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Nursing Students Knowledge About Utilization of Information and Communication Technologies Facilities at Allama Iqbal Medical College, Lahore, Pakistan

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ABSTRACT

Technology is basically the scientific use of knowledge to solve problems practically, which also includes the invention of modern and useful tools and techniques. **Objectives:** To check the Nursing Students Knowledge About Utilization of Information and Communication Technologies Facilities. **Methods:** A questionnaire based cross-sectional study was conducted among nursing students. Questionnaire comprised of different question regarding the factors influencing ICT usage and nursing students knowledge towards the use of ICT. The questionnaire was distributed among hundred nursing students. **Results:** Students have good knowledge about ICT, but their use is limited. ICT facilities like photocopier, printer, E-library and functional ICT laboratories were lacking. Unreliable power supply, a lack of ICT technical support, and a lack of managerial encouragement were identified as the culprits. **Conclusions:** ICT resources were scarce, and there were no basic amenities. The use of ICT is largely impacted by unstable power supplies, a lack of technical assistance for ICT, and a lack of management motivation and support.

INTRODUCTION

Information is processed, organized and structured data. It provides context for data and enables decision making. Communication is the process in which thoughts, views, ideas and information are exchanged and transferred by voice or signals.. It usually includes the interaction between the person and his surrounding environment [1]. Technology is basically the scientific use of knowledge to solve problems practically, which also includes the invention of modern and useful tools and techniques [2]. Information and communication technologies (ICT) are related terms to IT that includes all communication technologies, internet networks, all modern communication devices, social media networks and other information and communication technologies methods and applications [3]. At present age, Information and Communication Techniques (ICTs) are been used in every aspect of daily life. Today every field, including business, education, industrial fields and entertainment means, are influenced by latest information and communication techniques [4]. In the digital era of ICT, new communication methods and techniques for exchanging information has showed visible progress in economic and business fields. Advancement in research and scientific methods has also assisted the researchers in their projects [5]. Belay, conducted a research study at Gondar University in 2017 , in which he discussed that how In higher education systems, the universities need to focus on roviding practical means to approach the ICT services. According to his study, a big portion of health sciences` students were not cognizant about ICT and thus never had consumed it to benefit themselves. Even though some students were aware of ICT, but more than

half of the students among them didn't know how to operate Microsoft office [6]. Besides familiarity to ICT, the educational status and background of the family and perception of training in ICT do have strong rather a positive affiliation with ICT application. Similarly, rural students are less likely to use ICT. Since students are inadequately using ICT, there is a dire need of pupil centered computer labs, and development of teaching to raise student performance and consequently their utilization [7-9]. Including ICT in nursing subsequently leads to upgraded quality of care, and education of not merely health professionals but patients too. Associated to health care workforce, nurses constitute the largest health provider group, hence administration of ICT has positive impacts in their practice [10, 11]. ICT amazingly promotes client centered health at a low expenditure, by information sharing and reduced travel time. ICT decreases the time length spent for documentation by the nurses [12, 13]. The use of ICT has changed educational criteria too. Digital teaching methods and learning techniques has also introduces effective teaching and learning strategies. To identify the issues affecting the use of ICT facilities by students [14, 15].

METHODS

We employed a cross-sectional study design to learn about the use of information and communication technologies among nursing students at CON, AIMC, and JHL. We adopted a convenient sampling approach because it allows us to collect data more easily and quickly in a college setting. To find out the findings of our study, we chose 100 student nurses as a study population. The sample size is computed using statistics' population proportion formula. We collected data using a standardized Questionnaire with two components. Both sections used a 5-point Likert scale (Strongly Agreed SA, Agreed A, Neutral N, Disagreed D and Strongly Disagreed SD). A decision mean of 3.0 or higher was regarded agreement, while a decision mean of less than 3.0 was considered discontent with the item. In the first part of questionnaire, we ask about the resources and facilities which are provided to students by the institutions. Same likert scale is used for this part. By second part we investigate about the factors that affect the usage of ICT facilities by the students. A questionnaire was issued to all student nurses, and adequate time was allotted for each student to complete the questionnaire. Each student took about 15 minutes to complete the questionnaire. The questionnaire was simple to understand, however questions were explained for clarity. We were also given information about the goal of our research. Descriptive analysis was used to examine the acquired data. SPSS version 25 was used to arrange and run the data. Following processing, data was presented in frequency and percentage tables. The two most essential criteria to evaluate the data collection instrument are validity and reliability. In this study content, validity was assessed by the panel of field experts who checked the appropriateness and relevance of the question in relation to the study objectives. The reliability coefficient of our questionnaire is 0.7. We collected data by following ethical considerations i.e. with willingness of each participant and without harming anyone. We ensured the integrity and quality of data and maintained the confidentiality and autonomy of the participant.

RESULTS

Table 1 answers the question that what forms of ICT items are presented for use by nursing students in CON, AIMC, JHL. The analysis of this section revealed that half of the respondents strongly disagreed on their college's availability of computer facilities. About 41 students strongly accepted to the fact that their college has no internet facilities. 47% revealed that the college did not have facility of photocopy machine and printer to students. About one third of respondents strongly agreed that their college did not encompass E-library. 44 of nursing students denied the presence of functional ICT laboratory in their college.

