



INFORMATION COMMUNICATION TECHNOLOGY (ICT) IN MIDWIFERY EDUCATION (A REVIEW OF THE LITERATURE)

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ABSTRACT

Background; The development of information technology is increasingly rapid in the current era of globalization can not be avoided its influence on the world of education. Global demands demanding the world of education to always and always adjust developments technology to efforts in improving the quality of education, especially adjustments the use of information and communication technology for education including midwifery education.

Objectives; To examine primary research articles published between January 2001 and December 2017 that focused on the issues for students and educators involved with ICT Midwifery programs. The literature was systematically reviewed, critically appraised and thematically analyzed.

Methods; The criteria used for selecting studies reviewed were: primary focus on Information Communication Technology (ICT) and Midwifery Education; all articles had to be primary research studies, published in English in peer reviewed journals between January 2001 and December 2017. Online databases including Google Scholar, PubMed, ERIC and Science Direct were used.

Results; Analysis of the 7 reviewed studies revealed the following three themes: issues relating to ICT for students; use of information technologies; educator (faculty) issues involving pedagogy, workload and staff development in ICT.

Conclusions/Importance; The review highlighted that commencing midwifery education students required ongoing education and support surrounding midwife informatics. This support would enable students to progress and be equipped with the life-long learning skills required to provide safe evidence based care. The review also identified the increased time and skill demands placed on midwifery educators to adapt their current education methodologies and teaching strategies to incorporate ICT.

Keywords: Information Communication Technology (ICT), Midwifery Education

INTRODUCTION

The challenge for developing countries is to provide adequate maternal and infant health care. More than half a million women die every year due to complications of pregnancy and childbirth (WHO, 2007) In addition, during 2006, around 9.7 million children who died were discussed under 5 years, to get 4 million not alive through their first month (Funds UN Children, 2007). Life can be saved by providing medical personnel during pregnancy, and access to emergency facilities during labor (Freedman et al., 2007; Romano and Lothian, 2008). However, in developing countries with the greatest needs, the scarcity of competent health workers, including public health workers such as rural midwives, is an important challenge. One mitigation strategy to improve frontline public

health services requires technology to improve communication, share knowledge, and develop capacity.

The World Health Organization-WHO (2016) requests assistance to improve maternal and child health (MCH) to improve health in developing countries. Several authors (Anyia, Hydara & Jaiteh, 2008; Doctors, Findley, Cometto & Afenyadu, 2013; Parmar, 2010) also discussed the need to increase information dissemination, such as some contributions and increased research in developing countries supported by the transfer of information on MCH that inadequate and limited access to health services. The World State Midwifery Report (2014) reports including homework to get sexy, responding, maternal, newborn and adolescent care services centered on health care, known as

Midwifery 2030 Pathway. This path was developed by a process of consultation with international groups of experts. Consider the birth rates of women: (1) pre-pregnancy, (2) pregnancy, (3) labor and birth, and (4) post-natal, and describe pregnant women and adolescents who are growing up.

METHODS

The criteria used for selecting studies reviewed were: primary focus on Information Communication Technology (ICT) and Midwifery Education; all articles had to be primary research studies, published in English in peer reviewed journals between January 2001 and December 2017. Online databases including Google Scholar, PubMed, ERIC and Science Direct were used. The literature was systematically reviewed, critically appraised and thematically analyzed. The analysis of the 7 reviewed studies revealed the following two themes: ICT in Midwifery Practices and ICT in Midwifery Education.

Literature Review

ICT in Midwifery Practices

The literature shows that before the arrival of information and communication technology (ICT), the dissemination of maternal health information as a strategy for preventing pregnancy and birth complications was based on print and oral communication approaches, for example, antenatal classes. This traditional approach seems to have little impact, because research shows the small effect of this information method on health outcomes (Ferguson, Davis & Browne, 2013; Gagnon & Sandall, 2007).

The need to improve maternal health and birth outcomes has led to the adoption of ICT information for MCH dissemination to encourage safe adoption. MCH practices are disseminated by health workers (Health Care Research Quality Agency, 2012). ICTs include a variety of technologies that enable the exchange of data via telephone or the internet. ICTs have the potential to modify the way people use health services both by increasing access to information and providing other forms of support remotely (While, A., & Dewsbury, G, 2011). Sending patient clinical information to the center and the center will provide appropriate interventions (Lewin et al., 2010). Developing health ICTs produce smaller devices and are capable of monitoring large data (Fong et al., 2011). Health ICTs providing virtual care outside the hospital, which are usually face-to-face with close proximity will develop into long-distance meetings by providing health needs assessments, providing

information, diagnostics, supporting and monitoring patient conditions (While, A., & Dewsbury, G, 2011). Midwifery information technology will provide assessments, health promotion, clinical interventions, and service organizations. Midwifery information technology allows patients to have a health portal that allows patients to store their health information and can access information about their condition while receiving health advice. Midwives will be able to make virtual visits through the internet and discuss patients with health and other care professionals through secure connections in real time to enable better planning and coordination of health care.

