



Original Article

Knowledge of Information and Communication Technologies among Nursing Students of College of Nursing, Allama Iqbal Medical College, Lahore

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ABSTRACT

Information and communication technology is an effective way in attainment of high quality education. The nursing students must understand ICT and be able to use it effectively in the classroom. **Objectives:** To determine the knowledge of ICT among nursing students of College of Nursing, Allama Iqbal Medical College, Jinnah Hospital Lahore. **Methods:** A questionnaire based quantitative cross sectional study was conducted in College of Nursing, Allama Iqbal Medical College, Jinnah Hospital Lahore which was selected using convenient sampling technique. Questionnaire comprised of demographic data and knowledge of ICT facilities was distributed among 100 nurses. One hundred nursing students returned completely filled questionnaire with response rate of 100 percent. Data was analyzed using SPSS statistics IBM 25. **Results:** Students have good knowledge about ICT, but their use is limited Most of the students were of the view that ICT increases their interest towards the lecture about 33%. **Conclusions:** Respondents have good knowledge regarding ICT; however they did not use ICT tools in learning effectively. Nursing students did not know the meaning of ICT at all. The better recalling of previous lecture with the help of ICT was seen in nursing students

INTRODUCTION

The usage of information and communication technologies (ICTs) not only enhances educational and learning process but has also proves effective for teaching. New and modern IC technologies introduced to education are efficient and valuable. These new technologies has brought transformation in teaching and learning processes [1]. ICTs helps in keeping updated with latest technology and to meet the advancements in the daily activities. E-learning, E- modules and online group discussions encompasses learning at all levels. Digital libraries and various sites of online learning are both cost effective and easily assessable. Teleconferencing including audio video and web based conferences along with online training programs has played an important role in raising the standards of delivering education [2]. Developing

countries like Pakistan are striving hard in implementing ICT in educational institutes. Ministry of education is now focusing on introducing new ICTs in public educational institutes to make a strong base line for future [3]. Various obstacles like lack of funds, expensive hardware and software devices, difficult course and curriculum of ICT and deficiency of well-trained ICT teachers and professional are major barriers in provision of ICT facilities publically. But, despite of all these obstacles and challenges faced during ICT policies implementation, the major focus should be the advantages that will be taken by it [4]. ICT has opened new channels of global communication, and has created information society that facilitates the access to isolated areas where health needs to be delivered and where nursing can make the idea of

achievement of "Health for All" possible [5]. Just like other disciplines, Information and communication technologies (ICTs) are advancing in nursing field where quality health care delivery is made assured by nurses. The use of ICTs by nurses has modified their ways of planning, documentation, and review clinical care. These methods and technologies change how nurses deliver, and review clinical care. The nursing ways of delivering quality care has improved with the advancement in these technologies. The processes whereby nurses receive and review diagnostic information, make clinical decisions, communicate and socialize with patients and their relatives, and implement clinical interventions will be fundamentally modified with further integration of ICTs into nursing practice [6]. With the advancement in the technology, nursing students need to develop the knowledge to compete with the latest ICT technologies era. They are expected to utilize these methods in their day-to-day work [7]. It was noted that nursing students do use internet and web services for fun, leisure and personal pleasure, but the use of these technologies in educational terms and purposes were very limited. Nursing students should be motivated about how use of ICT will make education and studies interesting [8]. Highly professional and trained nurses are the need of the hour. So, they should be provided with complete facilities and training courses of ICT [9]. The understanding of information and communication technology (ICT) along with its use is related to increased performance, time saving and higher efficiency among nursing students. Most of the nursing students are aware and acquainted about ICT. They have easy approach to computers, thereby internet services. The students frequently utilize internet in activities such as operating e-mail, browsing and chat with friends. The common searching engine in use is Google [10]. The nursing students along with other medical students and officers have acquaintance to computer, thus ICT, but very few of them own computers. Many a students have admirable knowledge of ICT yet some students have satisfactory know how. There is also a small number of the students who exhibit poor attitudes and operating habits towards ICT. Overall, there is a suboptimal utilization impression of ICT [11]. Better training facilities do not necessarily bring out the excellent apprehension and usage of ICT. More structured teaching and demonstration as a part of course may upshot in improved results related to ICT [12]. ICT is a necessary tool in nursing education. The students are in desire of support of informatics regarding ICT. This helps capacitate such students with such lifelong training for provision of impervious

