JHI JOURNAL OF HEALTH INFORMATICS

Nursing students' attitudes towards computers in health care: a comparative analysis

Atitudes dos estudantes de enfermagem para os computadores nos cuidados de saúde: uma análise comparativa

Actitudes de los estudiantes de enfermería hacia los equipos de atención de la salud: un análisis comparativo

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Keywords: Attitudes; Computer technology; Nursing students; Health informatics

ABSTRACT

The present study aimed to determine the effectiveness of basic computer course related to Nursing Students' attitudes towards usage of computers in health care. Cross sectional descriptive design was adopted among purposively selected undergraduates (n=161) to complete self reported questionnaires. Students that completed computer course were found to have positive attitudes as they agreed that "computers are great solving tools" (÷2 = 9.663, p < .047), and "computers are natural to use in health care" (÷2 = 11.623, p < .020) than the participants who have not undergone formal instruction in computer course. Contrary to these findings the participants who did not undergo computer training were felt that "Computers are frustrating to use" (÷2 =9.930, p < .042) and they become restless when they think of using computer" (÷2 = 15.149, p < .004). The findings suggest that integration of informatics throughout curriculum with increasing levels of difficulty is needed.

Descritores: Atitudes; Informática; Estudantes de enfermagem; Informática em saúde

RESUMO

O presente estudo teve como objetivo determinar a eficácia do curso de informática básica realcionado com as atitudes dos alunos de enfermagem no uso de computadores na área da saúde. Trata-se de um estudo descritivo transversal onde foram selecionados propositadamente graduandos (n = 161) para completar o questionário. Os resultados mostram que alunos que completaram o curso de informática tiveram atitudes positivas e concordaram que "os computadores são grandes ferramentas de resolução " (÷2 = 9,663 , p < .047), e " os computadores são naturais para uso em cuidados de saúde" (÷2 = 11,623 , p < 0,020) comparados aos alunos que não tiveram instrução formal em curso de informática. Contrariamente a estes resultados os participantes que não realizaram treinamento em informática afirmaram que os computadores são frustrantes de usar (÷2 = 9,930 , p < 0,042) e que tornam-se inquietos ao ter que usar o computador (÷2 = 15,149 , p < .004). Pode se concluir que é necessário haver a integração da informática em todo currículo com níveis crescentes de dificuldade.

Descriptores: Actitudes; Tecnología informática; Estudiantes de enfermería; Informática salud

RESUMEN

El presente estudio tuvo como objetivo determinar la efectividad del curso realcionado equipo básico con las actitudes de los estudiantes de enfermería en el uso de computadoras en la asistencia sanitaria. Se trata de un estudio descriptivo de corte transversal que se seleccionaron deliberadamente estudiantes (n = 161) para completar el cuestionario. Los resultados muestran que los estudiantes que completaron el curso de informática tenían actitudes positivas y acordaron que " las computadoras son una gran herramienta para la resolución " (÷2 = 9,663 , p < 0,047), y " las computadoras son para uso en el cuidado natural de la salud " (÷2 = 11,623 , p < 0,020) en comparación con los estudiantes que no han recibido instrucción formal en curso de informática . Contrariamente a estos resultados, los participantes que no se sometieron a la formación informática dijo que las computadoras son frustrantes para usarse (÷2 = 9,930 , p < 0,042) ; volverse inquietos al tener que utilizar el ordenador "(÷2 = 15,149 , p < 0,004) . Por consiguiente, se puede concluir que es necesario que haya integración de las tecnologías de la información a través del currículo con el aumento de los niveles de dificultad.

