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Introductory Note



## Educational hypermedia for the teaching of sexually transmitted diseases: a quasi-experimental study

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### ABSTRACT

**Introduction:** The virtual environment has emerged as a new form of contemporary education which adds meaning to the content, encouraging active participation in the learning process. This is an interinstitutional PhD research project of the Postgraduate Nursing Program, Federal University of Ceará and the Federal University of Pernambuco. **Aim:** To evaluate the effects of an educational intervention on nursing students' learning about Sexually Transmitted Diseases involving the use of a virtual learning environment compared to the traditional teaching approach.

**Methods:** This is a quasi-experimental study, structured in three stages: hypermedia construction, hypermedia validation and learning assessment. Data will be analyzed using the Statistical Package for the Social Sciences version 17.0, considering statistically significant values  $p < 0.05$ . The results of this study contribute to the construction of an educational resource for the improvement of nursing education in the area of sexual and reproductive health.

**Descriptors:** Hypermedia, Sexually Transmitted Diseases, Computer-Assisted Instruction, Educational Technology, Nursing.

## PROBLEM SITUATION AND ITS SIGNIFICANCE

Technology is transforming the ways in which we learn and teach. The use of computers and the internet have become part of the culture of education, being absorbed both by the students in the classroom and by those making use of a distance learning mode<sup>(1,2)</sup>.

This technological revolution has produced a generation of students who are developing new ways of perceiving and learning as a result of growing up in a multimedia environment, with expectations and worldviews different from those of previous generations.

In this perspective, the innovation in teaching methods and the creation of virtual learning environments (VLE) are presented as challenges to teachers in attempts to adapt themselves to the technological advancements associated with education.

On the other hand, the growth of Sexually Transmitted Diseases (STDs) in recent years requires educators to adopt an innovative attitude, inspires their participation, and increases their dialogue with appropriate teaching methods in order to promote the learning process.

Therefore, there is the need to seek new knowledge to support instructional materials for the teaching of STDs, which meet the current training needs of professionals in the public health system. The nurse plays a key role in the control of STDs, either by developing activities for prevention and health promotion, or by using a syndromic approach to the care of the patient.

Given these observations, we emphasize the importance of investigating the use of digital technologies in the learning of future health professionals, in view of the impact of STDs on health care and in nursing education.

## GUIDING QUESTIONS

What are the benefits for nursing students with regard to the use of hypermedia in a virtual environment?

To what extent is hypermedia suitable as a teaching aid for facilitating learning with regard to STD?

## GENERAL AIM

- To evaluate the effects of an educational intervention involving a virtual environment on nursing students' learning about STDs, compared to the traditional teaching approach.

## SPECIFIC AIMS

- To develop an educational hypermedia approach focusing on the STD syndromic approach, to be used in the teaching of nursing undergraduates;
- To validate of the hypermedia content and techniques with the support of experts in the fields of nursing and information technology.

## METHOD

This is a quasi-experimental study, structured in three stages: the construction of hypermedia, hypermedia validation and learning assessment. The first stage will involve the analysis and planning of modules, media selection, student's and tutor's space organization, the development of hypermedia in HTML language, and hosting in the SOLAR virtual environment. Hypermedia will be structured according to the curricular component of the course 'Nursing in the Care Process for Sexual and Reproductive

Health'of the nursing undergraduate program of the School of Pharmacy, Dentistry and Nursing, Federal University of Ceará (FUC). The research will be carried out in this university between March and December 2013. In the validation phase, hypermedia will be submitted to the assessment of experts in nursing and informatics, selected through snowball sampling. The inclusion criteria with regard to the nursing experts will comprise having a doctor's or master's degree in nursing; an article published on STD in an indexed journal; clinical practice and teaching experience in the area of the study and; guidance of academic work and participation in appraisers' boards of works related to STDs. The criteria for the selection of computer experts will involve professional experience in the development of virtual learning environments and websites, and expertise in the area of web development. In the third stage, two groups of students will be formed in different semesters: the control group and the intervention group to take the form of the control and intervention samples. The sample will take the form of a convenience sampling, and will have the following inclusion criteria: to be a seventh semester student of the undergraduate program in nursing, and be enrolled in the course Nursing in Sexual and Reproductive Health/FUC. Students younger than 18 years will be excluded from the sample. The control group will have access to the theoretical instruction with regard to STD, taught by a teacher with experience in the subject, in a traditional classroom using, as a teaching resource, a multimedia projector. The same content as that of the modules to be included in the virtual environment will be discussed. In order to verify previous knowledge (pre-test) and the knowledge acquired after a traditional class (post-

test), a validated multiple choice instrument on the theme will be used. The intervention group will have access to hypermedia resources with regard to the syndromic approach to STD in the virtual environment. The procedures used with the first group will be followed: the application of a pre-test and post-test to check the extent of learning after an educational intervention. A structured questionnaire designed to evaluate hypermedia and a virtual environment as a method of teaching-learning and to ascertain the attitude of the students with regard to online learning will be applied in the case of the intervention group. The processing of the data collected will be through the use of descriptive statistics (averages and standard deviations) and inferential statistics with the use of a measure of association (chi-square test, Fisher's exact test, Student t test). Data will be analyzed using the Statistical Package for Social Sciences software (SPSS) version 17.0, using statistically significant p values <0.05. The ethical aspects will be respected in accordance with Resolution 196/96, submitted to the Ethics Committee in Research of the FUC, No. CAAE: 06339612.8.0000.5054. The results of this study will contribute to the construction of an educational resource for the improvement of nursing education in the area of sexual and reproductive health.

## REFERENCES

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**Project Data:** Thesis project approved by the Qualifying Exam conducted on 28/06/2012 by the following board: Dr. Ana Karina Bezerra Pinheiro (Chairman) Dr. Marli Teresinha Gimenez Galvao (1<sup>st</sup> member), Dr. Luciana Pedrosa Leal (2<sup>nd</sup> member) and Dr. Ana Marcia Cavalcanti (Alternate).

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Authors - participation in the research

**Viviane Rolim de Holanda** - Author and researcher. She has taken part in the development and structuring of the preliminary report, and in the writing and critical revision of the article.

**Ana Karina Bezerra Pinheiro** - She has taken part in the guidance and structuring of the preliminary report.

**Cleide Maria Pontes** - She has taken part in the structuring and review of the article.

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