

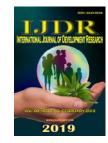
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## PROMOTION OF WEBCARE IN NURSING THROUGH A WEBRADIO: KNOWLEDGE OF SCHOOL-AGEYOUTHON COLLECTIVE HEALTH THEMES

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ABSTRACT

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*Key Words:* Health Communication, Nursing Care, School, Youth, Technologies. The research aims to analyze the experiences of school-age youth using a "WebRadio", through collective health themes in the promotion of Web care in nursing. The research is of the descriptive exploratory type. In 2014 and 2015, 217 young people from public schools in Ceará participated in the "In Tune with Health" outreach project, broadcast on the Web Radio. The actions were carried out by nursing students, masters and PhD students in nursing from the State University of Ceará (UECE). The interaction occurred through the Webradio, as well as through facebook, twiter, Whatsapp. The themes that emerged in the speeches of the youth were: symptomatology and prevention of dengue; historicity and epidemiology of leprosy; modes of HIV/AIDS contamination; transmission of viral hepatitis; HPV: symptoms, transmission and prevention; tuberculosis: transmission and symptomatology; chemical dependency and damage to human health caused by smoking. The project contributed to the construction of new knowledge with the students regarding the topics covered and the production of care in collective nursing.

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## INTRODUCTION

The scenario of the contemporary world is strongly marked by technologies and its process of computerization as the production of major variations and modifications in the relation between space and time, with location in virtual experiences. In these virtual spaces, the experience gains other interpretations besides communicating and interacting, and the space is no longer associated with time (MATOS, 2015).

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technologies Communication and information have contributed significantly in the context of education and health practices in recent years. Computer-mediated communication has advanced and contributed to communication and interaction among young people, as it is an interactive and playful communication medium. In the context of health education in nursing practice, informatics is an important tool for care practices in the perspective of working to promote health among young people (Araújo, 2016; Champangette, 2015). Language is used in communication and is made possible by digital technologies, linked here to our purpose, which is to know the discourses of young people with respect to the meeting of their health demands when discussing

collective health themes through university outreach activities taking these discursive productions as a dimension of self-care and as ethics and aesthetics of existence (CHAMPANGETTE, 2015). The in-depth examination of the virtualities and the schools spaces (territories) where young people weave their daily life take us to the challenges of this reality, because we understand that these subjects have autonomy in their processes of human formation and their life histories are produced. Therefore, a better understanding of cyberspace is of extreme importance, since it is in this territory that young people, inside or outside schools, act in the constitution of their subjectivities, belongings and significances, since in the networks of communication the languages and the new knowledge are nourished from engendering through the ways of living and sharing communication and the information in the daily life of their interactions (LEVY, 2004). Thus, the attention of this study was concentrated on the mapped territories, understanding what is produced in these fields, enabling the authors to map the needs and demands producing health and vulnerabilities in the health of young people. When the territories of Fortaleza and Hidrolandia in the state of Cearáwere problematized, producing modes of subjectivation and addressing their health demands as they were debated in a virtual environment, the lines of forces that do not constitute barriers of cultural interlocution were identified. Based on all these reflections and contextualization's, there were concerns about the various implications resulting from the articulation between themes related to health and vulnerabilities in the illnesses of young people and their interactions in the school space. Thus, some questions were raised: How do these school-age youth, with their discursive enunciation devices, generate knowledge about these themes in the interaction with their peers, families and community? What care practices do they adopt in the daily relationship with their health demands andpotentialities in the school space?

Identifying young people and their expressions of subjectivity, exposure, vulnerability, positive productions, daily contacts in school and other environments of social relations, in this reality of online communication, connected to the internet in a daily basis, through the use of devices, is a tactic to perceive, investigate and analyze the influences and repercussions of youths that provoke, arouse and generate restlessness, often not resolved in the family environment or in consultations with health professionals in the health services. We have here revealed an original digital culture, known as web care, which united the clinical and educational care of nursing with the use of Digital Information and Communication Technologies (TDIC) with a view to teaching, extension, management and work process, happening inside clinical practices developed in groups and communities, as a space of belonging, exchange of knowledges, conviviality of different people. These questions allow us to analyze how school-age youth experiment and use the "WebRadio", through collective health themes in the promotion of nursing care, derived from the umbrella project entitled: Digital technologies and nursing education; The experience of using the AJIR WebRadio as a pedagogical tool in the training of nursing students of the State University of Ceará.

