Simulation in mental health nurse education: The development, implementation and evaluation of an educational innovation

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Abstract

Simulation is an important learning approach for the development of skills for healthcare practice. However, it remains under used in the education of mental health practitioners. This article examines the development, implementation and evaluation of a simulated learning experience for final year undergraduate BSc mental health nursing students in the UK. Scenarios involving managing care in an acute in patient ward and community older persons’ team were designed to enable students to develop their complex decision making skills. An evaluation of the simulation experience was undertaken. This was informed by the principles of improvement science methodology and data was collected from the student participants using questionnaires. The findings indicated that simulation provided a realistic environment in which students were able to develop skills and manage clinical situations autonomously without fear of being assessed or making mistakes. Reflecting Dieckmann et al.’s (2007) position that simulation is a social situation in itself, the learning approach enabled mental health students to both experience the safety of the Higher Education setting and also the reality of clinical practice. Simulation may therefore provide an important tool to prepare students for the responsibilities of a qualified nurse.

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1. Introductions

The use of simulation as a teaching strategy in health education has expanded exponentially in recent years. Simulation entails the creation of a situation in the classroom that enables the participant to act naturally, therefore replicating an environment as close to the practice setting as possible in order to facilitate skills development (Jeffries, 2005). The evolution of new technologies available to support learning has enabled simulation to be employed in a diverse range of contexts.

The popularity of simulation has been underpinned by recognition that contemporary work place settings require new graduates with a complex range of skills, who are able to think critically, manage competing demands and embrace change (Ryan and Tilbury, 2013). For newly qualified nurses, this often involves being able to undertake roles and responsibilities previously expected of more senior colleagues (Felton and Royal, 2015). There is a growing body of evidence supporting the use of simulation as an effective strategy to enhance the development of health professionals’ clinical skills to meet these challenges (McGaghie et al., 2010; Norman, 2012; Akhu-Zaheya et al., 2013; Khalaila, 2014). This paper examines the development, implementation and evaluation of a simulation workshop for undergraduate mental health nursing students.

1.1. Pedagogical context for simulation

The emphasis on the underpinning pedagogical principles of simulation has developed significantly in recent years. Educationists have identified a number of pedagogical frameworks that may underpin simulation as an experiential learning experience. These approaches include constructivist, reflective and transformative. According to constructivist pedagogy, knowledge is constructed by the learner, founded on the interactions of their beliefs and values with the environment, other learners and educators (Schweitzer and Stephenson, 2008; Krahnenbuhl, 2016). It is an important framework that has been employed to support the effective use of simulation as it emphasises the active engagement of the learner. Based on the notion of simulation as a form of enquiry based learning, it can enable learners to pursue and test out their own actions facilitating the development of critical thinking (Parker and Myrick, 2009; 2010).
Transformative learning theory has also been applied to simulation. In accordance with this framework, simulated learning is described as a process in which students may experience discomfort or disorientation when faced with an unexpected situation that enables them to recognise, reflect on and explore their cognitive and emotional processes (Brown, 2008; Clapper, 2010). Reflective de-briefing is a core component of a simulation strategy (Neill and Wotton, 2011; Shinnick et al., 2011; Mariani et al., 2013), which draws on the notion of reflection as integral practice to building experiential nursing knowledge (Rolfe et al., 2001). As such simulation is seen to complement the underpinning principles of contemporary nursing curricula (Campbell and Daley, 2012). However, realising these pedagogical principles in the learning experience is dependent on the realism of the simulation.

The concept of creating a ‘real’ situation for simulation in the classroom setting is complex and multifaceted. Through and informed planning of the simulation is essential to enabling the creation of realism. Rudolph et al. (2007) propose that engaging individuals in a simulation, engendering a commitment to the reality of that experience entails physical, conceptual and emotional components. Physical representations of reality often relate to tangible physiological responses or visual changes that may be observed. Conceptual elements enable a focus on decision making as they reflect our tendencies to analyse the relational consequences of the situation, the “what if” approach. Finally, the emotional elements represent interpersonal engagement with the range of feelings that the situation may invoke. Rudolph et al. (2007) advocate that a careful blending of these elements of reality is essential in the creation of a simulated experience to enable students to embrace the reality of a practice situation, which is not in fact real. This creates a fiction contract and is viewed as central to the success of simulation to influence learning (Dieckmann et al., 2007).

