-enfermagem é uma ferramenta de aproximação da Universidade com as Unidades Básicas de Saúde, resultando em mudança da práxis a partir da discussão teórica da prática.

Palavras chave: *Educação em Saúde; Tele-Enfermagem; Educação a Distância.*

INDRODUCTION

Telenursing Project is an extension project of the School of Nursing of the Federal University of Minas Gerais, developed as an integrating part of National Telehealth Program. Its main goal is to analyze new ways of providing assistance, considering local needs and, thus collaborating with the transformation of practical realities through distance learning for the healthcare team. Distance Learning is gaining new dimensions with digital technologies, that extend the capilarity of formation processes and the dissemination of infomation and knowledge, making virtual and interactive learning environments available and posing new challenges and alternative solutions to reflect upon formation and training processes.[1]

The priority of the methodological option of the Telenursing Project is the use of low cost, easy to use and handle Communication and Information Technologies. The National Telehealth Program makes available an information network created among the municipalities that integrates the program in each state and the link between the Telehealth Units of nine states of the country: Amazonas, Ceará, Pernambuco, Minas Gerais, São Paulo, Rio de Janeiro, Goiás, Santa Catarina and Rio Grande do Sul, which conforms the National Telehealth Network. Hardware equipments required are technologically simple and they include a personal computer with multimedia and a webcam. With this technological availability and concerned with the teaching and learning process of the students enrolled in the 8th semester of the Nursing Degree at the subject Curricular Training I - Rural and Metropolitan Internship, the choice made was to use the technological resource available by the National Telehealth Program at Care Primary Units of the participating municipalities. The goal of this subject is to include the student into primary care services network in order to develop assistance, administrative, political-educational and research activities in nursing. With this initiative the project wants to contribute with the development of required skills and competences in order to participate in the health-disease process to the communities, according to the National Healthcare System. Thus, experiencing the integration between reality and experience of healthcare services, Rural and Metropolitan Internship students started their participation in the Telenursing Project in August 2008. Students developed learning activities on a place where lecturers are not physically present at all times of the teaching term, needing to get support from technology media to get in touch with lecturers, in a continuous process of distance learning.[2]

Over the last years the School of Nursing at the Federal University of Minas Gerais had prepared itself to offer training programs on distance learning both in terms of preparing its teaching staff regarding technological adjustment and as an additional alternative to answer the social demand established in the healthcare area.[3] In this regard, students have the opportunity to experience different realities and to improve the development of actions that answer the healthcare-related needs of the community.

On the 1st term of 2009, the Rural Internship developed its activities in the following municipalities: Araçuaí, Carmésia, Conceição do Mato Dentro, Ipoema, Ferros, Piranga, São Pedro do Jequitinhonha, Senhora do Carmo, Várzea da Palma and Virgem da Lapa. In the Metropolitan Internship ten Primary Care Units linked to the City Health Department and Belo Horizonte Municipal Government participated. In the 2nd term of 2009 the rural internship was present in the following municipali-

ties: Bonfim, Carmésia, Conceição do Mato Dentro, Ferros, Ipoema, João Monlevade, Morro da Garça, Piranga, São Pedro do Jequitinhonha, Senhora do Carmo, Várzea da Palma, Virgem da Lapa and in 11 Primary Healthcare Units of the City Health Department and Belo Horizonte Municipal Government. On the 1st term of 2010, the following 11 municipalities took part in the program: Bonfim, Carmésia, Conceição do Mato Dentro, Ferros, Ipoema, João Monlevade, Piranga, São Pedro do Jequitinhonha, Senhora do Carmo, Várzea da Palma, Virgem da Lapa and ten Primary Care Units of the City Health Department and Belo Horizonte Municipal Government.

In order to prepare and to get to know the technology available by the Telehealth Project, an introductory training program was developed with the students, starting with the creation of a login and a password for individual access and limited to videoconferences, online and offline teleconsultations and distance learning courses.

Videoconferencing is defined as a real time connection between people who are distant from each other with the purpose of communication, generally involving audio and video. In its most simplified format, videoconferences offer the transmission of static images and text between two locations. In its more sophisticated format, it offers the transmission of high quality full motion video and audio between multiple positions.[4] With these resources, videoconferences are used to carry out discussions of themes dealing with aspects of the healthcare needs of the community identified by professionals and students during the assistance and management processes of primary care.

Teleconsultations are a one-to-one integration tool between students/healthcare professionals at Primary Care Units and teleconsultants. This resource is regarded as a second opinion and it is important to state that the responsible person for the decision in the assistance process and in the care provided to the patient is exclusively the healthcare professional with whom the patients is having the consultation. Teleconsultation has two formats: online teleconsultations, where healthcare professionals show a clinical case in real time to a specialist and, offline teleconsultations where the healthcare professional sends a summary of the case to a specialist who answers via the system. On both formats healthcare professionals receive guidance on diagnosis, therapy, report, general behavior.[5]

The importance of the resources available by the Telehealth program is essential as an additional methodological instrument that will allow lecturers/students to come closer on the teaching process, because it shortens distances, granting immediate and remote access and real time discussions, as well as the guidance provided in groups or individually.

Distance learning courses, as the name says, are offered at the internet and lecturers and students are physically far from each other. Topics are prepared by the teaching staff and healthcare professionals, with activities focused on primary care and family health programs that cover relevant topics.

OBJECTIVE

To assess the use of telenursing resources as a distance learning method by students of the subject Curricular Training I, Rural and Metropolitan Internship of the Nursing Degree at the School of Nursing of the Federal University of Minas Gerais during 2009 and 2010.