## **MATERIALS AND METHODS**

This is an exploratory-descriptive research with a qualitative approach part of the outreach and research project known as the "In Tune with Health" Program, broadcast by a Web Radio. The actions are carried out by nursing students from the State University of Ceará (UECE), master and PhD students of the Graduate Program in Clinical Care in Nursing and Health of the UECE. This approach in research is a mode that considers the manner in which the researcher uses the methods and techniques, the form in which she dialogues with the subjects, the paths traced and the apprehension of the discourses (FOUCAULT, 2014; MOREIRA, 2008). The Web Radio is a digital communication channel articulated between the Association of Young People of Irajá - AJIR and the Laboratory of Collective Practices in Health - LECCS/CCS of the UECE, with the support of the Pro-Rectory of Outreach projects - PROEX with registration in the Teaching, Research and Outreach Council (Figure 1).



Figure 1. AJIR web radio site. www.uece.ajir.com.br

In the digital communication channel, the "In Tune with Health" Program is presented, specialists in the various health areas are invited, including nurses who talk about collective health themes. In the dialogical session, students can make "questions-speeches", which are used and stored on the radio webpage as a source of empirical material (TORRES et al., 2015). The main audience of the web radio programs are young people from schools located in the capital of Ceará and in the municipalities in countryside of the state. In this sense, 217 young people from two public schools of the state, located in the cities of Fortaleza, Hidrolândia, and the Urban Center of Culture, Art, Science and Sports of Fortaleza (CUCA of Mondunbim) participated in the "In tune with Health" Program in the years 2014 and 2015. The data of this outreach project were collected through answers and questions of students made through the digital communication channel, the webradio, like facebook, twiter, whatsApp, with the realization of the "Programs: In tune with Health" about the following themes: dengue, leprosy, viral hepatitis, AIDS/HIV, tuberculosis and smoking, produced and broadcast in this space with the young people in the public schools of Ceará. The research followed the determinations of Resolution 466/2012 of the National Health Council on research involving human beings through the opinion Nº: 1. 761. 115. The data were analyzed based on questions-speeches that the participants sent, automatically, through the communication channels of the web radio during interactions in the live programs (TORRES, 2015). Thus, the steps described by Minayo (2014), in the first stage, can be characterized as the first moment with the material, promoting reading and preanalysis of the results obtained. In the second stage, the

exploration of the empirical material is made, as well as the organization of the results to search for the theoretical reference and systematization of the possible units of meaning. And the third stage is represented by the treatment of the results in search of the inferences and interpretation of the results (MINAYO, 2014). Thus, the following thematic categories analyzed according to Minayo's operational steps represented the starting point to structure the analysis of the problematization of the young people:

#### Table 1. Thematic Categories of the Study

Category 01: Concept, symptomatology and prevention of Dengue; Category 02: Historicity and epidemiology of leprosy;
Category 03: Modes of Contamination of HIV/AIDS;
Category 04: Transmission of Viral Hepatitis: how to carry out prevention?;
Category 05: HPV: symptoms, transmission and prevention; Category 06: Tuberculosis: transmission and symptomatology; Category 07: Chemical dependency and damage to human health caused by smoking.

### **RESULTS AND DISCUSSION**

Spontaneous questions were collected from the participants on the themes addressed, since the youngsters interacted positively in the topics discussed. The participants expressed their doubts and asked questions in an interactive way, combining informatics and communication, showing no difficulties to dialogue, considering that the communication tools (computer and Internet) are used in their everyday routine and facilitate communication, for the Internet can be used in health education and in the development of communication activities and community mobilization, among others. The richness of these questions occurred due to the autonomy of the youth who participated in the programs through the webradio broadcaster, as well as the use of learning strategies that suit them. Thus, this dynamics allowed a better professional and social formation, positively contributing to a better productivity with the use of this element in the pedagogical process of education and communication with the school-age youths (DAMASCENO, 2005; EISENTEIN, 2006).

The thematic categories are discussed below:

## Category 01- Concept, symptomatology and prevention of Dengue

What is dengue? How should we treat dengue? What are the symptoms?