1.2. Evidence for simulation in nurse education

Studies examining the impact of simulation within nurse education have identified benefits for the development of students’ confidence and performance of psychomotor clinical skills (Moule et al., 2008; Cant and Cooper, 2010; Norman, 2012). Enhanced patient safety is a potential advantage with research demonstrating students improved adherence to policies and guidelines after simulation (Norman, 2012). Simulation can also develop nursing students’ self-efficacy and decision making skills as well as supporting the application of theory to practice (Bambini et al., 2009; Butler et al., 2009; Khalaila, 2014; Shin et al., 2015). Methodological limitations may undermine the impact of these studies (Cant and Cooper, 2010; Norman, 2012), yet simulation appears one of the most reported and effective teaching strategies for the advancement of professional skills in nurse education.

Simulation has however received some criticism. Berragan (2011) suggests such an approach to learning limits students’ engagement with the social and cultural world of both nursing and patients, as it relies on a false situation. Within nursing practice, the evidence base for the effectiveness of simulation is still dominated by medical research. This may reduce its applicability to nursing specific education. Simulation has also been criticised for being governed by the use of technology, which has restricted the scenarios in which it can be applied (Schiavenato, 2009). Given that this may impact on the skills which are able to be acquired this creates challenges for demonstrating the delivery of a holistic person-centred approach to nursing care.

1.3. Simulation and mental health nursing

There is a paucity of literature specifically related to the design and adoption of simulation scenarios for mental health nursing care, particularly where psychiatric services provide the context for that simulation (Brown, 2008; Guise et al., 2012). Challenges are posed for educators in developing and evaluating simulation workshops that mirror the relevant practice settings (Davis et al., 2013). Mental health nursing is inherently interpersonal, dynamic and sometimes unpredictable (Jacobs and Van Jaarsveldt, 2016) this is difficult to recreate realistically within the classroom. The technological component related to simulation, such as patient simulators, limits the participants’ ability to develop complex therapeutic skills. Yet the demonstrated impact of simulation on the development of communication, decision making and self-efficacy skills (Kameg et al., 2010; Norman, 2012) are all core competencies for mental health professionals (Department of Health, 2006; Australian College of Mental Health Nurses, 2010; Nursing and Midwifery Council (NMC), 2010; Horatio 2011) and this suggests there is greater scope to develop simulation in the field of mental health nursing.

Whilst examples of the use of simulation in mental health nursing education may be rare, some innovative approaches have been identified. These include Hamilton, Wilson et al. (2008) who re-created the experience of hearing voices, Guise et al.’s (2012) discussion of virtual patient simulations as part of an online learning programme and Doolen et al’s (2014) employment of simulated patients for communication skills development. Drawing on these examples of good simulation practice in mental health nursing education we developed, implemented and evaluated two scenarios. These were introduced to a cohort of third year mental health nursing students.

2. Developing a simulation learning experience for mental health nursing students

The simulation workshop was part of an undergraduate (BSc) nursing course, sequenced immediately prior to the students undertaking their final management clinical placement. In the UK, undergraduate students opt to study in a specific field of practice, from the start of their nurse training (NMC, 2010). These are child, learning disabilities, adult or mental health. This enables them to develop specialist knowledge at a pre-registration level. The students participating in the simulation experience were studying the field of mental health. The simulation scenarios aimed to enable students to draw on their therapeutic skills to manage nursing care in a community and acute, inpatient setting. The development of the scenarios was informed by an acknowledgment of the demands placed on newly qualified nurses to competently and confidently co-ordinate mental health nursing care within challenging environments. In each scenario, simulated patients undertook the role of a service user and their partner.

Actors or volunteers can be trained to participate in clinical scenarios enacted in the classroom setting. These simulated patients can support learning related to clinical skills and communication alongside creating realism in the scenario (Bokken et al., 2010). Whilst less frequently used in nurse education simulated patients have been employed to aid student nurses to develop communication skills in sensitive or complex situations (Ramsey et al., 2008). Simulated patients, therefore, offer an important resource to underpin the development of simulation for mental health nursing students. The interpersonal interactions foster the development of authentic responses and allow for the inclusion of unforeseen reactions to mirror mental health practice. Within the simulation the volunteers who adopted these roles, had extensive experience of acting as ‘simulated patients’ in the education of medical and allied healthcare professionals.

