Research Article

Assessment of Undergraduate Nursing Students' Attitudes and Perceptions towards the Use of Computer Technology in Healthcare Settings

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Abstract

The use of computer technology in nursing education and practice has grown exponentially. It has provided advanced opportunities for learning and in the practice of evidence-based nursing care. The study aimed to assess the attitudes of undergraduate nursing students at King Faisal University in Saudi Arabia towards the use of computer technology in healthcare settings. Using a non-probability sampling method, one hundred and fifty (150) nursing students of first, second and third year were selected.

The data were collected using the Pretest for Attitudes Towards Computers in Healthcare (PATCH) Assessment Scale v. 3. Significant finding demonstrated that only a small number of students (7.3%) had a very positive view of the potential use of computer technology in the healthcare. This finding indicates that undergraduate nursing students have limited computer exposure as part of the curriculum and may not be adequately prepared to work independently with the computers in the workplace once they graduate. Nursing programs should integrate specific software within BSN curriculum to help beginning nurses to work in an environment that increasingly relies on computer technology for patient safety.

Keywords: Attitudes; Computer technology; Undergraduate nursing students; Healthcare settings

Abbreviations: PATCH: Pretest for Attitudes Towards Computers in Healthcare, BSN: Bachelor of Science in Nursing

Introduction

The integration of computer technology into the nursing curriculum is essential to ensure success throughout the education and future careers of nursing students [1]. As nursing advances into a more complex and evidence-based calling, nurses got to be capable in computer utilization and be able to communicate over an assortment of healthcare-system demands [2]. Thus, it is mandatory for nursing students to learn and acquire necessary technological knowledge and skills in a variety of settings around the globe [2].

Furthermore, nurses will be expected to utilize computers for their personal learning and promoting quality patient care and safety [3].

Only few studies evaluated undergraduate nursing students' level of informatics competencies based on the review of literature [4]. Moreover, very few studies focused on student technology knowledge, attitudes, and skills [5]. Having said that, identifying the variables that will predict informatics competency will help to develop appropriate strategies to prepare informatics competent

graduates and further yield valuable insight for informatics curriculum development [4]. To ensure that nursing graduates are competent in the era of electronic healthcare delivery, it is essential to assess the attitudes of undergraduate nursing students.

The outcome of this research will help evidence-based planning and implementation of eHealth in the hospital and generate additional insight on the topics to be included in the Nursing Informatics syllabus taught to undergraduate nursing students at King Faisal University to better prepare them in facing challenges of technology use in the health care settings.

Materials and Methods

The study assessed undergraduate nursing students at the College of Applied Medical Sciences, King Faisal University. A non-probability convenience sample was selected, and a quantitative descriptive research method was applied. Selection criteria for participants included nursing students who were studying in the first, second, and third year of the nursing program and were willing to participate. Fourth year students were excluded in the study for having completed a full course on Nursing Informatics in the previous year. One hundred fifty students (150) participated in the study.

A descriptive study design using quantitative approach and structured questionnaire (Pretest for Attitudes Towards Computers in Healthcare (PATCH) Assessment Scale) were used to measure the undergraduate nursing student's level of attitudes towards computer usage. The P.A.T.C.H. Assessment Scale v. 3 developed by June Kaminski to assess health worker's attitudes towards computer use. This scale is a valid and reliable, self-report measure of attitudes towards computers in healthcare. The scale was administered along with a brief demographic form. The demographic data form consisted of four items selected to elicit data about the background of the participants in the study including age, marital status, year of study, and computer ownership.

Results and Discussion

The findings revealed that almost half of the participants (n=71, 47.3%) had realistic views of current computer capabilities and applications in health care as indicated in their responses to the questionnaire. Very few of the participants (n=21, 14%) showed limited awareness of the applications of computer technology in health care. Only a small number of the participants (n=11, 7.3%) had very positive view of the potential of computer use in healthcare setting. Moreover, the mean score of the participants was 4.28±0.84 (M±SD) which indicates being comfortable with the user-friendly computer applications and had a realistic view of how computers are currently used in healthcare settings. The findings of association showed that the levels of attitude were not associated with age, marital status and whether or not the participants owns a computer application.

(Table 1).

Table 1: Responses of the participants to the PATCH-Pretest for Attitudes toward Computers in Healthcare Assessment Scale (N= 150).

	Score	N(f)	%
Indicates signs of cyberphobia	0-17	0	0
Indicates the user is unsure of the usefulness of computers in health care	18-34	2	1.3
Indicates limited awareness of the applications of computer technology in health care	25-52	21	14
Indicates the user has a realistic view of current computer capabilities in health care	53-69	71	47.3
Indicates the user has an enthusiastic view of the potential of computer use in health care	70-86	45	30
Indicates a very positive view of the potential of computer use in health care	87-100	11	7.3

Conclusion

The findings indicate that undergraduate nursing students generally held positive attitudes towards the use of computers in healthcare settings. However, most undergraduate nursing students received limited computer exposure as part of their curriculum and may not be adequately prepared to work independently with computers in the workplace once they graduate. Thus, the researchers suggest that nursing programs integrate-specific software within BSN curriculum to help beginning nurses to work efficiently in an environment that increasingly relies on computer technology to promote patient safety.

Acknowledgement

Conflict of Interest

The authors declare that there is no conflict of interest including relevant financial interests, activities, relationships, affiliations and any other conflict of interest in preparing this article as explicitly or implicitly expressed in the Editorial Policies for Authors.

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