Use of health applications to make it easier for patients to receive health-related information and remote monitoring. So if the patient's clinical data falls outside the recommended range then the application will suggest contacting a health professional or arranging for a midwife's contact automatically. Overall, we found that, based on their experience with the benefits of cellphones, midwives and health workers had a positive attitude towards ICT. Opportunity producer, ability enhancer, social enabler, and knowledge generator. ICTs have constraints namely infrastructure, economics, technology, and socio-culture (While, A., & Dewsbury, G, 2011).

ICT in Midwifery Education

The use of digital technology and social networking has developed rapidly over the past few decades, and this technology has increasingly been incorporated into teaching higher education (Garrison, 2011; Garrison and Anderson, 2003; Laurillard, 2005). The use of this technology in education is known as E-learning (Ecampus, 2011; Garrison, 2011; Goodfellow and Lea, 2007; Muirhead, 2007; Skelton, 2007; Laurillard, 2005; Sword, 2012; Terry, 2012; Petit-dit-Dariel et al., 2014) ICTs are applied successfully in teaching, learning and assessment.

ICTs are considered a powerful tool for educational change and reform. A number of previous studies have shown that the use of appropriate ICTs can improve the quality and connection of educational learning to real life situations (Lowther, et al. 2008; Weert and Tatnall 2005). As Weert and Tatnall (2005) have shown, learning is an ongoing lifetime of activity in which learners change their expectations by seeking knowledge, which departs from the traditional approach. As time passes, they must hope and want to find new sources of knowledge. Skills in using ICT will be an indispensable prerequisite for these

students. ICTs tend to expand access to education. Through ICT, learning can happen anytime and anywhere. Online course material, for example, can be accessed 24 hours a day, seven days a week. Teleconferencing classrooms allow students and teachers to interact simultaneously with ease and comfort. Based on ICT, learning and teaching no longer depend exclusively on printed materials. Various resources abound on the Internet, and knowledge can be obtained through video clips, audio sounds, and visual presentations and so on. Current research has shown that ICTs help in changing the teaching environment into student-centered learning (Castro Sánchez and Alemán 2011). Because students are actively involved in the learning process in ICT classrooms, they are given authority by the teacher to make decisions, plans, and so on (Lu, Hou and Huang 2010). Therefore ICT provides both learners and instructors more cost and education possibilities.

Brush, Glazewski and Hew (2008) have stated, ICT is used as a tool for students to find learning topics, solve problems, and provide solutions to problems in the learning process.

ICT makes knowledge acquisition more accessible, and concepts in the field of learning are also understood when involving students in the application of ICT. Support student-centered learning and independent learning. Students are now more often involved in meaningful computer use (Castro Sánchez and Alemán 2011). They build new knowledge through accessing, selecting, organizing, and interpreting information and data. Based on learning through ICT, students are more capable use information and data from various sources, and critically assess the quality of learning material (Button, D., Harrington, A., & Belan, I, 2014).

Generating creative learning environments. ICTs develop new understanding of students in their learning fields (Chai, Koh, and Tsai, 2010). ICTs provide more creative solutions for various types of learning questions. For example, in a reading class, e-books are usually used in reading aloud. Students can access all types of texts from the initial level to advance easily through a computer, laptop, personal digital assistant (PDA), or iPad. More specifically, this e-book may be accompanied by a reading application, which offers a read-aloud interface, relevant vocabulary development activities, games related to reading skills and vocabulary acquisition, and more. Therefore, ICT includes deliberately designed applications that provide innovative ways to meet various learning needs. Promote collaborative learning in a distance learning

environment. Koc (2005) states that using ICT enables students to communicate, share and work collaboratively anywhere, anytime. For example, teleconferencing classrooms can invite students around the world to gather together simultaneously for topic discussions. They may have the opportunity to analyze problems and explore ideas and develop concepts. They can then evaluate ICT learning solutions. Students not only gain shared knowledge, but also share diverse learning experiences from one another to express themselves and reflect on their learning (Brooks, F., & Scott, P, 2006).

Learning can be done in video material (Holland et al., 2013), and students seem to be able to spend less time online than in classrooms without adverse effects (Segal et al., 2013). The increasing interest in integrating ICT into teaching practices is basically related to modern educational system efforts to give students more enhanced learning opportunities (Kalolo, 2018; Pérez-Sanagustín, et al. 2017). Another reason for this increased interest is students demanding the availability and accessibility of information technology as part of their daily lives with connectivity and sharing of e-learning content in school learning environments (Islam, & Grönlund, 2016). ICTs are considered as learning tools and facilitators of achieving national education goals (Baser-Gulsoy, 2011). As such, the adoption of ICTs into educational settings has become prominent and challenging for the current education system.

CONCLUSION

The use of information and communication technology (ICT) is one of a number of potential solutions to today's health care challenges. Midwifery information technology will provide assessments, health promotion, clinical interventions, and service organizations. Whereas ICT in midwifery education is very important to conduct periodic review studies because ICT continues to evolve and schools, teachers and students demand new technology for teaching purposes (Harper, & Milman, 2016). Future Midwifery ICT-based projects should adopt more than one ICT tool and more consideration should be given to developing more MCH information products in local languages to ensure the effectiveness of using ICT for MCH.

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