The learning aims (see Fig. 1) and scenarios were developed
A debrief took place after each scenario which was founded on Driscoll’s (1994) model of reflection. Facilitators encouraged the students in small groups to reflect on the experience of the simulation, their thoughts, feelings, actions and decisions to inform future practice. De-briefing is an essential component of simulation as it enables learners to recognise alternative actions and process the emotional experience of engaging in the simulation alongside the affective implications of the specific scenarios (Neill and Wotton, 2011). The simulated service users also participated in the debrief discussion which provided the opportunity for the students to gain some feedback on the potential patient experience.

3. Evaluating the simulation

To evaluate the simulation exercise, an approach broadly informed by improvement science methodology was undertaken (Rowley et al., 2014). Improvement science offers a rigorous and practical approach to understanding and implementing quality improvement (The Health Foundation, 2011). As such it “focuses on systematically and rigorously exploring what works to improve quality in healthcare and the best ways to measure and disseminate this to ensure positive change” (The Health Foundation, 2011: 3). Although, more often associated with clinical practice based initiatives rather than those in education; improvement science was seen as an appropriate basis for this evaluation given the aim of enhancing the student learning experience and the hope that this would translate into changes in mental health nursing practice.

3.1. Data collection

A questionnaire was developed which included both open (free text response) and likert scale questions. The questions were informed by the literature on simulation and covered the following areas.

- Impact on confidence in practice.
- Impact on clinical skills development.
- Impact on communication skills
- The use of simulated patients in clinical skills development.
- Relevance to mental health nursing practice.

The questionnaire was distributed to students at the end of the debrief session following the simulation workshop. They were given the opportunity to complete the questionnaire and return it anonymously. Twenty-four questionnaires were distributed to the

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<thead>
<tr>
<th>Question</th>
<th>None</th>
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<th>Some</th>
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<tbody>
<tr>
<td>What, if any, impact has this had on your confidence for practice?</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>What, if any, impact has this had on your clinical skills?</td>
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<td>0</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>What, if any, impact has this had on your communication skills?</td>
<td>0</td>
<td>0</td>
<td>12</td>
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student participants and all of them were returned.

3.2. Data analysis

The quantitative data from the questionnaires were analysed using descriptive statistics to identify the most frequently recorded responses on the likert scales. The free text responses were analysed using conventional, qualitative methods that sought to identify themes that were relevant both across and within individual accounts (May, 2011). Green and Thorogood (2004) argue that thematic analysis provides a concise, coherent and logical account of the descriptions within the data. To identify relevant themes, the free text responses were read several times by the authors of this paper to collaboratively identify units of meaning. Similar units were grouped together to formulate preliminary themes. Themes were broad to enable inclusivity and promote credibility in qualitative analysis. These themes formed the basis of the narrative. The narrative was constructed to explain the data and relate it to the phenomenon of interest. The final themes presented in the findings reflect consistently occurring patterns within the free text responses.

3.3. Ethical issues

The simulation workshop and associated evaluation was created and introduced in accordance with school procedures regarding the development and evaluation of education innovations. As the participants involved were student mental health nurses and were recruited through a higher education establishment, formal ethical approval was not required. However, the development was conducted in line with the principles of good ethical conduct informed by local policy and the authors NMC registration (NMC, 2015). The students were all given verbal information in relation to both the simulation session and the evaluation and could ask for further details if required. It was made clear to students that the completion of the questionnaire was voluntary. Returning the completed, anonymous questionnaire therefore implied consent and agreement to take part in the evaluation. The participants were assured that the data from the questionnaires would be kept securely and any identifiable details would be removed as soon as possible after data collection had taken place.

Although no material ethical concerns were identified within the evaluation, it was appreciated that being involved in the simulation session may have raised sensitive or stressful issues for the student participants including those in relation to their own personal and practice based experiences (Foronda et al., 2013). The participants were informed that should they experience any distress they could leave the session at any point and seek the support of one of the facilitators. Students were reminded that their responses to the evaluation questions would have no impact on their educational achievement either within the classroom or in clinical practice settings.