evidence based care. There exists a demand for increased skill with time for nursing students and educators to embrace current and recent education strategies in addition to studying and teaching methods [13]. The influence of ICT ranges from moderate to excellent depending on its usage among students. The students often attest to the customary confrontations involving lecture duration, problems with ICT researching skills and paucity of means to accessibility of updated devices. Nevertheless, ICT do pose a stronger impression on academics for both students and teachers [14]. Therefore, the universities should improve compliance related to ICT and e learning courses for student nurses [15]. This investigate the knowledge of ICTs among the undergraduate nursing students of College Of Nursing, Allama Iqbal Medical College, Jinnah Hospital, Lahore.

METHODS

We used Cross sectional study design to know the knowledge and utilization of information and communication technology among the nursing students of CON, AIMC, JHL. Convenient sampling strategy was used because it helps us to collect data more easily and readily in college setting. 100 student nurses were selected as a study population to find the results of our study. The sample size calculated by the population proportion formula of statistics. Inclusion criteria was, BSN students of CON, AIMC, Age limit between 17 to 25. Exclusion criteria was, Age limit below 17 or above 25, Students of diploma or midwifery, Post- graduate students. A systematic questionnaire with two sections was used to collect the data. Both open-ended and closed-ended questions were included in Section A, while a 5-scale Likert scale was included in Section B. (Strongly Agreed SA, Agreed A, Neutral N, Disagreed D and Strongly Disagreed SD). When the decision mean was less than 3.0, the item was deemed to be in disagreement, and when it was 3.0 or above, the item was deemed to be in agreement. Section A contains the Demographical factors which ask about age, marital status, previous qualification, native area and year of degree because they are important for the final analysis of research. Section B contains questions regarding the knowledge of respondent about ICT tools and their usage. A 5-scale Likert is used for this part. Questionnaire was distributed to all student nurses and proper time was given to every student to fill the questionnaire. Approximately, 15 minutes were taken by each student to fill the questionnaire. Questionnaire was easy to understand but questions were explained for better understanding. Information regarding our research purpose was also

provided. Demographical factors like age, marital status and native area. Psychological variables like interest, confidence level and mental level of understanding new technology. The data collected was analyzed by descriptive analysis. Data was organized and run with the SPSS version 25. After analysis, data was presented in tables of frequency and percentages.

RESULTS

One hundred questionnaires were returned, for an overall response rate of hundred percent. 66% of population of nursing students was lying in the age group of twenty to twenty two years. More than two third nursing students were single about 93. A large population of 72% nursing students belonged to urban areas. Previous qualification of nursing students revealed that most of them did intermediate around 86. 30% of nursing students were of 1st year. 2nd and 3rd year comprised of 25% each. And 20 students were of final year BSc. Nursing (table 1).

	n(%)
Age	
17-19	18 (18%)
20-22	66 (66%)
23-24	16 (16%)
Marital Status	
Single	93 (93%)
Married	6 (6%)
Native Area	
Rural	28 (28%)
Urban	72 (72%)
Previous Qualification	
Intermediate	86 (86%)
Diploma	1 (1%)
Bachelors	13 (13%)
Year Of Degree	
1st	30 (30%)
2nd	25 (25%)
3rd	25 (25%)
4th	20 (20%)

Table 1: Demographic data of students

To know the respondent's knowledge about ICT tools and their use, questionnaires were analyzed for results. The analysis in the section B shows that only 26 of 100 of BSc. Nursing students did not know the meaning of ICT at all. 56% students knew that ICT means information and communication technology. 36 number of respondent population disagreed on receiving formal training about computer skills. 53% of nursing students accepted on using internet resources for their work. 45 of them agreed on the fact that ICT makes lesson more interesting. Most of the students were of the view that ICT increases their interest towards the lecture about 33%. Moreover, better recalling of previous lecture with the help of ICT was seen in 41 nursing students (table 2).

