EHEALTH IMPROVING HEALTHCARE IN REMOTE ENVIRONMENTS VIA A NEW INTEGRATED, ONLINE COMMUNICATION PLATFORM

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Abstract

The ISfTeH Telenursing Working Group was first organised in 2008. Its mission and vision statements validated the roles and responsibilities that had developed and expanded since the first publication about telehealth nursing practice more than three decades earlier. Today, the Working Group has more than 120 members and represents 41 countries. Now, telehealth nursing can be seen worldwide; it is not considered a new nursing specialty. Instead, telehealth nurses employ a complementary toolkit to their particular specialty or setting. The key value of telehealth nursing in responding to people with health care needs is that nurses are able to reach farther and more efficiently and effectively than ever before. This extra reach, in conjunction with nursing's commitment to holistic care of every person, can improve health care by increasing access, improving quality and decreasing costs worldwide.

Keywords: telehealth; nursing; mHealth

Introduction

The purpose of this paper is to describe an array of telehealth nursing practice, education and research that demonstrates the depth and breadth of nursing in the telehealth-telemedicine environment. Nurses have an essential role in health care delivery systems, be they large or small, in that they approach people, patients, families and communities with a holistic determination to make valid assessments, provide appropriate care, and evaluate for high quality and best outcomes for care recipients. Telehealth nursing uses telehealth-telemedicine technology and applications to deliver nursing care and conduct nursing practice over distances and across barriers in, for example, primary care or rehabilitation.[1,2] A growing body of nursing research is adding knowledge to telehealth technology development and to the technology enhanced healthcare environment. Relevant publications from 2015 and 2016 provide the source material for the paper.

Settings and Specialties

Nurses on six of the seven continents are active participants in the advancement of telehealth, demonstrating telehealth nursing's wide-spread potential for transforming care by improving resource-sensitive access to quality care. No publications from Antarctica were found for this survey. Telehealth nursing emphasises and leverages the use of audio, video, mobile, real-time and store-and-forward technology to enable and enhance care delivery. Educators are using elearning multi-media programmes to prepare nursing students for practice and research. Nurses in graduate degree programmes can use an e-learning research module to increase their knowledge about research throughout their course of study.[3] Hospital nurses are working with researchers to determine feasibility of using mobile communication technologies with patients who may have communication impairments. Nurses responded by noting possible benefits of the technology but they had concerns about existing care policies and also privacy and confidentiality.[4]

Considering care delivery across the lifespan, nurses are investigating telehealth applications with younger patients, such as adolescents with asthma. Both the adolescents and their providers responded positively to the use of apps in the event of symptom exacerbation.[5] Use of video-conferencing with children and adolescents with mental health needs has not been well-studied but the evidence is growing that telemental health applications can decrease costs and travel time for treatment.[6] Women's health is a great concern for nurses and mHealth using mobile phones to encourage medication adherence is especially relevant in developing countries. Acceptance and commitment therapy using mobile phones was found to be improved in prevention of mother-child HIV transmission in Nigeria.[7] Older adults may also be better served using

telehealth applications. They have responded positively to technology such as in-home monitoring systems with motion sensors and digital communication.[8] However, elders responded more negatively to the use of mobile phones for health information if English is not their first language.[9] Elders with dementia or Alzheimer's disease and their caregivers are being aided with smart technology for online resources and navigation assistance (e.g., wayfinding, prevention of wandering) that supports them.[10]

On the health to illness continuum, nurses are studying and using technology with people who have non-communicable diseases. Technology enabled self-management with diabetes holds great promise for this exceedingly large population world-wide.[11] Telephone based counselling may contribute to secondary prevention in people with acute coronary syndrome although the study sample was small.[12] Emergency therapy for people experiencing stroke is increasing in quality and timeliness. Telemedicine applications are seen as hopeful and challenging by patients and their families.[13] Telehealth nurses are also involved in research with people who have mental health needs such as treatment for chronic or postpartum depression or intervention with persons who may be contemplating suicide. While there is some evidence for telephone-based peer support in postpartum depression, more work needs to be done to develop effective applications. A meta-analysis of telephone-delivered interventions found that its effectiveness in reducing suicide attempts is not supported.[14, 15]

Telehealth Nursing Research
Nursing research adds to knowledge about nurses themselves in terms of their willingness to accept and use technology in home health.[16] The Technology Acceptance Model has been used by nurse researchers to assess or predict nurses' use of technology in their practice.[17] While nurses demonstrate their ability to be creative in applying various technologies such as diagnostic and screening tools in the proliferation of mHealth apps, more research in this area is needed to ensure apps-quality and effectiveness. More research of the use and appropriateness of telehealth nursing competency lists, with emphasis on the nursing telehealth entrustable professional activities, would benefit nursing and care recipients. Lastly, with the aging of populations worldwide, continued research involving elders is necessary. One exemplar is a study of the acceptability of nurse-led telemonitoring

interventions among older people with chronic conditions.[18-20]

Telehealth nurses are leading the way in the nursing profession by fully exploiting the eHealth environment and by bridging distance and barriers between providers and care recipients through education, care delivery and application of research findings.

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