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Artigo recebido: **01/07/2013**
Aprovado: **26/01/2014**

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INTRODUCTION

Science has bestowed health care delivery system with excellent technological innovations. One such innovation is the computerization of the entire health care delivery system. Computerization of health care delivery includes computerization of the medical records known as the Electronic Medical Record System (EMR), Electronic Prescriptions, Personal Digital Assistants, telemedicine, Computer Automated Cancer Detection and Computerized Theatre Management Applications. Integration of computer technology into a nursing curriculum is essential to ensure success throughout the education and career of contemporary nursing students[1]. However, research findings indicate that an individual's attitude is the essential factor that determines the successful implementation of computer instruction is users' attitudes toward computers[2]. Similarly, nursing students' attitudes toward technology (ATT) may influence their successful adoption of information competencies, willingness to learn computer systems, and ultimately, the use of technology to improve patient safety[3].

The importance of informatics competency in nursing practice is well supported throughout the literature; the last 20 years, technology usage in nursing education has grown exponentially. The American Association of Colleges of Nursing suggested introductory level nursing informatics competencies for the Bachelor of Science in Nursing (BSN) curriculum[1]. Likewise, in India, it is mandatory for undergraduate nursing students to take formal instruction course related to computers at 1st year level (theory-15 hrs& practical 30hrs). However, the literature review suggested integration of informatics throughout a curriculum with increasing levels of difficulty is essential to contemporary nursing profession[4].

Nursing graduates possessing a good sense of computer technology will be better prepared to interact with clinical information systems and clinical decision support systems[5]. There is substantial evidence suggesting that integrating computer technology into the nursing curriculum will provide computer skills as they need throughout their education and in their practice as nurses[6-7]. Further, computer skills help nurses to work around complex health information technology[8]. On the other hand, a study reported a paucity of computer-assisted instruction and formal education in IT (EIT) for nursing students[9]. In addition, advancement in technology will have a definite impact for the future of health care providers with the goal of providing a low cost service in a safe effective way for the patients.

Studies have been conducted in the United States and other western industrial countries about students' attitudes toward computers. However, current research regarding nursing students' attitudes relative to the use of computers in health care is lacking. Hence, the present study was aimed to determine the effectiveness of basic computer course related to the attitudes of under graduate nursing students towards use of computers in health care. In the present study, Basic computer course is defined as formal Instruction in computers at 1st year level (theory-15 hrs& practical 30hrs) and it is mandatory for undergraduate Nursing students.

MATERIALS AND METHODS

The study was carried out among under graduate nursing students at a College of Nursing, South India in the year 2011. A non-probability convenience sample with quantitative descriptive method was used. Selection criteria for participants included nursing students who are studying 1st year, 2nd and 3rd year of their course and were willing to participate. There were no exclusion criteria apart from not willingness to participate. One hundred-seventy students were enrolled in the study. However, 9 questionnaires were discarded as these were incomplete. Hence, 161 questionnaires were analyzed for this study.

Following instruments were employed to capture data
Demographic Data Survey Instrument:

The demographic form consists of five items to seek the background of the participants in the study that includes age, education, monthly family income, residence.

Pretest for Attitudes Toward Computers in Healthcare, (PATCH Assessment Scale[10]):

This scale is a valid and reliable, self- report measure of attitudes towards computers in health care was administered to students along with a brief demographic form. The PATCH section has 50 items (25 items were negatively worded) and measures the attitude toward computers in health care. Respondents were given the choice of five response categories to tick based on their feelings from agree strongly to disagree strongly (agree strongly = 2, agree = 1.5, not certain = 1, disagree = 0.5, disagree strongly = 0) accordingly. The total score ranges between 0 – 100. The score interpretation as follows 0-17 indicates cyber phobia, 18-34- unsure of usefulness of computers in health care, 35-52- limited awareness of applications of computer technology in health care, 53-69- has a realistic view of current computer capabilities in health care, 70-86 enthusiastic view of the potential of computer use in health care and 87-100- positive view of computer use in health care.

The test-retest reliability of items of Pretest for Attitudes toward Computers in Healthcare Assessment Scale was 0.20-0.77, for the total scale was 0.85. For internal consistency, Scale's item total correlation was 0.06-0.68 and Cronbach's Alpha was 0.92. Concurrent validity was examined with correlation between Attitudes toward Computers Scale and Pretest for Attitudes Toward Computers in Healthcare Assessment Scale scores and was positively significant correlated ($r=0.66$, $p<0.01$)[11]. However, this questionnaire was validated in Turkish version. In the present study, the questionnaire was validated by experts to find the suitability in Indian context, subsequently pilot study was carried out among group of students and found that this tool was feasible. Thus no major changes were done. English version of the tool was administered in the current study.

