Using simulation to improve the capability of undergraduate nursing students in mental health care ☆

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ABSTRACT

Introduction: Mental health care is an increasing component of acute patient care and yet mental health care education can be limited in undergraduate nursing programs. The aim of this study was to establish if simulation learning can be an effective method of improving undergraduate nurses' capability in mental health care in an acute care environment.

Intervention: Undergraduate nursing students at an Australian university were exposed to several high-fidelity high-technology simulation activities that incorporated elements of acute emergency nursing practice and acute mental health intervention, scaffolded by theories of learning. This approach provided a safe environment for students to experience clinical practice, and develop their skills for dealing with complex clinical challenges.

Methods: Using a mixed method approach, the primary domains of interest in this study were student confidence, knowledge and ability. These were self-reported and assessed before and after the simulation activities (intervention) using a pre-validated survey, to gauge the self-rated capacity of students to initiate and complete effective care episodes. Focus group interviews were subsequently held with students who attended placement in the emergency department to explore the impact of the intervention on student performance in this clinical setting.

Results: Students who participated in the simulation activity identified and reported significantly increased *confidence*, *knowledge* and *ability* in mental health care post-intervention. They identified key features of the intervention included the impact of its *realism* on the *quality of learning*. There is some evidence to suggest that the intervention had an impact on the performance and *reflection* of students in the clinical setting.

Discussion: This study provides evidence to support the use of simulation to enhance student nurses' clinical capabilities in providing mental health care in acute care environments. Nursing curriculum development should be based on best-evidence to ensure that future nursing graduates have the skills and capability to provide high-quality, holistic care.

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1. Background

Mental health is a significant issue globally (World Health Organization [WHO], 2016), as psychological disability increases along with the demand for specialist mental health services (WHO, 2013, 2015) with corresponding increased costs to governments (Bloom et al., 2011). Mental and behavioural disorders were the third highest contributor to the burden of disease worldwide after cancer and cardio-vascular disease in 2014/2015 (Australian Institute of Health and Welfare (AIHW), 2015; World Health Organization, 2015). Internationally, the growing burden of disease from mental health conditions will impose challenges on health systems (Murray et al., 2012). Nurses play a significant role in mental health care (WHO, 2015). More than ever before, all nurses should be competent in mental health care, as exemplified by positive attitudes, behaviours, capability, experience, knowledge and skills in patient care across the health care spectrum (Australian College of Mental Health Nurses, 2013).

Importantly, the need for mental health care is widespread, and is not limited to that which occurs in dedicated mental health facilities. While there are a range of mental health services provided by nurses, acute care facilities, like the emergency department (ED), are a primary access point for people needing mental health care in many countries

including Australia (Saurman, 2014). Care and management of patients in these facilities will often be undertaken by a range of health professionals (medical, nursing, social workers) with varying levels of skill, knowledge and confidence. Deficits in knowledge of mental health conditions and expertise in mental health assessment may lead to less than optimum care for individuals with mental health problems (Sivakumar et al., 2011). Support is needed for all nurses to develop their expertise in nursing management of mental health conditions (Innes et al., 2014). Importantly, even experienced ED nurses with post graduate qualifications and years of specialisation, often lack confidence in their ability to care for patients with mental health problems (Moxham et al., 2011).

Few students enter their undergraduate nursing course with the intention of specialising in mental health (Happell et al., 2008), however, as highlighted above, all nurses need to be capable to provide mental health care. Of concern is that there has been limited inclusion of mental health content across nursing curricula internationally (Moxham et al., 2011). The development of clinicians with mental health knowledge and skill and the confidence to use these in the clinical setting requires quality educational strategies, possibly including simulation, to support effective student learning experiences in mental health care (Barrett and Jackson, 2013). Contemporary nursing graduates need to be multi-skilled, with the ability to care for clients with a range of health issues including mental health, especially in emergency care departments.