Questions	Strongly disagree n(%)	Disagree n(%)	Neutral n(%)	Agree n(%)	Strongly Agree n(%)
My college has computer facilities that I use for my college work.	50 (50%)	20 (20%)	8 (8%)	16 (16%)	6 (6%)
My college has no internet facilities	12 (12%)	11 (11%)	8 (8%)	27 (27%)	41 (41%)
My college has no overhead projector	9 (9%)	5 (5%)	23 (23%)	46 (46%)	17 (17%)
My college provides facility of photo copy machine and printer to students.	47 (47%)	19 (19%)	8 (8%)	15 (15%)	11 (11%)
My college does not have E-library.	13 (13%)	20 (20%)	13 (13%)	16 (16%)	38 (38%)
My college had functional ICT laboratory	44 (44%)	17 (17%)	7 (7%)	17 (17%)	15 (15%)

Table 1: Respondent's availability of ICT resources/facilities

This section describes the factors that influence the utilization of ICT materials by students of CON, AIMC, JHL. After analyzing this table, it was concluded that 16% of the students lacked training in ICT usage. 34 students did not have access to ICT facilities. More than half of the students responded that there was paucity of ICT technical staff in the college. 26 students strongly disagreed on not considering ICT to be crucial in changing anything in learning(table 2).

Questions	Strongly disagree n(%)	Disagree n(%)	Neutral n(%)	Agree n(%)	Strongly Agree n(%)
I lack training in the use of ICT	13 (13%)	22 (22%)	19 (19%)	30 (30%)	16 (16%)
I don't have access to ICT facilities	6 (6%)	34 (34%)	12 (12%)	35 (35%)	13 (13%)
Erratic power supply in my college affects my use of ICT	11 (11%)	14 (14%)	29 (29%)	30 (30%)	10 (10%)
There is a lack of ICT technical staff in my college.	6 (6%)	12 (12%)	11 (11%)	33 (33%)	38 (38%)
I don't consider ICT to be important in changing anything in learning	26 (26%)	28 (28%)	23 (23%)	11 (11%)	12 (12%)

Table 2: Factors affecting the use of ICT facilities by students/respondents

DISCUSSION

The use of information and communication technology (ICT) for the delivery of healthcare in industrialized nations has been extensively studied, with the majority of these nations achieving significant progress. On the other hand, there are many more eHealth pilots in developing nations than there are full-scale implementations. Some explanations for the "pilotitis" in the eHealth sector in poor nations include a lack of infrastructure, projects supported by donors, and a lack of qualified staff to oversee these eHealth initiatives. ICT deployments in the health industry are significantly impacted by the issue of health workers' lack of ICT expertise [16]. More than half of the students responded that there was paucity of ICT technical staff in the college. A study from Ethiopia showed that only 46% of respondents who were students used ICT; only 51% of respondents had knowledge of ICT; 47% had never used electronic communication (such as email or chat rooms); and 39% had never used Microsoft Office. The findings indicated that students' understanding was insufficient and their use of ICT was subpar. In order to enhance teaching, promote student performance, and equip the college with student-centered ICT computer laboratories, the institution should continue investing in professional development for its faculty [17]. In tertiary education, the use of ICT to improve or assist teaching and learning has grown in significance. ICT is used far less frequently in education programs in developing countries than it is in developed ones. Some of the factors cited for such gaps include the lack of enough financial resources, poor Internet connectivity, a paucity of qualified teachers, and improper policies in underdeveloped nations. In spite of this, there is rising interest in ICT use in educational settings in developing nations. Additionally, a number of nations have tried recent government-led initiatives to increase access to ICT in classrooms [18]. More than half of the respondents, according to the report, agreed that there were no ICT facilities. The 2014 claim that respondents had easy access to ICT resources for use in learning, such as overhead projectors, was refuted by this finding. The cause was found to be the fact that nursing students had themselves focused on clinical practice majorly in clinical setting [19, 20]. Major strength of this study is that, this study gives the current baseline data about the utilization of ICT among nursing students of CON,AIMC, that will be helpful for improvement of availability of ICT tools in nursing field, as it is the first study conducted in this region on this topic. A large sample size was needed to validate findings. In current study sample size is not large enough to generalize findings to population

CONCLUSIONS

From the findings of the study the researchers concludes that nursing students utilized ICT facilities such as computer and internet in learning. For the students engaged in the learning process, some fundamental ICT resources including overhead projectors, photocopiers, and printers were not easily accessible. In addition to the lack of some ICT facilities, CON and AIMC lacked essential ICT resources such computers, internet access, an E-library, and an operational ICT lab. ICT resources were scarce, and there were no basic amenities. The use of ICT is largely impacted by unstable power supplies, a lack of technical assistance for ICT, and a lack of management motivation and support.

Conflicts of Interest

The authors declare no conflict of interest

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