It’s amazing to see how revolution is taking place in healthcare and we become techno oriented while delivering the patient care. If we look back to Florance Nightingale who was the founder of modern nursing and her work in 1854 during Crimean war, she was working with lamp and was also known as ‘lady of the lamp’ but if she would have practiced now, would have used smartphone instead of lamp. It’s really an exciting time for nurses to be a part of the healthcare industry as they are into another dimension. With many changes in care delivery process, involvement of technological advances and increased customer expectations, nurse’s role as healthcare professionals is growing and evolving dramatically. This challenging trend requires nurses latest knowledge and information, critical thinking abilities and excellent clinical skills to deliver the services effectively.

There is a rapid growth of technology in healthcare in last few years. Many new applications/gadgets are developed which are available to help nurses and doctors to perform their clinical activities for caring patients more efficiently and safely. Nurses have changed the methodology of delivering the patient care and now started work by using bedside tablet computers and can connect to various patient related data for easy workflow. Application of electronic medical record (EMR) allows to store of all relevant data including patient histories, test results, diagnoses and other important patient information. The records can be accessed from any part of the facility or even from home by using VPN connectivity. It helps in decision making quicker, improved case management & treatment and ultimately leads to better outcome of patient care. Use of media like video conferencing, telehealth, internet, etc are making once capable of handling various patient related problem. It also help nurses to minimize their human errors, reduce mortality and morbidity rates in critical care units and makes nurses more confident at workplace. Promotion of health and preventive care is another new trend in healthcare now a days. Nurses can also assist patients by providing education in various health issues and train to use latest medical devices to track their progress over the time.

Will technology help nurses in beside work?

We cannot disagree the benefits of technology in healthcare. Impact of technology can certainly help to reduce nurses time involved in indirect patient care. Studies found that nurses are spending less than 40% of their time on direct patient care. They spend more time in hunting, gathering items for patient care and communicating multiple times in getting and giving information to team members. Here, technology can help turn that around. Use of smart technology in many ways

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can increase nurses precious time for direct patient care. Few examples are:

- Some hi-tech patient BED can detect blood flow in patient legs and can alert nurses to possible DVT.
- Special patient VEST can collect physiological data and can be transferred to electronic medical record for quick analysis.
- Use of GPS tracking can assist nurses in hunting equipment and other devices which can give accurate result without wasting time.
- There are many technical devices available for lifting Patients with ease while proving nursing care. Nurse should take help of such devices to protect from backache.
- PNEUMATIC TUBE SYSTEM which is fully automated transportation method placed in hospital can help nurses for faster transporting the samples and other items.
- Wireless patient monitoring is the latest technology used in healthcare setting. Use of specially made mattress PADS can measure weight, blood pressure, pulse rate, sleep pattern etc which help alert nurses and understand patient status.
- Electronic medical record (EMR), including lab, radiology report etc, made nurses work easier as patient information can be accessed from any satellite covered area.
- Nursing computer-based software allows nurses to collect, store, recover and integrate clinical data with nursing management resources.
- Use of PACS for imaging services make care delivery must faster in case of emergency.

Nurses and Telemedicine:

Telemedicine or telehealth is relatively a new healthcare delivery approach which is in increasing trend. Researchers predict that the healthcare industry could become billion dollars market by few decades. Nurse involvement to this new approach of delivering care become critical. Under telemedicine, patients can be monitored (including chronic cases) through video chat, to providing critical care to patients in remote areas. All over world, aging population are increasing and chronic conditions are becoming more prevalent now a days. In order to make cost effective care, the healthcare organization needs to prioritize the activities and make clinical workflows to improve patient outcomes. Telemedicine service can work very effectively if nurses are well trained specially in remote areas where clinical resources are limited. E.g. Healthcare setting can create an e-ICU care delivery model in which a

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small team of nurses and ICU doctors can remotely monitor and support patient care for more than 200 beds in multiple ICUs. The remote team can be stationed as round the clock from which they serve as the clinical resource personnel for smaller hospitals. By use of video camera in rooms with satellite service, the remote team can view and interact with their working nurses, conscious patients and relatives. Nurses can use telemedicine in real time to communicate directly with remote doctors for any queries related patient care or consultations. Nurses need to be familiar and trained to improve the quality of patient care in an increasingly dynamic healthcare delivery approach.