4. Findings

All 24 student participants reported that the simulation experience was relevant to their nursing practice. They also identified that it had either some or a significant impact on their confidence, clinical and communication skills. These results are summarised in Table 2 below.

Analysis of the qualitative feedback from the students identified three overarching themes: “reflective of real life situations”, “practicing skills in a safe environment” and “being in control of situations”. These are discussed in more detail below. Explanatory direct quotations from the student evaluations are used to illustrate the findings presented.

4.1. Reflective of real life situations

The simulation scenarios were considered to reflect “real” life situations within mental health settings:

“Portrayed real scenarios of clinical experiences. Covered most relevant care needs found on wards.”

“The situations were very realistic in terms of context and the acting.”

This was considered to be a strength of the approach and comparisons were drawn between the simulation experience and role play. Although role play allowed the students to develop an empathetic understanding of another’s experiences, working with colleagues and “friends” was felt to be limiting:

“In role play there are two of us who don’t know what we are doing. In this [simulation] there is only one of us who doesn’t know.”

“It makes things appear more real than role playing with peers. However, I do think role play is very helpful too.”

Another element of the simulation experience, which the students found beneficial, and reflected their “real life” work in clinical settings, was the degree of unpredictability which they were asked to contend with. Prior to attending the session the students had very little knowledge of what it would entail and similarly before the simulation started they were only given as much information as they would usually have in a clinical setting. This was either a referral letter from a GP or an initial assessment. This level of unpredictability meant that the students had to use their skills as they would in a clinical setting:

“Because they stayed in character which made it feel real. We didn’t know what was going to happen next and we had to use the skills we had learnt over the three years to communicate and work towards the final result.”

Related to this point was the immediate feedback the students received for their interventions and communication with the simulated service users. The students identified that it was very helpful to their learning to see straightaway how another person experienced their communication so that they could immediately start to make adaptations to how they approach an individual:

“We were able to see reactions if the wrong/right thing was said. Was realistic, actually felt like you were in the situation”.

Not all of the students were initially willing to take part in the simulation and there was some apprehension about whether it involved them “acting”. A distinction was made between what was required in clinical practice (which they could do) and the classroom setting, which was more challenging:

“I can do it in practice where it is real, but I can’t do it here. You are just asking us to act which isn’t like real life.”

However, even those who were the more reluctant participants identified that the simulation experience was beneficial and expressed some surprise at how realistic situations could be created within the classroom setting. The same student, who made
the previous comment, said the following at the end of the session:

“The situations were very realistic in terms of the context and the acting [simulated patients]”.

In summary, the use of simulation within a mental health educational context facilitated the students to engage in scenarios that were reflective of their clinical experiences. This high level of “realism” meant that they were able to suspend some of their concerns about needing to “act” in an artificial environment. The unpredictability of working with simulated service users and their responses to the students’ interventions enabled them to receive immediate feedback on their skills, which they could then alter accordingly.

4.2. Practicing skills in a safe environment

As identified above the success of the simulation as a learning experience was dependent on the scenarios reflecting the “real life” clinical situations the students encountered in mental health settings. However, they also identified that the classroom setting afforded them a degree of safety that was not available elsewhere:

“Gives us a safe space to put into practice skills which we have learnt over the course”.

This safe space allowed the students to ask questions and to experiment with their skills in a way which they felt unable to do so when on clinical placements. It was identified that when they were in clinical settings there was a need to appear confident to those they were working with so that they would achieve their Nursing and Midwifery Council placement outcomes at the required Bondy skill level (Bondy, 1984). This feeling of “being assessed” meant they were reluctant to take risks or to ask questions that may show a lack of knowledge and understanding. However, the simulation experience offered them the opportunity to be able to make mistakes without it impacting on their assessment or on service users’ care:

“Open learning with peers and teachers allowed to make mistakes, query actions and gain solutions through real life”.

“Situations I’ve seen on wards and in the community. It’s nice to be able to make a mistake and get feedback in a safe environment.”