Procedure

The above set of measures was distributed to each batch of students separately at various times, in a group setting in

a common place such as the lecture halls. On introduction, verbal explanation of the research aims and methods provided by the researcher (primary author) to all participants. Those who consented to participate formed our final sample. It was explicitly explained to the students that their responses would have no influence on their semester exams. The participants could complete both questionnaires in about 30-40 minutes.

Permission was obtained from the administrators of the college where the study was conducted. Participants were introduced to the aims and procedures of the study to decide if they would like to participate. After they agreed to participate verbally, the researcher gave them the confidential questionnaire. Data collection tools contained no identifying information and therefore kept the individual responses confidential.

Statistical analysis

Responses of the negatively worded items were reversed before data analysis. The data were analyzed using appropriate statistics and results were presented in narratives and tables. Descriptive (frequency and percentage) and inferential statistics (Chi-square test) was used to interpret the data. The results considered statistically significance if the p value is < 0.05.

RESULTS

The sample comprised of 161 undergraduate students of whom 45.3% (n=73) of the participants have not undergone basic computer course. Mean age of the participants was 18.64± 1.03(*M*±*SD*; range, 17-22 years). A vast majority (n=131, 81%) of the participants were belonged to Christian community. A significant difference was observed among nursing students who have not undergone computer course (1st years) and the students who had undergone computer basic course (2nd and 3rd year students)) in terms of their residence (÷2 = 14.035, p < .001). More number of the participants (n=54, 61.3%) who have undergone computer course were from rural back ground). The average income of the participants was (Rs/- in thousands) 1.170± 1.24(*M*±*SD*).

The results of comparative analysis are listed in Table 1. A significant association was observed between the both

Table1 - Responses of the participants to Pretest for Attitudes Toward Computers in Healthcare (PATCH) questionnaire

Variables	Response	Group A N=73		Group B N=88		χ^2-value	df	P – value
		n	%	n	%			
1. The computer is a powerful enabling tool.	Agree strongly/agree	73	100	85	96.6			
	Not Certain	-	-	-	-	1.615	2	.446
	Disagree/disagree strongly	-	-	5	5.6			
2. In healthcare, computers could save a lot of paperwork.	Agree strongly/agree	73	100	83	94.3			
	Not Certain	-	-	4	4.5	4.664	3	.198
	Disagree/disagree strongly	-	-	1	1.1			
3. Machines and I don't mix.	Agree strongly/agree	25	34.2	28	31.8			
	Not Certain	30	41	47	53.4	5.253	4	.262
	Disagree/disagree strongly	18	24.6	13	14.8			
4. I feel I am a skilled typist.	Agree strongly/agree	14	19.2	20	22.7			
	Not Certain	29	39.7	39	44.3	5.598	3	.133
	Disagree/disagree strongly	30	41	29	32.9			
5. I feel alarmed when I think of using a computer.	Agree strongly/agree	26	35.6	29	32.9			
	Not Certain	29	39.7	39	44.3	.702	4	.951
	Disagree/disagree strongly	18	24.6	20	22.7			
6. I have excellent finger dexterity.	Agree strongly/agree	15	20.5	21	23.9			
	Not Certain	25	34.2	45	51.1	11.378	4	.023*
	Disagree/disagree strongly	33	45.2	22	25			
7. I regularly use a computer at home.	Agree strongly/agree	18	24.6	18	20.4			
	Not Certain	2	2.7	20	22.7	12.399	4	.015*
	Disagree/disagree strongly	53	72.6	50	56.8			
8. I would love to be a proficient user of computers.	Agree strongly/agree	63	86.3	55	62.5			
	Not Certain	9	12.3	18	20.4	12.064	4	.017*
	Disagree/disagree strongly	1	1.3	15	17			
9. Bedside computers will irritate patients.	Agree strongly/agree	38	52	41	46.6			
	Not Certain	17	23.2	25	28.4	1.835	4	.766
	Disagree/disagree strongly	18	24.6	22	25			
10. I will never feel relaxed about using a computer.	Agree strongly/agree	17	23.2	29	32.9			
	Not Certain	21	28.7	22	25	7.191	4	.126
	Disagree/disagree strongly	35	47.9	37	42			
11. Computers can help me to be creative.	Agree strongly/agree	67	91.8	65	73.9			
	Not Certain	3	4.1	14	15.9	8.545	4	.074
	Disagree/disagree strongly	3	4.1	9	10.2			
12. I would enjoy learning course work using a computer program.	Agree strongly/agree	66	90.4	70	79.5			
	Not Certain	6	8.2	9	10.2	6.670	4	.154
	Disagree/disagree strongly	1	1.3	9	10.2			
13. Computers are frustrating to use.	Agree strongly/agree	21	28.7	12	13.6			
	Not Certain	27	37	41	46.6	9.930	4	.042*
	Disagree/disagree strongly	25	34.2	35	39.8			