(Young participant 1, School - A).

How isdengue prevented?

(Young participant 3, School - A).

In this category, 11 questions were analyzed. They werederived from the participation of nine young people during the program. The participants showed interest in learning more about the disease and ways of preventing and treating it. They sent questions about adequate medicines and how to prevent the mosquito's proliferation and, consequently, the disease. In view of the above results, it was perceived that the use of informatics and communication technology is a

strong ally in health education and health care for youths, because they use these tools in their daily lives. Using these tools in the care process with a focus on disease prevention and health promotion is of fundamental relevance. The results of the study show that the doubts and concerns of young people regarding the health context are themes that can be discussed and thought through the nursing work process in the promotion of health in the fight against dengue. In this sense, the school represents an important space in the development of activities of guidance, freedom of expression, and health education. The theme of health education thought in this space needs to be based both on innovative references of education and on references that understand the complexity of the health phenomenon, based on a broad and multidimensional concept associated with what we think of the health-disease process through determinants in health (LIMA, 2007).

### Category 02- Historicity and epidemiology of leprosy

What happened to people who contracted leprosy before?

(Young participant 2, School - B).

We know that Brazil is the second country with more people infected, behind only to India ... what should be done to change this situation?

(Young participant 9, School - C).

There were ten questions with the participation of 12 young people. The questions-speeches were analyzed and showed that young people have an interest in knowing about the onset of the disease in antiquity, its evolution in the present days, and how to prevent the risks of transmission. They also showed interest to know about the current situation of the disease in Brazil.

#### **Category 03- Modes of HIV/AIDS Contamination**

AIDS can cause harm in safe sexual intercourse?

(Young participant 2, School A).

Can we get HIV/AIDS through a kiss?

(Young participant 7, School - B).

If the person with AIDS is sweaty, and leans on someone else, can this person pass the sickness by the sweat to the other person?

(Young participant 5, School -A).

Nine questions were analyzed, and there was the participation of 9 young people. In this discussion, a great interest of the young people in this theme was noticed, especially because it is a theme not much debated in the family environment. Thus, the young people showed many doubts and difficulties to understand the modes of transmission and prevention of HIV/AIDS, clearly showing the lack of information to this young population on this subject. In the speeches of the participants in the categories 2 and 3, we perceived that the social determinants or markers such as the concept of symptoms, epidemiology of diseases, modes of transmission, damages to health and consequences are aspects that contribute to the promotion of positive actions to the health of school-age youth, and that can be extended to the whole family because these young people multiply the knowledge in their social spaces outside of school as well. The communicational flow that takes place in the school territory, where there is imposition of rules of conducts, rules of control, and implementation of tactics, makes the virtual space of the Internet controlled. However, the way how these interactions occur outside the school, what are their characteristics, their singularities, their desires and the subjectivities beyond the surface of control and regulation is almost invisible, because that is where the singular expressions of the culture of self-care of these subjects are, when they start living in virtual territories that are always updated by the context in which the youths are inserted (LIMA, 2007).

## Table 4: Category 04- Transmission on Viral Hepatitis:how to carry out prevention?

How can we get Hepatitis?

(Young participant 2, School - A).

Are the symptoms of Hepatitis A, B, C, D and E the same?

(Young participant 2, School - A).

Eight questions developed by seven participants were analyzed. The students showed concern about the way the disease is transmitted and about its prevention. They had questions about signs and symptoms and how to identify the types of Hepatitis.

Category 05- HPV (Human Papilloma Virus): symptoms, transmission and prevention

"What are the initial symptoms of HPV, and from what age can the person get the disease?"

(Young participant 6, School - C).

"Can Girls over 13 and no longer virgins take the vaccine?"

(Young participant 7, School - C).

"Who should do the screening test for cervical cancer and when should it be done?"

(Young participant 8, School - A).

