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## INFORMATION TECHNOLOGY TRAINING NEEDS AND HEALTH AWARENESS AMONG NURSES IN INDIA

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### Abstract:

The rapid population growth increased the demand of quality healthcare delivery in the past few years. As increase amount of patient data, it is a challenging task to manage and maintain such a huge amount of data. The efficiency and effectiveness of the healthcare can be improved with the help of Information Technology in order to reduce the medical errors to maintain patient health information efficiently and make clinical decision accurately. The nurses can save more time by maintaining patient information electronically and spent more time in patient care. Use of Information Technology in healthcare by nurses can be influenced by the training and health awareness. The main aim of this paper is to study the training needs of nurses in the use of Information Technology and Computers. It assesses the knowledge and awareness of nurses in use of Information Technology and Computers at their workplace.

**Keywords:** IT (Information technology), Training, TNA (The Trained Nurses Association in India), EHR (Electronic Health Record), CBT (Computer Based Training).

### 1. Introduction

A study has been done to assess nurse manager's readiness towards computers, training requirements. Most of them have not received any computer training at the initial stage of their training period [1]. Overview of computer based training (CBT) is presented. CBT system has been developed based on authors learning and teaching experiences [2]. In US nursing schools nurses are still in the process of learning healthcare information technologies like Electronic Health Record (EHR) etc [3]. Information Technology implementation training is one of the greatest challenge for healthcare providers [4]. A survey has been conducted to know the computer and internet knowledge of nursing students. Training using blackboard, excel, word processor and reference manager is recommended [5]. Training is recommended for

nurses to make them more comfortable in use of Information Technology and Computers at their workplace [6]. Training plays a vital role in acceptance of new information technology in healthcare [7]. IT and computer based training is recommended for teachers to make them more comfortable in use of IT at their workplace [8]. As nurses are the major taskforce of any healthcare organization so it is important that nurses should be aware of IT and computers in their workplace to provide the efficient and safer healthcare to the patients. One may asked how nurses can use IT at their workplace. Nurses can monitor and manage the patient information by sending them text messages with the help of specialist nurses. They can use IT and computers to communicate inside as well as outside the organization. They can search the internet to find out the best practices. With the advancements of information technology in healthcare, there is a great demand of well IT trained nurses to provide efficient healthcare delivery.

## 2. Methods

The aim of the study was to assess the knowledge and awareness and analyze the training needs in the use of information technology (IT) among nurses. For this study, survey research methods were employed for collecting the data. A random sample of 600 nurses was selected for the study. 164 nurses responded to the survey. Response rate was 27.33%. Out of the total respondents, 14.63% were married and 85.37% were unmarried, 14.63% were males and 85.67% were females, 60.98% possess bachelor degree and 39.02% were diploma holder nurses, 14.02% were part time and 85.98% were full time workers, 60.36% were 20-25 years, 23.79% were 26-30 years and 15.85% were 31-50 years old.

## 3. Training and Education in IT and Computers

Training received by nurses in various IT areas had been shown in Figure 3.1. It is clear from the bar graph that majority of the nurses (50% approx) have not received any training in use of computers. Almost 50% nurses had received training them received training 3-5 and 6-10 years back.

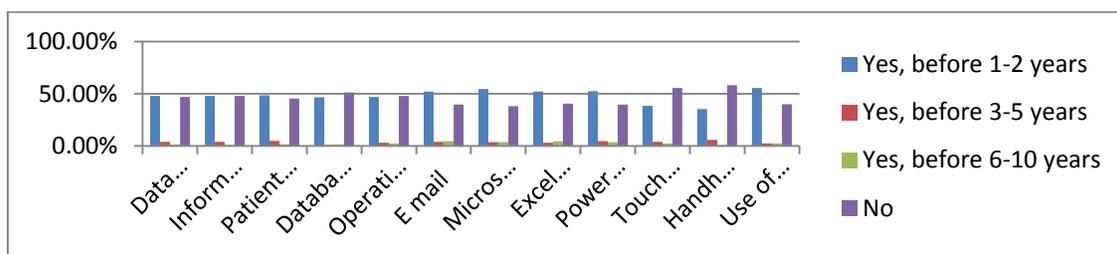


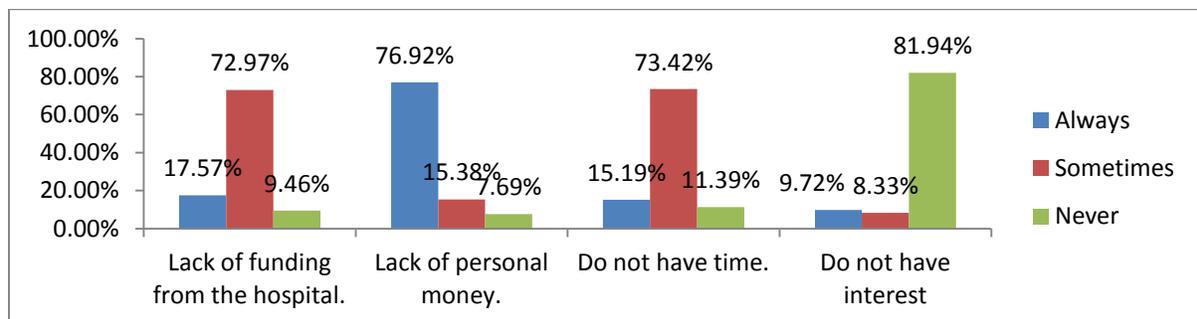
Figure 3.1: Training received in various IT areas.