Questions	Strongly disagree n(%)	Disagree n(%)	Neutral n(%)	Agree n(%)	Strongly Agree n(%)
I know the meaning of ICT	26 (26%)	6 (6%)	10 (10%)	43 (43%)	15 (15%)
ICT means information communication technology	6 (6%)	5 (5%)	10 (10%)	56 (56%)	23 (23%)
I have received a formal training in computer skills.	22 (22%)	36 (36%)	19 (19%)	20 (20%)	3 (3%)
I have a certificate In Microsoft Office specialization.	44 (44%)	33 (33%)	8 (8%)	6 (6%)	9 (9%)
I can use Microsoft office	16 (16%)	17 (17%)	13 (13%)	39 (39%)	15 (15%)
I can use internet sources for my work.	4 (4%)	3 (3%)	16 (16%)	53 (53%)	24 (24%)
I can prepare my class assignment on PowerPoint.	8 (8%)	8 (8%)	7 (7%)	48 (48%)	29 (29%)
I know how to use multimedia.	6 (6%)	8 (8%)	19 (19%)	43 (43%)	24 (24%)
I don't know how to use Microsoft Office.	31 (31%)	32 (32%)	13 (13%)	17 (17%)	7 (7%)
Using ICT makes lesson interesting.	7 (7%)	12 (12%)	24 (24%)	45 (45%)	12 (12%)
Using ICT improves presentation of learning materials.	4 (4%)	4 (4%)	18 (18%)	51 (51%)	23 (23%)
Using ICT makes lectures easier to understand.	6 (6%)	8 (8%)	22 (22%)	42 (42%)	22 (22%)
Using ICT increase our interest towards the lecture.	8 (8%)	12 (12%)	27 (27%)	33 (33%)	20 (20%)
ICT enhances recall of previous lecture.	6 (6%)	12 (12%)	23 (23%)	41 (41%)	18 (18%)

Table 2: Respondent's knowledge about ICT tools and their use

Discussion

The findings of this study demonstrated that the majority of the BSc. Nursing students at CON, AIMC, and JHL had an intermediate background and were familiar with the phrase ICT. This is consistent with the findings of J. M. Williams in 2013. The majority of respondents were familiar with computers and how to use software such as PowerPoint and Microsoft Word. These data also demonstrated that more respondents were familiar with apps such as MS Word, internet browsing, and PowerPoint. In postsecondary institutions, information and communication technology (ICT) skills, knowledge, and understanding are crucial components of nursing curricula. The difficulty for educational institutions in preparing nurses for rapidly evolving ICT and electronic workplace applications is highlighted [16, 17]. It is interesting to see from the findings of that the respondents had access to ICT services but not enough [10]. It was observed that there is still a need to provide ICT materials and training to nursing students in order to encourage them in their education. Additionally, it was found that the respondents could not access any of the college's crucial ICT learning resources, including computers, internet access, an E-library, and a working ICT lab. Insufficient finance was discovered to be the cause of the college's lack of facilities. Additionally, neither the nursing staff nor the nursing students showed any interest in this area of instruction [18, 19]. The respondents said that unstable power supply, a lack of technical assistance at the institution, a lack of management encouragement, and support for ICT training for nursing students were the main factors influencing their usage of ICT facilities. Students indicated that they face frequent challenges such as access to modern devices including photocopier and printers and issues with E-learning. This result agreed to the findings of which highlighted such issues [11, 20].

CONCLUSION

According to the study's findings, nursing students at CON, AIMC, and JHL have knowledge of ICT, notably computer and computer applications such as PowerPoint. They also utilized ICT facilities such as computer and internet in learning. Respondents have good knowledge regarding ICT; however they did not use ICT tools in learning effectively. Nursing students did not know the meaning of ICT at all. The better recalling of previous lecture with the help of ICT was seen in nursing students.

Conflicts of Interest

The authors declare no conflict of interest

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