Simulation is widely used across nurse education, both in undergraduate settings and in clinical education for ongoing professional development (Cant and Cooper, 2014; Foronda et al., 2013). Despite this broad usage, little evaluation has been reported around the transference of the knowledge and skill acquisition attained in the simulated setting into nurses' clinical practice (Cant and Cooper, 2010; Cook et al., 2011). To be effective for learning, simulation activities need to be pedagogically scaffolded into the overall learning plan (Zigmont et al., 2011), be supported by experienced educators, and include debrief techniques (Berragan, 2013; Cant and Cooper, 2010; Kable et al., 2013). Questions exist as to the effectiveness of simulation as a learning tool for mental health assessment (McGarry et al., 2014). For simulation to be embraced as an effective learning strategy, evidence for its use in nursing curricula to enhance competence with mental health presentations is needed.

1.1. Key points

- Mental health is a significant and growing health issue in the international health care context
- Contemporary nursing graduates need to be multi-skilled, with the ability to care for clients with a range of health issues including mental health, especially in emergency care departments
- Simulation education should be well-planned and pedagogically supported, with evaluation to assess the learning outcomes.

2. Significance and innovation

There is a broad range of evidence to support the use of simulation in undergraduate nurse education (Cant and Cooper, 2010; Cook et al., 2011; Foronda et al., 2013; Shin et al., 2015). There is, however, little specific evidence to support the use of simulation in the development of undergraduate nurses' skill and confidence in mental health nursing care, particularly for student nurses with an acute care clinical focus. While provision of integrated mental health care is a key priority in both the Australian health care context (Australian Government, 2009; AIHW, 2014; Standing Council on Health, 2012) and internationally (WHO, 2013), mental health nursing care is often taught in isolation in nursing curriculum (Moxham et al., 2011). An innovative approach of integration of mental health care concepts into an acute care focus, with

the aim of improved student engagement and increased ability to provide quality mental health care in any context is reported in this paper.

3. Aim

The aim of this study was to determine if simulation scenarios are an effective learning format to improve nursing students' self-reported confidence, knowledge and ability in managing mental health issues in the acute care setting and to determine if these benefits can translate into improved capacity in clinical practice.

4. Design

A convergent parallel design was used with a fixed mixed method protocol with independent analysis of each strand and concurrent quantitative and qualitative data collection (Chiang-Hanisko et al., 2016). This pragmatic approach has high external validity, as it allows the intervention to have the flexibility to fit within normal practice, so that the outcomes have direct relevance to current educational practice (Plano-Clark and Creswell, 2011). Subsequent synthesis of data ensured a meaningful response to the intervention study aims.

4.1. Pedagogy underpinning this study

Translation into practice ideally includes an underpinning pedagogical framework. Bandura's theory of social change was selected for this study as it emphasises social experience and observational learning in the formation of new knowledge. It proposes that increased self-efficacy can lead to individuals viewing difficult tasks differently; as something to master rather than avoid (Bandura, 1977, 1997; Zimmerman, 2000). Bandura's theory proposes that the self-efficacy of learners increases through modelling of behaviour and reinforcement of learning in simulation activities (Kaakinen and Arwood, 2009). Self-efficacy is enhanced by mastery of skill in performance, learning through observed experience, and provision of immediate feedback. Simulation learning can provide this experience (Hall, 2015; Sinclair and Ferguson, 2009). This is depicted diagrammatically in Fig. 1.

5. Methods

5.1. Site, sample and recruitment strategies

This study was undertaken in the simulation nursing laboratories of an Australian tertiary education facility, across three regional campuses. There are no similar studies to provide information to enable a power calculation for sample size (Polit and Beck, 2013), thus we adopted a pragmatic approach and invited the entire student population who met the inclusion criteria to participate by student email. No students enrolled in this course were excluded from the study.

5.2. Intervention

The intervention was embedded in a final year, final semester of study unit in the Bachelor of Nursing program. Prior to this unit, all students undertook 80 h of clinical placement in a mental health care facility. The learning content that comprised the intervention (see Fig. 2) was developed by mental health nurse educators, educationally peer reviewed, and was piloted in a previous student cohort. Mask-Ed™, a hybrid form of simulation where the educator uses realistic silicon masks and props to become the patient, was incorporated into the learning content after feedback about the lack of facial expression given by the mannequin in pilot simulations.

The learning activity aimed to help students to prioritise mental health and physical care appropriately, gain competence in mental health assessment, and to develop confidence in managing patient care in acute mental health presentations. An evolving scenario was