In this category, 18 questions by 26 young people were analyzed. It was identified that there were difficulties to understand the disease. The youth also showed curiosity about the development of the disease and how to identify when someone carries the disease or when the partner is also a carrier. They had questions about how to identify HPV symptoms and ways of prevention such as the vaccine and the ideal age to initiate prevention. They showed concern about knowing the virus, how the disease develops and if there are risks to the fetus in cases when the woman is pregnant and finds out that she is contaminated by this disease. In this context, it was also noticed in the results of this study, in categories 4 and 5, that with regard to the topics discussed from the point of view of health care the young participants pointed out health care needs aimed at prevention of infectious diseases, such as HIV/HPV, viral hepatitis, among others. This leads us to think and argue that health information should permeate the school environment more intensely; the school should be thought of as a mediator in health care production spaces, making subjects autonomous and responsible for their actions through education, and allowing the possibility of growth and empowerment in their way of living (TORRES, 2012). Thus, the earlier health promotion attitudes are discussed, inserted and provided in the school space the greater is the impact on the young people's ways of living, creating future adults who will have more awareness and health. Learning strategies, as well as the method, and the theoretical and methodological material used in the construction of knowledge about health conditions should be discussed because they are supposed to involve and attract young people by the way they will be absorbed. Thus, information technologies and communication represent a source of good adherence among school-age youth. Therefore, such actions allow a change in the current scenario on health of the young population, leading to healthier adults (TORRES, 2012; FREIRE 2011).

# Category 06- Tuberculosis: transmission and symptomatology

Can a person with common flu get tuberculosis?

(Young participant 1, School - A).

Is tuberculosis caused by persistent flu or not?

(Young participant 2, School- B).

After how long since the person got in contact with the tuberculosis bacillus does the disease begin to show symptoms?

(Young participant 11, School - A).

Before the 26 questions from the 38 participants, it was noticed that there was a great difficulty among the youthto differentiate the symptoms of influenza from more serious problems such as tuberculosis, and "why the flu progress to tuberculosis?". They also asked about the modes of transmission of the disease, the treatment, and if the disease is contagious. They asked about the incubation time and whether it is possible to get tuberculosis more than once, as well as about the risks to pregnant women who come in contact with people contaminated with tuberculosis. In the analysis of this category, we can perceive the doubts and the knowledge that these young people had regarding the modes of transmission of tuberculosis, a disease that had a major repercussion in the history of humankind, but which is presented here in speeches as unknown in its aspects of transmission and prevention. When thinking about web care as a strategy for information and discussion of health practices for school-age youth, we had a positive result not only in the biological aspect, but in the social, cultural and educational aspects where these subjects relate through these spaces, thus producing independence, greater access to technologies, and advancement in the field of technical-scientific knowledge, since our country is increasingly developing in the digital age (VIERO, 2015; LEVY, 2004; ANDRADE, 2002).

Category 07- Chemical dependence and damage to human health caused by smoking

How does cigarette act chemically in the body?

(Young participant 1 and 2, School - A)

Which cigarette substance causes addiction? And which substances are part of the composition of the cigarette?

(Young participant 8, School C)

My grandmother has smoked since she was 7 years old, she is 73 years old now, does she have a chance to stop smoking?

(Young participant 9, School - D)

Twenty questions from 30 participants were analyzed. The students were very interested in knowing how the user of tobacco becomes dependent, and which substances are present in the cigarette that most harm the human body. They also asked about the continuous and excessive use of the smoke in the family environment and if there are risks of death. It is worth emphasize, consider and understand that, faced with the results exposed and in discussion with other findings, doubts regarding the abuse of chemical substances were present in the discourses of young people such as fear of possible complications in social life. It was perceived as a positive point of this thought in consonance with the use of technologies and digital communication as being effective in the classrooms or spaces of production in health, using them as auxiliary techniques in the process of learning in health inserted in a school environment to young people, that they should be thought of as proposals to favor an autonomous spirit in these young people, imbued with the liberating spirit (LEVY, 2004). Being aware and using this tool to the own advantage is a true collective construction of knowledge. The internet and other hypertextual tools are effective in the learning of school-age youth because it provides a greater effectiveness of participation, as we observed in the questions and speeches of the subjects in this study. However, this participation must occur and be stimulated in the daily life of the school and as a source of knowledge production in health (LEVY, 2004; ANDRADE, 2002; EISENTEIN, 2016). Faced with these results, with this study in line with the literature, with regard to digital technologies designed as webcare and health education, it is still possible to cite the assumptions of health promotion and of the nursing work process, which has sought to renew and transform these educational practices in recent years in the field of health, thought in a promising way when using technological tools (MORAIS, 2015).