Nurses who received the training out of which 62.26% stated that they receive the training inside the organization. Rest 37.74% got the training outside the organization. 64.75% nurses stated that training was given during working hours and

35.05% stated on free hours. 69.47% nurses stated that training was given by the person from the organization and 30.53% nurses stated person from outside the organization. 68.52% nurses stated organization paid for the training, 21.05% self paid. However 10.53% were not sure about it. 62.50% nurses stated that training was very useful to meet current job demands, useful for 21.88%, somewhat useful for 13.05% and 2.08% have not noticed any usefulness in it. 67.01% nurses stated that training was compulsory and 32.99% stated that it was optional. When we asked nurses about their willingness to attend the future training programs 55.45% may be, 26.73% will attend and 17.82% were not interested to attend training programs in future. When we asked nurses, the type of training they had received and they need in future, 73.08% nurses stated that they receive online training, 91.94% paper/book based training, 83.12% practical training, 88.08% individual training, 86.67% nurses received group training. However, they must have received more than one type of training. When we asked about their preferences related to type of training they would like to attend in future. 26.92% nurses stated online training, 8.06% preferred paper based training, 16.88% practical training, 11.94% individual training and 13.33% nurses preferred group training. However, they must have received more than one type of training in the organization.

**4. Factors affecting Nurses to participate in Computers and IT based Training**

Factors affecting nurses to participate in computers and IT based training has been demonstrated in Figure 5.5. It is clear that majority 81.94% nurses have a keen interest to attend the IT and computer based training programs. However, factors affecting them to participate in training programs always were lack of personal money (76.92%), don't have time (15.19%) and lack of funding from hospital (17.57%). Factors affecting them to participate in training programs sometimes were lack of personal money (7.69%), don't have time (73.42%) and lack of funding from hospital (72.97%). However, very few of them never faced problems like lack of funding from hospital (9.46%), lack of personal money (7.69%) and don't have time (11.39%) and 9.72% nurses stated that they don't have interest always.



**Figure-4.1 Factors affecting nurses to attend the IT and computer based training.**

Majority 76.36% nurses have not received any training from “The Trained Nurses Association in India”. Only few 17.27% nurses were participated in the training given by TNA, India. However, 6.36% nurses were not sure about it. When we asked their willingness to take a course which would be useful to meet the current requirement of their job, 39.45% nurses stated yes and 39.45% nurses have not shown any interest to take up an extra course.

### **5. Knowledge and Awareness of Health Information Technology Initiatives**

Majority 59.73% nurses were not aware about the recent IT development initiatives in their organization. Only 16.11% nurses were fully aware about it. However, 24.16% nurses were not sure about it. Majority 63.89% nurses were agree that health IT initiatives will be useful for their organization, 18.75% strongly agree, 10.425 somewhat agree, 2.78% disagree and 4.17% nurses were strongly disagree. 65.03% nurses felt that they had a good knowledge about current health IT initiatives/programs.

### **6. Suggestions Given By Nurses Regarding Information Technology and Computers at their Organizations**

Nurses realized the benefits to use computers and IT in nursing by minimizing their workload and save their time which they can spend more in patient care. They need good IT training, experience and knowledge to use IT and computers at their workplace. They suggested that more computers and IT related courses should be introduced to nursing curriculum. They feel that hospital staff should possess good knowledge to use IT and computers. Importance of IT and computers should be demonstrated among nursing staff. Few nurses stated that they do not have chance to use computers and IT at their workplace and if they get opportunity to learn and use it, they would be happy. They requested to install computers in all the laboratories and departments to update nursing learning skills and knowledge. They demanded the system should be more users friendly to use easily and efficiently to improve the healthcare outcomes.

### **7. Results and Discussions**

- More than 50% of the nurses have not received any computer training from the organization.
- Less than 20% nurses received training given by TNA, India.
- Majority of the nurses’ preferred online computer based training rather than paper based training.
- Most of the nurses were not aware about health IT development and initiatives.

IT and computer applications related training should be given to the nursing staff to improve the healthcare outcomes. Training and health awareness programs should be organized on frequent intervals and the demonstration should be

given to nursing staff to make them aware with new technologies and advancements. Hospital management should encourage their employees to get the training from “The Trained Nurses Association” in India. Financial support and encouragement should be provided by the hospital management to their nursing staff to participate in training and development programs in majority. There should not be in discriminations among nursing staff to make them use computers and IT applications. Encouragement should be given to use computers for majority of the healthcare related activities. Best training should be provided to nursing staff to make them comfortable to use of computers comfortably which makes more positive attitude among them towards computerization.

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