In order to provide nursing care through telemedicine, nurse need to be confident in describing patient conditions to doctors over the phone or video chat. They should be using the patient data accurately and confidently. Strict protocols and SOP must be established to define nurses role and expectations in telemedicine settings.

Although no certification program on telemedicine nursing is available till date, nursing council can give a sincere thought so that structured educational program in the subject can be established to fulfil the current need.

Importance of Continuous Updates and In-Service Education:

Since nursing become a job-oriented profession across the globe, even in India, many started to choose nursing as a career and wants to become a part of well-educated nursing workforce. In order to fulfill the demands of an evolving health care delivery system and to meet changing needs of patients, nurses must attain higher levels of education as a basic education. At the beginning of formal education, nurses must be taught in updated clinical knowledge. They should get expose to all latest technologies available in healthcare. It is worth to mention that nursing faculty members are experts with years of experience in active clinical practice. The program should focus on giving students the practical skills modern nurses need to deliver patient – centered care through systems-based practice. Studies have shown that lower mortality rates, fewer medication errors, and positive outcomes are all linked to nurses prepared at the basic nursing education.

As the healthcare system continues to change, nurses may find they need more knowledge and skills to deliver care effectively. Regular in-service education at workplace plays crucial role to update nurses competencies. Nurse administrator should ensure that appropriate nurse educators are in place to train new as well as others senior nurses to abreast with updates. There should be a separate budget in

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the organization for upgrading nurses in various level. The advent of online nursing programs is providing nurses with more access to education than ever before. Nursing leaders need to encourage and guide nurses to enroll in such educational programs while earning if feasible. The bottom line is that there should be an atmosphere in healthcare setting where nurses can grow with no hinderance.

Need of new specialization in Nursing:

The demand for healthcare is keep growing. Shortage of physicians will increase the demand of Nurse Practitioner. *Nurse practitioners(NP):* are advanced practice registered nurses who helps to serve as primary care provider in shortage of clinician. They hold advanced nursing degrees recognized by nursing council of that country. The role of the nurse practitioner can varies depending on country in which the nurse is practicing. Some places, they are allowed to work independently, whereas others require them to work under either direct supervision or a collaborative agreement with a doctor. Indian Nursing Council (INC) has recently approved a course (nurse practitioner in critical care-NPCC) to pursue higher study in nursing. This additional training will certainly help nurses to fulfil the growing need of the society.

Nurse Informatics: is a new specialization where the nurse uses of information technology for purpose of enhanced patient outcomes, the management of healthcare facilities, nurse education and nursing research. Informatics nurses are assuring that the computerized solutions interface with each other electronic records. To achieve information related activities, informatics nurses must synchronize and exchange significant clinical and technical information with the goal of supporting and coordinating safe, effective patient care and assuring an efficient workflow.

Genetics Nurse: Genetics nurse is in great demand as advancements in the study of genetics is growing rapidly. To work in such challenging field, nurses need specialized training in genetics. Many researches are being conducted to learn more about rare diseases and its conditions through genome sequencing. This type of research will need support from a growing number of clinicians with a specialty in genetics.

Stem Cell Technology Nurse: Use of stem cell technology for treating many diseases is the reality in today’s healthcare delivery system. There is a significant increase amount of research being conducted into the beneficial aspects of stem cell

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technology in the treatment of multiple diseases, including many cancers. Soon, nurses with specialized training in stem cell technology will be in great demand in care facilities as opposed to their current limitation to research facilities.

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