Improving nurse–patient communication with patients with communication impairments: hospital nurses' views on the feasibility of using mobile communication technologies

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ABSTRACT

Background: Nurses communicating with patients who are unable to speak often lack access to tools and technologies to support communication. Although mobile communication technologies are ubiquitous, it is not known whether their use to support communication is feasible on a busy hospital ward.
Purpose: The aim of this study was to determine the views of hospital nurses on the feasibility of using mobile communication technologies to support nurse–patient communication with individuals who have communication impairments.
Method: This study involved an online survey followed by a focus group, with findings analyzed across the two data sources.
Findings: Nurses expected that mobile communication devices could benefit patient care but lacked access to these devices, encountered policies against use, and held concerns over privacy and confidentiality.
Conclusion: The use of mobile communication technologies with patients who have communication difficulties is feasible and may lead to improvements in communication and care, provided environmental barriers are removed and facilitators enhanced.

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1. Introduction

Communication in hospital is a fundamental human right (UNCRPD, 2006) and is essential to safe hospital care (Bartlett, Blais, Tamblyn, Clermont, & MacGibbon, 2008). Recent reviews have revealed that communication in hospital is problematic for patients with communication impairments (e.g. see Hemsley & Balandin, 2014; Hemsley et al., 2015) and that research evaluating strategies to improve communication and safety for these patients is lacking. Effective communication with patients who have communication impairments in hospital relies on many factors in the patient, including skilled nurses who take time to communicate (Hemsley, Balandin, & Worrall, 2012), prepared patients (Costello, Patak, & Pritchard, 2010), the availability of communication aids (e.g., Hemsley & Balandin, 2004), and the support of family caregivers and paid carers in hospital (Hemsley, Balandin, & Togher, 2008; Hemsley et al., 2012). Not only does effective communication in hospital allow individuals with communication disabilities to assert control over their environment (Hemsley, Balandin, & Worrall, 2011), it also helps them to communicate and manage pain, exchange information, reflect on emotions, demonstrate politeness, and develop relationships for social closeness (Happ, Tuite, Dobbin, DiVirgilio-Thomas, & Kitutu, 2004; Hemsley et al., 2011).

A wide range of conditions may impede a patient's ability to communicate basic care needs and exchange information about their health. People with lifelong disabilities (e.g. cerebral palsy, intellectual disability, autism), acquired disabilities (e.g. stroke, traumatic brain injury, cancer, neurodegenerative disease), physical trauma, or mechanical ventilation (Beukelman & Mirenda, 2013) might require communication supports to convey their message to unfamiliar nursing staff. Difficulty communicating in hospital is associated with an increased risk of patient safety incidents (Bartlett et al., 2008; Hemsley et al., 2015; Wassenaar, Schouten, & Schoonhoven, 2014). Also, patients report experiencing negative emotional consequences when unable to speak in hospital, including fear, anger, worry, depersonalisation, frustration, and loss of control (Happ et al., 2004; Hemsley et al., 2008). In light of this evidence, the development and use of Augmentative and Alternative Communication (AAC) solutions (e.g. communication boards, books, electronic devices with speech output such as speech generating devices, mobile communication technologies) are vital for these

patients with communication impairments and are widely recommended (Costello et al., 2010; Hemsley & Balandin, 2014).

Despite the known benefits of using AAC in hospital, the literature is replete with barriers to using communication aids in hospital. Patients rarely have access to their communication aids in hospital, due to this being discouraged and fears that systems will be lost, damaged, or stolen (Hemsley et al., 2008). Also, nurses report lacking time and access to professionals with appropriate expertise to support their use of complex speech generating devices (Balandin, Hemsley, Sigafoos, & Green, 2007; Finke, Light, & Kitko, 2008; Hemsley et al., 2008). Unfortunately, human factors also affect the implementation of AAC in hospital, with many reports of negative staff attitudes towards patients with communication disabilities (e.g. presuming patients who cannot talk have an intellectual disability) (Balandin et al., 2007; Hemsley et al., 2008; Hemsley et al., 2011), and patients' reduced physical and cognitive status while ill in hospital (Costello et al., 2010). These barriers emphasize the need for readily available, cost-effective communication solutions that can be easily used by nurses, and by patients who are unwell, to improve nurse–patient communication.