14. Listening to people using computer jargon intimidates me.	Agree strongly/agree	27	37	21	23.9			
	Not Certain	25	34.2	46	52.2	5.470	4	.242
	Disagree/disagree strongly	21	28.7	21	23.9			
15. Computers will someday put health professionals out of a job.	Agree strongly/agree	29	39.7	35	39.8			
	Not Certain	12	16.4	24	27.2	4.018	4	.404
	Disagree/disagree strongly	32	43.8	29	32.9			
16. I am in control when I use a computer.	Agree strongly/agree	53	72.6	59	67			
	Not Certain	10	13.7	15	17	2.015	4	.733
	Disagree/disagree strongly	10	13.7	14	15.9			
17. I relate well to technology and machines.	Agree strongly/agree	32	43.8	44	50			
	Not Certain	25	34.2	32	36.3	4.639	4	.326
	Disagree/disagree strongly	16	21.9	12	13.6			
18. I feel confident that I can master using a computer.	Agree strongly/agree	30	41	33	37.5			
	Not Certain	18	24.6	33	37.5	4.878	4	.300
	Disagree/disagree strongly	25	34.2	22	25			
19. I can let my creativity flow when writing using a computer	Agree strongly/agree	43	58.9	41	46.6			
	Not Certain	12	16.4	29	32.9	5.015	4	.286
	Disagree/disagree strongly	18	24.6	18	20.4			
20. Computers in healthcare will create more work for nurses.	Agree strongly/agree	18	24.6	18	20.4			
	Not Certain	9	12.3	17	19.3	2.262	4	.688
	Disagree/disagree strongly	46	63	53	60.2			
21. Computers can be great problem-solving tools.	Agree strongly/agree	58	79.4	62	70.4			
	Not Certain	3	4.1	19	21.6	9.663	4	.047*
	Disagree/disagree strongly	12	16.4	7	7.9			
22. Computers are too complicated for me to learn well.	Agree strongly/agree	19	26	27	30.6			
	Not Certain	15	20.4	15	17	1.552	4	.817
	Disagree/disagree strongly	39	53.4	46	52.2			
23. Computers are impersonal and dehumanizing.	Agree strongly/agree	15	20.4	16	18.1			
	Not Certain	29	39.7	39	44.3	5.795	4	.215
	Disagree/disagree strongly	29	39.7	33	37.5			
24. The future promise of computers in healthcare excites me.	Agree strongly/agree	55	75.3	57	64.8			
	Not Certain	12	16.4	20	22.7	2.260	4	.688
	Disagree/disagree strongly	8	10.9	11	12.5			
25. I feel restless and confused when I think of using a computer.	Agree strongly/agree	15	20.5	15	17			
	Not Certain	12	16.4	29	32.9	15.149	4	.004*
	Disagree/disagree strongly	46	63	44	50			
26. I don't intend to own a home computer.	Agree strongly/agree	12	16.4	12	13.6			
	Not Certain	15	20.4	38	43.1	10.260	4	.036*
	Disagree/disagree strongly	46	63	38	43.1			
27. I feel a computer course in nursing is totally unnecessary.	Agree strongly/agree	6	8.2	11	12.5			
	Not Certain	3	4.1	11	12.5	4.163	4	.384
	Disagree/disagree strongly	64	87.7	66	75			
28. People who like computers are introverted and antisocial.	Agree strongly/agree	6	8.2	14	15.9			
	Not Certain	18	24.6	25	28.4	2.496	4	.645
	Disagree/disagree strongly	49	67.1	49	55.7			
29. I know more about computers than most faculty or administrators do.	Agree strongly/agree	12	16.4	16	18.1			
	Not Certain	10	13.6	31	35.2	11.586	4	.021*
	Disagree/disagree strongly	51	69.8	41	46.6			
30. Working with computers is boring and tedious.	Agree strongly/agree	0	0	11	12.5			
	Not Certain	19	26	19	21.6	8.050	4	.090
	Disagree/disagree strongly	54	74	58	65.9			
31. I can easily master the content of a computer lesson.	Agree strongly/agree	21	28.7	43	48.9			
	Not Certain	33	45.2	25	28.4	9.096	4	.059*
	Disagree/disagree strongly	19	26	20	22.7			
32. I feel ambivalent about computers and technology.	Agree strongly/agree	21	28.7	24	27.2			
	Not Certain	40	54.8	54	61.3	2.328	4	.676
	Disagree/disagree strongly	12	16.4	10	11.3			
33. Computers are everywhere, it is natural for them to used in healthcare.	Agree strongly/agree	64	87.6	59	67			
	Not Certain	1	1.3	18	20.4	11.623	4	.020*
	Disagree/disagree strongly	8	10.9	11	12.5			
34. I like to use the Internet to research health and nursing information.	Agree strongly/agree	68	93.1	74	84			
	Not Certain	4	5.4	7	7.9	5.055	4	.282
	Disagree/disagree strongly	1	1.3	7	7.9			
35. It takes longer to chart on the computer than on paper.	Agree strongly/agree	24	32.8	36	40.9			
	Not Certain	10	13.6	24	27.2	14.407	4	.006*
	Disagree/disagree strongly	39	53.4	28	31.8			
36. I enjoy using technology to communicate with colleagues (email, etc.)	Agree strongly/agree	59	80.8	64	72.7			
	Not Certain	13	17.8	11	12.5	7.573	4	.109
	Disagree/disagree strongly	1	1.3	13	14.7			