In this context, the communication produced with the youngsters of the schools through the reported experiences, narrated and consolidated with the interventions in the territories where the young people reside, suggests folds with the formulation of care plans that is based on the interaction between the demands and speeches elaborated by the young people and the knowledge of the nurses. For Sousa (2015), folds are spaces of the environment where the AJIR Web Radio team transits. From the perspective of folds, the virtual environment is not conceived in opposition to the physical space of the school, but rather promotes the understanding that the relation between time and space is differentiated. Therefore, the experiment of using the digital communication channel is anchored on the perspective of problematizing education through the questions of discourses, a concept studied by Foucault (1988). In this sense, the teaching, research and outreach activities of the project, with its critical discursive practice, instigates us to develop problematizing practices that focus on the students, understanding that they make their own way in the teaching and learning process for care in collective health. Finally, the outreach and research project pointed to the construction of the concept of "webcare" in nursing, which is the production of discursive practices of communication and health education in self-care made possible by experiments with digital technological tools, such as new ways of caring for and teaching young people. This conceptual construction bases and anchors what we have seen as webcare, which are the discourses that are transformed into practices in the everyday of the experiment, the communication movements produced in the virtual and digital scope. Thus, based on this way of caring, assistance through dialogical communication represents a new way of seeing health care, expressed as webcare and mediated through the Internet (TORRES, 2012; MORAIS, 2015). The termcare web is adevice to know the power produced by the discursive practices of communication and health education in the care of oneself, made possible by the experiences with digital technological tools, as new ways of caring and teaching with the young (TORRES, 2012; 2015).

### Conclusion

The web radio as a technology of health care in nursing was shown in this study as an excellent device for the practices of collective health care through dialogue with young people. In this sense, it was analyzed how the students expressed themselves before their knowledge and restlessness through the web radio with the aid of digital technology in the process of training for the practice of collective nursing. Thus, the "In Tune with Health" Program developed on the web radio was accepted by the youngsters in schools and contributed to the construction of new knowledge in the topics addressed. These dialogues of the participants revealed that the web radio is a didactic and innovative learning strategy, as it contributed to the construction and sharing of knowledge, which is often not addressed in family and school environments. Therefore, this channel is also a tool that allows the freedom of communication with youths, as it brings different questions from young people, demonstrating the importance of communication as the basis for a transformative action through technological resources, in order to clarify, inform, prevent and educate. Thus, this experience provided knowledge in the scope of research and outreach initiatives, enabling better professional training in Nursing and Health. This was possible through the analysis of the knowledge and discourses of the young people about their care practices carried out after dialoguing on the themes "dengue, HPV (Human Papilloma Virus), viral hepatitis, AIDS/STD/HIV, tuberculosis and smoking", with the Internet as one of the territories of experiences and interactions for the debate based on the school universe, which enabled us to know their realities as well how their interactions take place and the influence of the contents accessed in the world network of computers in the cultural and social formation of these subjects.

### REFERENCES

ANDRADE GRB, VAITSMAN J. Apoio social e redes: conectando solidariedade e saude. CienciaSaude Coletiva. 2002;7(4):925-34.10.