METHODOLOGY

It is a descriptive study related to technological resources of the Telenursing Project available for the development of activities at healthcare services during 2009 and the first semester of 2010, based on the assessment of the students of the subject Curricular Training I at the School of Nursing of the Federal University of Minas Gerais.

The use of this strategy enables a greater interaction of lecturers/students/healthcare professionals for guidance of the activities to be developed throughout the academic semester, using the available technological resources, through videoconferences, online and offline teleconsultations and distance learning courses.

In order to reach the goals, the methodology used first considered to train students and lecturers on the tools used by the Telenursing Project (videoconferences, offline and online teleconsultations and distance learning courses).

Special importance was given to the responsibility and commitment of students when using the system regarding safety of data, information privacy and ethical attitude in the use of technology.

After this first moment, users had to fill in an evaluation form of videoconferences as a stage of the study, taking into account data on user identification and Primary Healthcare Unit, topic approach and video and audio quality. Quantitative data regarding the use of teleconsultations were obtained consulting the system.

RESULTS

Results obtained from the evaluation forms filled in at the end of videoconferences enable to identify that in the year 2009 students participated in eight of the 16 videoconferences carried out.

During the 1st semester of 2009, of the 22 students at the Rural Internship and of the 21 students who stayed in Belo Horizonte at the Metropolitan Internship, only four students used the videoconferences. During the 2nd semester, 26 students participated in the Rural Internship and 33 students took part in the Metropolitan Internship, with ten visits. During this semester there was a 40% increase of participation in videoconferences in relation to the previous semester.

During the 1st semester of 2010, 24 students took part in the Rural Internship and 23 students took part in the Metropolitan Internship. As a result there was a higher number of visits in comparison with the total number of visits in 2009. In regard to the ten videoconferences carried out during this period, the percentage of student participation was 80%. Of these eight videoconferences, 12 municipalities took part with one student and six municipalities participated with two students.

This data shows that integration of students with the Telenursing Project is increasing. It is believed that when students are included in the Primary Healthcare Units, they are committed to the service and they feel as an important player of the assistance process, willing to look for alternative solutions to further improve their work. In this regard, videoconferences appear as an alternative instrument that enable the active participation in real time discussions of theoretical and practical aspects of assistance experienced at the Primary Care Units.

Now, regarding the sound and image quality evaluation, Table 1 shows that most assessments are concentrated in the "good" category. In terms of the topic approach (Table 2), 55% of students evaluated as "very interesting" and the others assessed it as "interesting". It is believed that the positive evaluation of students regarding sound, image and topic favors participation in the activities of the project. It can be observed that when sound and video are crystal clear, the understanding of the topic is more favorable, enabling more interaction, verified by the expressive use of chats for discussions. On the other hand, when transmission is unsatisfactory participants tend to quit the activity. Another aspect which deserves to be discussed in the assessment of the topic, considered by 55% of students as "very interesting" indicates that the participation of students and professionals on choosing topics is directly linked to the motivation and interest in taking part in the discussions. Besides, the possibility of updating the topic is another factor that encourages students and professionals to participate in the distance learning courses training process.

Table 1 - Distribution of frequency and percentage of the sound and image evaluation, 1st semester of 2009 and 1st semester of 2010.

	Sound		Image	
	N°	%	N°	%
Great	11	28.9	15	39.5
Good	14	36,8	17	44.7
Regular	2	5.3	-	-
Poor	5	13.2	4	10.5
Very poor	6	15.8	2	5.3

Table 2 - Distribution of frequency and percentage of the topic evaluation 1st semester of 2009 and 1st semester of 2010.

	Topic	
	N°	%
Very interesting	21	55.3
Interesting	17	44.7

The number of teleconsultations sent by students/professionals of the municipalities integrating the project was a total of 25 offline teleconsultations, with 11 of them done in the 1st semester of 2009 and three during the 2nd semester of 2009 and 11 teleconsultations carried out in the 1st semester of 2010. Virgem da Lapa and Ferros municipalities were the ones with the highest number of offline teleconsultations, corresponding to a total of six teleconsultations for each one of these municipalities. Added to this number, there are the offline teleconsultations carried out by nursing students and addressed to medicine teleconsultants, besides one Rural Internship student from the Medical Course who sent a teleconsultation to the nursing area.

The results found allow us to consider as a positive thing the support that both students and professionals have in their working place as a tool of getting the University closer to the Primary Care Units, resulting in a change of the practice from the theoretical discussion of the practice.

CONCLUDING REMARKS

Considering the results of the evaluations done by students of Curricular Training I, Rural and Metropolitan Internship of the Nursing Degree at the School of Nursing of the Federal University of Minas Gerais, the conclusion reached is that the Telenursing Project contributes to a higher link between lecturers/students/professionals.

The greater interaction between University and the National Health System, favors the exchange of knowledge on a proposal that integrates professional training, knowledge production and the change of practice. Thus, technological resources available - teleconsultation and teleconference - enable the critical reflection of healthcare related needs required by the community, by the students and professionals working at the Primary Care Units.

However, it is possible to conclude that despite the fact telenursing is seen as a relevant support in building academic knowledge through information and experience exchange between students and lecturers, it is still underused by them. Alterations in the participation of municipalities during the different semesters are shown as a limiting factor for using the Project and as a consequence, the tools in the working process.

Thus, it is necessary to invest more in raising awareness of students/lecturers/professionals to disseminate and implement the Telenursing Project at the Primary Care Units of the municipalities and in the metropolitan region, since the resource available enables distance learning and it is extremely important in transforming the healthcare reality.

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