37. Computers help me to keep up to date with nursing issues, knowledge, research.	Agree strongly/agree	65	89	72	81.8	4.373	4	.358
	Not Certain	8	10.9	11	12.5			
	Disagree/disagree strongly	0	0	5	5.6			
38. Computers are just another object that takes me away from my patients.	Agree strongly/agree	11	15	20	22.7	3.033	4	.552
	Not Certain	21	28.7	24	27.2			
	Disagree/disagree strongly	41	56.1	44	50			
39. I resent the thought of having to use computers in my nursing practice.	Agree strongly/agree	44	60.2	41	46.6	7.038	4	.134
	Not Certain	21	28.7	35	39.8			
	Disagree/disagree strongly	8	10.9	12	13.6			
40. Using technology in practice interferes with my ability to be caring to my patients.	Agree strongly/agree	30	41	36	40.9	1.105	4	.893
	Not Certain	20	27.3	25	28.4			
	Disagree/disagree strongly	23	31.5	27	30.7			
41. Patients should not look for health and illness information on the Internet.	Agree strongly/agree	20	27.3	20	22.7	3.211	4	.523
	Not Certain	20	27.3	20	22.7			
	Disagree/disagree strongly	33	45.2	48	54.5			
42. Social media tools enrich health care professional communication and collaboration.	Agree strongly/agree	53	72.6	63	71.6	6.316	4	.177
	Not Certain	18	24.6	15	17			
	Disagree/disagree strongly	2	2.6	10	11.3			
43. I use health care apps on my cell phone or SMART phone.	Agree strongly/agree	29	39.7	44	50	7.977	4	.092
	Not Certain	9	12.3	20	22.7			
	Disagree/disagree strongly	35	47.9	24	27.2			
44. Nursing related online groups, forums, and email discussion lists are a waste of time.	Agree strongly/agree	6	8.2	15	17	5.654	4	.226
	Not Certain	10	13.6	15	17			
	Disagree/disagree strongly	57	78	58	65.9			
45. Electronic charting restricts how nurses record patient care.	Agree strongly/agree	24	32.9	27	30.7	6.789	4	.147
	Not Certain	19	26	36	40.9			
	Disagree/disagree strongly	30	41	25	28.4			
46. Personalized Electronic Health Records streamline access to information and interdisciplinary communication about patients.	Agree strongly/agree	37	50.6	43	48.9	9.805	4	.044*
	Not Certain	18	24.6	35	39.8			
	Disagree/disagree strongly	18	24.6	10	11.3			
47. Online support groups are a waste of time and have no value for patients.	Agree strongly/agree	4	5.4	21	23.8	11.286	4	.024*
	Not Certain	15	20.5	18	20.4			
	Disagree/disagree strongly	54	74	49	55.6			
48. Computers are great tools for patient education.	Agree strongly/agree	64	87.6	61	69.3	9.711	4	.046*
	Not Certain	4	5.4	15	17			
	Disagree/disagree strongly	5	6.8	12	13.6			
49. Hand written charting is much more complete than electronic documentation.	Agree strongly/agree	23	31.5	44	50	7.336	4	.119
	Not Certain	20	27.3	19	21.6			
	Disagree/disagree strongly	30	41	25	28.4			
50. Nurses should be involved in the planning of national Electronic Health Records.	Agree strongly/agree	67	91.8	67	76.1	6.023	4	.197
	Not Certain	3	4.1	15	17			
	Disagree/disagree strongly	3	4.1	6	6.8			