Mobile communication technologies, which include portable electronic devices that have software installed for communication (e.g. mobile phones, tablets, portable laptops, gaming consoles), are accessible, engaging communication options for individuals with severe communication impairments (McNaughton & Light, 2013; Van der meer et al., 2011). Mobile communication AAC applications ('apps'), such as 'Proloquo2go' (Assistive Ware, 2013), and 'Predictable' (Therapy Box, 2013), provide text-to-speech and/or symbol or picture-to-speech options that can be personalized to suit the individual's communication needs. Such software is relatively easy to use, enabling words and pictures to be inserted into a 'grid' pattern for selection by pointing or scanning with a switch, or typing for speech output. Unlike traditional high technology AAC systems, mobile technologies are ubiquitous (Shane et al., 2011), and are therefore likely to be owned by both nurse and patient populations. Mobile technologies are also compact and relatively inexpensive, potentially increasing motivation for patients to keep their devices with them by less costs being incurred if the device is lost, stolen, or damaged. In addition, mobile technologies have many universal features (e.g. camera, photo gallery, zoom function, Internet access), which may facilitate multi-modal communication (Shane et al., 2011) and social networking.

It is not known whether the attitude and knowledge barriers outlined in previous research on using AAC systems in hospital also apply to the new generation of readily accessible mobile communication technologies with AAC apps. Examining the feasibility of using mobile technologies for communication in hospital could inform both the design of ecologically appropriate hospital communication apps, and hospital policies and procedures regarding the use of mobile technologies for nurse–patient communication. Nurses, who are primary communication partners of all hospital patients, may provide unique insight into potential use of mobile communication technologies in hospitals, and any barriers to or facilitators for successful use to improve patient communication. The aim of this study was to determine the feasibility of nurses using mobile communication technologies to support patients who have communication impairments in hospital, by investigating nurses' views and experiences on barriers and facilitators to using these technologies on the hospital ward to support patient communication in hospital.

2. Method

This mixed method research involved two connected stages: an online survey and a focus group. The online survey was used initially to capture a broad range of views (Leeuw, Hox, & Dillman, 2008), and the focus group expanded upon and clarified the findings of the survey (Krueger & Casey, 2003). This design was selected to strengthen the results of each data source in line with the principles of triangulation, convergence and corroboration of results, complementarity, and the elaboration and expansion of findings across studies.

2.1. Participants

From May to July, 2014, nurses who had worked in a hospital setting in the past 12 months were recruited through a global network of nurses in Twitter (e.g., @WeNurses, #WeNurses) to take part in an online survey. Online recruitment and data collection were used to obtain a large convenience sample of respondents (Leeuw et al., 2008). In total, 43 nurses attempted the survey. Of these, 31 responded to all survey questions, and 11 answered only some of the questions. Two respondents were excluded from the survey: one accessed the survey, but did not answer any questions, and another respondent only provided responses that both authors deemed to be non-genuine 'troll' or mischevious acts. Nurses were aged between 23 and 65 years (average 42 years), most were in Australia (n = 37) and had worked on children's and adults' wards (n = 29), and were female (n = 34). Focus group participants were recruited purposively and through snowballing sampling technique through community advertising to locate nurses who had worked with patients with communication impairments. This method of recruitment yielded four nurses who had had broad experiences in a range of hospital settings, and who were therefore more likely to represent the range of viewpoints. Details on the survey and focus group participants are presented in Tables 1 and 2.

2.2. Data collection

2.2.1. Survey

An online survey, based on literature on the use of communication technologies in hospital, was developed by the first two authors to determine the barriers and facilitators to mobile technology use by nurses working with people with communication impairments. The survey was piloted with a colleague of the second author, and following feedback and subsequent revision, was published online in Survey Monkey™. Survey items included multiple choice, free-response questions, and Likert rating scales (Leeuw et al., 2008). The survey questions

Table 1
Demographic information of survey respondents.

Survey question	Categories in responses	Number of responses in that category
Nursing role	Registered nurses	24
	Nursing administrators	5
	Clinical nurse specialists	5
	Enrolled nurses	4
	Nurse educators	3
Hospital setting	Metropolitan setting	30
	Rural	10
Country of residence	Australia	37
	United States of America	2
	United Kingdom	2
Frequency caring for patients with severe communication impairments	Daily	10
	Weekly	14
	Monthly	13
Experience with types of health conditions in patients with communication impairments	Stroke	33
	Anaesthesia	33
	Cancer	30
	Developmental disability	29
	Lack of consciousness	25
	Intellectual disability	24
	Traumatic brain injury	23
	Ventilation/intubation	20
	Oral/laryngeal structures	17
	Cerebral palsy	14
	Motor neuron disease	14
	Autism	12
	Locked-in syndrome	7
	Other	4