- ARAÚJO, AF ET AL. The blog as educational tool for health education: possibility of joint-service education. International Archives of Medicine, [S.I.], v. 9, oct. 2016. ISSN 1755-7682. Available at: <a href="http://imed.pub/ojs/index.php/iam/article/view/1738">http://imed.pub/ojs/index.php/iam/article/view/1738</a>. Acesso em: 06/04/2017. doi: http://dx.doi.org/10.3823/2110.
- CHAMPANGNATTE, DOSTOIEWSKI MARIATT DE OLIVEIRA; CAVALCANTI, MARCUS ALEXANDRE DE PÁDUA. Cibercultura – perspectivas conceituais, abordagens alternativas de comunicação e movimentos sociais. Rev. Estud. Comun. Curitiba, v. 16, n. 41, p. 312-326, set. /dez. 2015.
- DAMASCENO, MARIA NOBRE; SALES, CELECINA DE MARIA VERAS (coords.). O caminho se faz ao caminhar: elementos teóricos e práticas na pesquisa qualitativa. Fortaleza: editora ufc, 2005. (coleção diálogos intempestivos, 25).
- EISENTEIN, EVELYN. ESTEFENON, SUSANA B. Geração digital: riscos das novas tecnologias para crianças e adolescentes. 2016. Disponível em: < http://revista.hupe.uerj.br/detalhe\_artigo.asp?id=105>. Acesso em: 10/05/2017.
- Morais, Gecilvânia Mota Silva. Novas tecnologias no contexto escolar. In: Comunicação & Educação. São Paulo, 2015, ano VI, n 18, 15-21.
- FOUCAULT, MICHEL. Estética: Literatura e pintura, música e cinema. Rio de janeiro: Forense universitária, 2001. Ditos & escritos vol. Iii.
- FOUCAULT, MICHEL. História da sexualidade i: a vontade de saber. Tradução mariathereza da costa albuquerque e j.
  A. Guilhonalbuquerque. 12. Ed. Rio de janeiro: graal, 1988.FOUCAULT, Michel. A arqueologia do saber. Rio de Janeiro: Forense Universitária, 2014.
- FREIRE P. Pedagogia da autonomia: saberes necessários à prática educativa. 43<sup>a</sup> ed. São Paulo: Paz e Terra; 2011.
- LIMA, T. C. B. Aprendizagem colaborativa em ambientes virtuais e a perspectiva sócio-interacionista de vygotsky. In: 180. Encontro de pesquisa educacional do norte e nordeste, 2007, maceió - al. Anais/resumos do 180. Epenn encontro de pesquisa educacional do norte e nordeste, 2007. V. 1.]
- LÉVY, PIERRE. As Tecnologias da Inteligência O futuro do pensamento na Era da Informática. Rio de Janeiro: Editora 34, 2004.

- MATOS, P N, Gonçalves ed, MaiaR. Utilização das tecnologias da informação e comunicação (tics) por professores de ciências ao ensinar energia. Revista tecnologias
- na educação. 2015; 7 (13): 1-12.
- MOREIRA, M. I. C. Pesquisa-intervenção: especificidades e aspectos da interação entre pesquisadores e sujeitos da pesquisa. In: castro, l. R de e besset, v. L. (orgs.). Pesquisa-intervenção na infância e juventude. Nau: rio de janeiro, 2008.
- MINAYO, MC. O desafio do conhecimento: pesquisa qualitativa em saúde. 14. ed. São Paulo: Hucitec, 2014.
- SOUZA;VEC. Desenvolvimento e validação de software para apoio ao ensino- aprendizagem sobre diagnósticos de enfermagem [tese]. Programa de Pós-Graduação em Enfermagem (PPE): Universidade Federal do Ceará; 2015 [cited 2016 Sept 30]. Available from: http://www.repositorio.ufc.br/bitstream/riufc/12557/1/2015 \_tese\_vecsousa.pdf
- TORRES, R. AUGUSTO. M.; SILVA, M. A. M.; BEZERRA, A. E. M.; ABREU, L. D. P.; MENDONCAM. M. . Comunicação em saúde: uso de uma web rádio com escolares..Journalofhealthinformatics, v. 2, p. 58-61, 2015.
- TORRES, RAM. Comunicação em saúde: uso de uma web rádio com escolares. J. Health Inform [Interne]. 2015 [cited 2017 Feb 21]; 7(2): 58-61. Available from: http://www.jhisbis.saude.ws/ojs-jhi/index.php/jhisbis/article/viewFile/325/233
- TORRES, R. AUGUSTO. M.; FREITAS, GISLENE HOLANDA; VIEIRA, DANIELE VASCONCELOS FERNANDES; TORRES, ANTONIA LIS DE MARIA MARTINS; SILVA, LUCILANE MARIA SALES DA . Tecnologias digitais e educação em enfermagem: a utilização de uma web-rádio como estratégia pedagógica..Journalofhealthinformatics, v. 4, p. 152-156, 2012.
- VIERO. VANISE DOS SANTOS FERREIRA; JONI MARCIO DE FARIAS; FABIANE FERRAZ; PRISCYLA WALESKA SIMÕES; JÉSSICA ABATTI MARTINS; LUCIANE BISOGNIN CERETTA. Educação em saúde com adolescentes: análise da aquisição de conhecimentos sobre temas de saúde.Escannanery 2015;19(3):484-490.

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