Significance at P<0.05 level; Group A – Participants without; Computer Instruction; Group B - Participants without computer instruction

groups to the item related to "*using the computer regularly at home"* (÷2 = 12.399, p < .015). More of the participants those who have not undergone the computer course were not using regularly computers (n= 53, 72.6%) comparing to the participants who have under gone computer course (n=50, 56.8%) who found to have *"excellent finger dexterity"* (÷2 = 11.378, p < .023). However, majority of the participants from both groups (86.3% and 62.5% not undergone and undergone respectively) agreed that they *"love to be a proficient user of computers"* (÷2 = 12.064, p < .017). Similarly, more number of participants from not under gone computer course (n=21, 28.7%) felt that *"Computers are frustrating to use"* (÷2 =9.930, p < .042) as well they disagreed that *"computers are great solving tools"* (÷2 = 9.663, p < .047). Majority of the participants who have not undergone computer course (n=46, 63%) than students who have completed their computer course (n=44, 50%) expressed that they feel *"restless and confused when they think of using computer"* (÷2 = 15.149, p < .004) and not "*intend to own a home computer"* (÷2 = 10.260, p < .036). A significant difference also found to the item related to *"knowing more about computers than most faculty or administrators do"* (÷2 = 11.586, p < .021). Although, more number of participants who have undergone computer course (n=43, 48.9%) were confident that they can *"easily master the content of a computer lesson"* (÷2 = 9.096, p < .059), they also felt that it *"takes longer time to chart on computer than on paper"* (÷2 = 14.407, p < .006). Nonetheless majority of the participants from both groups (n=64, 87.6%, n=59, 67%) felt that *"computers are natural to use in health care"* (÷2 = 11.623, p < .020). Nearly one fourth of the participants who have not under gone computer course (n=18, 24.6%) disagreed to the item *"Personalized Electronic Health Records streamline access to information and interdisciplinary communication about patients"* (÷2 = 9.805, p < .044). However, majority of the participants from both groups agreed (n=64, 87.6%, n=61, 69.3%) that "*computers are great tools for patient education*" (÷2 = 11.286, p < .024) and *"online support groups have value for patients"* (÷2 = 9.711, p < .046).

