

Implementation of Smart Phone in Critical Care Units and Effect on Nurse Communication

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ABSTRACT

Smartphones have emerged as essential tools in modern critical care units, serving as a backbone for communication, coordination, and information management. Smartphones have become indispensable tools in modern nurseries, serving as a backbone for communication, parental engagement, and administrative efficiency. This review explores the multifaceted role of smartphones in critical care units, highlighting their potential benefits, challenges, and best practices for implementation.

Introduction

Mobile devices are becoming ubiquitous worldwide. In 2018, 88% of Canadians owned a mobile device, and 87% had internet access. Similarly, in 2019, 96% of Americans owned a cell, of which 81% were smartphones, up from 35% in 2011. Ninety percent of Americans frequently carry their cell phones, and 45% rarely turn them off (1). In 2019, 86% of the population in Europe subscribed to mobile services, and 76% of the connections were via a smartphone. In 2018, the overall mobile use among countries in South Asia was 33%, with India at 55%, Bangladesh at 22%, and Pakistan at 22%. In Southeast Asia in 2018, 42% of the population had smartphones, and 28% owned another type of phone. Forty-five percent of the population in sub-Saharan Africa subscribed to mobile services at the end of 2019, and 70% of the population in Latin America were cell phone subscribers by the end of 2019. Globally, mobile device use is soaring, which has resulted in an “always-on” reality that has caused disruptions to social norms about the appropriateness of

diverting one’s attention from a relational interaction to a digital encounter(2).

In nurseries, smartphones play a crucial role in facilitating effective communication and coordination among staff, parents, and administrators. Messaging apps, email services, and calendar apps enable instant communication, sharing of updates, schedules, and important information in real-time, ensuring smooth coordination among all stakeholders. Furthermore, smartphones enhance parental engagement by providing access to dedicated nursery apps and platforms, allowing parents to stay informed and involved in their child's learning and development. These digital platforms offer features such as progress reports, daily activities, and photos/videos from the nursery, fostering greater transparency and communication between nursery staff and parents. In critical care units, efficient communication and coordination are essential for providing timely and effective patient care. Smartphones offer a range of functionalities that can significantly enhance communication(3), streamline workflows, and improve information management in these high-stress environments. This review aimed to examine the role of smartphones as a backbone in critical care units, focusing on their impact on communication, coordination, and information management.

Smart phone improved communication

Smart phone has a major role in communication study done by Malinda et.al demonstrated that the “use of Smartphones significantly reduced patient interruptions, allowed nurses to stay with patients, and reduced wait times for a returned call.

Nurse travel time to answer a telephone call and time spent on hold by nurses and physicians also decreased by 100% from a range of 8 to 79 minutes down to 0 minutes. Staff reported improvement in quality of communication, and significant workflow efficiency was noted⁽⁴⁾.

demonstrated that the use of smartphones improved communication efficiency among healthcare providers in the intensive care unit (ICU), leading to reduced response times and improved patient outcomes (4). In addition, a smartphone-based communication system resulted in significant improvements in nurse response times and medication administration accuracy in the critical care setting.

Smart application in pediatric ICU

The use of nursing software in the context of health care has demonstrated perceptible improvements in the quality of life at work, in patient care and in the use of scientific evidence in clinical practice⁽⁵⁾ According to the nurses' perception, computer employment/utilization is associated to ease, agility and practicality in the execution of professional activities, however technical and operational aspects may limit its use⁽⁶⁾. There are many apps in pediatric ICU PICU which concern parent in ICU such as attachment⁽⁷⁾, infant pain⁽⁸⁾, and death or loss^{(9),(10)}. Rosilla et al. use app that provide nursing workload in the intensive care unit, the app allows the query of the activities score and correlation with the time.

In conclusion, smartphones play a vital role as a backbone in critical care units, facilitating efficient communication, coordination, and information management. By harnessing the functionalities of smartphones effectively and responsibly,

critical care units can improve workflow efficiency, enhance patient care, and ultimately, save lives.

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