

Telenursing: An Emerging Field

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Abstract

Tele-nursing is the use of telecommunications technology to provide nursing practice at a distance. This can be something as simple as faxing medical records to the more complex delivery of nursing care to patients' home through the use of cameras and computer technologies. Tele-nursing can also provide opportunities for patient education, professional consultations, examination of test results and assisting physicians in implementation of medical treatment protocols. Among its many benefits, tele-nursing may help to solve increasing shortages of nurses; to reduce distances and save travel time, and to keep patients out of hospital. A greater degree of job satisfaction has been registered among tele-nurses. It removes the barriers to health care for people living in remote villages or where adequate health services are not available.

Keywords: Telecommunications; Telehealth; Video-conferencing; Teleradiology.

Introduction

Advances in telecommunications technologies are revolutionizing education and health services globally, including the provision of nursing services. Decreasing time and distance, these advances increase access to health and healthcare, especially to underserved populations and those living in rural and remote areas. They help to manage the demand for services, ensure more effective use of human and health resources and facilitate education and research activities.[1]

Today nurses can offer consultation and comfort to patients whether they are in the same city or thousands of kilometers away. Over the telephone, nurses can calm an anxious parent, evaluate an injury or advise whether a person should go to an emergency unit. Communications technology now

also enables nurses to deliver health care in rural and remote locations, and areas without health care services.[1]

Meaning

Tele is a prefix meaning "at a distance," and it is used in terms such as telescope, or telemetry. The prefix tele, when combined with the term scope, has the single clear following meaning: *an instrument to view phenomena at a distance.*[2]

Definition

Telenursing is a component of telehealth that occurs when nurses meet the health needs of clients, using information, communication and web-based systems. It has been defined as the delivery, management and coordination of care and services provided *via* information and telecommunication technologies.[3]

Purposes of telenursing

- To improve access to health care.

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- To provide specialized health care consultation to patients in remote locations.
- To facilitate video-conferencing among health care experts for better treatment & care.
- To provide opportunities for continuing education of health care personnel.
- Reduce ambulance transportation for off-site care.

Technologies used in telenursing may include, but are not limited to:

- telephones (land lines and cellphones)
- personal digital assistants (PDAs)
- facsimile machines (faxes)
- Internet
- video and audio conferencing
- teleradiology
- computer information systems
- telerobotics.[3]

Principles of telenursing

Effective telenursing should:

- Augment existing health care services.
- Enhance optimum access, appropriate and necessary, provide immediate access to health care services, improve & enhance the quality of care and reduce the delivery of unnecessary health services.
- Protect the confidentiality/privacy and security of information related to nurse-client interaction.[4]

Registered nurse engaged in telenursing should:

- Established therapeutic nurse-client relationships based on assessment, planning.
- Collaborate with others member of health care team when appropriate to ensure quality care & effective services.
- Determine whether telenursing practice is most effective & appropriate method to provide nursing services consistent.[3]

Systems for admission, discharge, transfer by telenursing

- Information collected through registration should be electronically transmitted to all user who need the data.
- Electronic transmittal assures that uniform data exist at all locations.
- Electronic transmittal decreases the risk of errors associated with duplicate data.
- Registration system assigns a unique identifier to all patients, which has been called the medical record number.
- To access patient records at different sites of care, users must have a way to link all medical record numbers within an enterprise to obtain a longitudinal record of care received by the patient.

Applications of telenursing

- Available in the home, hospital, through telenursing centres and through mobile units
- In home care nurses use systems that allow home monitoring of physiologic parameters, such as blood pressure, respiratory peak flow, and weight, via the Internet
- Patients contact on-call nurses any time and arrange for a video consultation to address any problems; for example, how to change a dressing
- Helps patients and families to be active participants in care, particularly in the self management of chronic illness
- Enables nurses to provide accurate and timely information and support online
- Continuity of care is enhanced by encouraging frequent contacts b/w health care providers, individual patients and their families
- Limited resources can benefit a large population spread over a broad geographical region
- Dearth of adequate opportunities for training or continuing Medical Education for Doctors in Rural/Remote Health facilities
- Inadequate infrastructure in rural/district hospitals.[5]

Benefits of 'telenursing' to the patients

1. More timely information to patients and families

reduces the use of expensive health care services (physician's office, emergency units, hospitals and nursing homes).

2. Limited resources can benefit a large population spread over a broad geographical region.
3. Telenursing can reduce the requirement for, or the length of, hospital stays.
4. Adults with chronic conditions who need frequent monitoring, assessment, and maintenance but do not meet home care criteria or have no money to pay for services can benefit from technology.[3]

Benefits of 'telenursing' to nurses

- a) Clinical information can be shared with other professional colleagues including national and international experts. This will help in the development of enhanced nursing roles.
- b) The new technologies also increase access to nurse education, particularly continuing education. Examples include teaching off campus, video-conferencing, online learning and multimedia distance education.
- c) Clinical skills can be learned and practiced through patient simulation modelling.
- d) Telenursing provides opportunities for mature nurses to bring their years of experience back to the clinical arena without enduring the physical burden of 'floor' nursing in hospitals.[3]

Disadvantages of the telenursing

- Lack of professionals with licenses to perform medical procedures
- Changes in the nurse-patient relationship
- Possibility of technological failures
- Patient loses individual properties
- High cost of telemedicine (equipment, technology, expert staff in the maintenance of equipment, training of staff)
- Possibility of misinterpretation of data and images transmitted, depending on the quality of the equipment
- Lack of security and confidentiality of electronic information
- Dehumanizing effects
- Inability for patient to use equipment
- Knowledge base of the nurse
- Equipment malfunction.[3]

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