DISCUSSION

It was hypothesized that students those who have completed computer course would have significantly positive attitudes towards computers in health care than students who just enrolled in to the nursing education. Likewise, the present study was successful in showing that there were significant differences between Nursing students who are studying 2nd and 3rd year of their course comparing to the 1st year students. The outcome

of this study indicates that the nursing students who had under gone basic computer course during their first year held more positive attitudes towards use of computers in health care.

Over the centuries, nursing profession remained as female dominated profession for various reasons. Similarly, most of the sample in the present study consisted of females. In general, previous studies have found that students' level of confidence with technology has increased as a result of practice and experience[12-15]. Further, in a study, it was confirmed that students who had access to computers at home reported more positive attitudes toward computers than those without access to a computer at home. The present study also reflects these findings. Thus, it can be inferred that earlier exposure to computers suggests a more positive attitude toward the technology and a greater understanding of its usefulness in education and nursing practice.

In line with previous studies, the participants those who have not undergone the basic computer course expressed the computer anxiety in terms of lack of finger dexterity, frustrated to use computers, becomes restless and confused when they think of computers. Furthermore, they were not intended to own a computer. Few studies also have shown that negative attitudes of students towards the use of computers, make them to avoid and continue to learn from models with which they are familiar[16-17]. Indeed, these individuals will not benefit from the science and technology that computers offer in knowledge and skills acquisition and in delivering health care[18].

On the other hand, several studies concluded that actual computer experience reduced computer anxiety[19]. The present study mirrors these findings as the participants who have under gone computer course felt that they know more about computers than the faculty and administrators and were confident that they can easily master the content of a computer lesson. Further, they also expressed that computers are natural to use in health care as well they opined that computers are great tools for patient education. However, the participants who have undergone basic computer course were overwhelmingly positive towards using of electronic health records as they believed that these records streamline access to information and interdisciplinary communication about patients. Besides, Electronic Health Records allows nurses and other healthcare providers to share vital information across health systems and provides immediate access to clinical data that will reduce and eliminate medical errors, improving the efficiency of healthcare delivery, and advancing well-being for all people. Thus, in this context it can be hypothesized that integration of nursing informatics in nursing education and practice will provide vast opportunities for lifelong learning and practicing evidence-based nursing care. However, in two surveys of nurse executives and deans and directors of undergraduate and graduate programs, the nursing executives reported that new graduate nurses needed to be familiar with nursing-specific software such as computerized medication-administration systems and recommended improving incorporation of these skills into nursing curricula[20-21]. Further, nursing students in a study reported that they had little formal education in using technology applications (Maag, 2006) as they were not routinely exposed to computerized systems[22-23].

Limitations

The study generalizability was limited because of convenience sampling technique and small

sample size. Future research needs to focus on to identifying the factors affecting attitudes towards computer in health care (i.e., age, gender, socio economic status etc.) and this study should be replicated across the country. Despite of these limitations, the findings of the present study would be helpful to the nurse educators and administrators to develop effective computer educational programs.

CONCLUSION

The findings of the present study suggested that undergoing basic computer course is found to be helpful to decrease the computer anxiety and ensures strengthening of computer knowledge and skills. Subsequently, participants that undergone basic computer course demonstrated more positive attitudes towards usage of computer technology in health care practice. However, researchers strongly recommend that integration of informatics throughout nursing curriculum with increasing levels of difficulty is crucial to prepare future nurses to become more competent in the era of electronic health care delivery to promote safe, evidence-based nursing care.

ACKNOWLEDGEMENTS

The authors thank all the nursing students who participated in the present study for their valuable contribution.

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