The above quote also demonstrates that the students valued being able to query the actions they undertook, as they were in the process of doing them and also through the debriefing process at the end of the simulation session. As well as discussing what had worked well and which areas they could improve on, the students took the opportunity to ask questions about the actions they had undertaken and gain knowledge and solutions for use in their clinical practice. For example the inpatient scenario ended with the students needing to make a decision as to whether the simulated service user should be detained in hospital under the Mental Health Act (1983/2007) or allowed to leave. Through the process of debriefing the students asked questions of the lecturer and practitioner present about this process including what forms would be completed and what would be said to the service user. The students also identified that the involvement of the simulated service users in the debriefing session was extremely valuable, as they gave direct feedback about how communication styles and interventions were experienced.

The students identified that simulation allowed them to learn from their peers and to observe and experience different nursing styles. This not only allowed them to gain skills and knowledge from each other but also gave them confidence in their own style of mental health nursing:

“It was good to see other nurses, nursing styles and boosted my confidence about my own style.”

In summary, simulation provided students with the opportunity to practice their skills and gain feedback from each other as well as the practitioners, lecturers and simulated service users. The relative safety of a classroom setting meant that they could take more risks and start to try things which were outside of their comfort zone without the concern that it would impact on their assessment or on service user care.

4.3. Being in control of situations

The students who took part in the simulation experience were at the end of their three year training programme and were due to commence their final management placement. As well as allowing them to practice communication and other clinical skills, the safety offered by the classroom setting meant that they were able to take control and manage the situations:

“The scenarios were extremely relevant to mental health, similar to what I, myself, have experienced in practice. It was extremely helpful to be in control of the situation, in that, I’ve had to make the decisions, the responsibility was left with us. So it was a great training experience.”

“It was relevant to my nursing practice because it has given me an insight to know that as a nurse your responsibility accountability to make decisions in someone’s care.”

“Put ideas into practice: learnt about management, really good.”

Being responsible for decision making in relation to the simulated service users was something which was unfamiliar to the students. To meet the required standards in their clinical placements they had to demonstrate they were working and thinking independently, that is meeting Bondy skill level four (Bondy, 1984). However, they identified that they always had a registered nurse
with them or who could be contacted very easily to take control if needed. Within the simulation setting this was not an option and they had to manage the evolving situation for themselves. This meant that they needed to work together as a team, to delegate tasks and to think about how to support one another:

“It was helpful to learn how to react in situations”.

The students identified that the situations they were “managing” gave them an insight into what they would experience as a registered nurse, with one student describing it as “frightening”;

“It has been really good, but frightening at times”.

“It gave me the opportunity to look into things which I will face after qualifying.”

“It has been beneficial in the sense that when I qualify this is what I am going to encounter.”

In summary, simulation offered the students the opportunity to manage and control all aspects of the scenario. This gave them an insight into the accountability and responsibility of being a registered nurse within a mental health setting. For the students this was beneficial as it allowed them to experience and practice decision making and leadership skills.

5. Discussion

The findings from the evaluation highlight the positive nature of the learning experience for the mental health students. The key points raised by the student participants emphasise the benefits of simulation to be: facilitating the management of complex situations independently; promoting decision making; and reflecting and justifying the decisions made.

Since 2010 in the United Kingdom the Nursing and Midwifery Council standards (NMC, 2010) have specified that pre-registration nurse education should be delivered at undergraduate degree level. Ryan and Tilbury (2013) identify that for all undergraduate courses there is a need to explore the role of flexible pedagogies in order to prepare students for the demands of the workplace. In this context the term “flexible” is used to refer to relationships between the values of learning in Higher Education and the responsiveness and level of choice available to students (Ryan and Tilbury, 2013). This means that undergraduate nurse education needs to ensure that students meet the requirements of professional registration and also have the skills and personal attributes to deliver safe and effective care within increasingly complex healthcare structures (Willis, 2015). Simulated learning experiences represented a “flexible” approach akin to Ryan and Tilbury’s (2013) definition as it allowed the participants to rehearse some of the skills important for making a successful transition from student to registered mental health nurse.

The students highlighted that the simulated experience provided both a safe and realistic environment in which to learn. They had the freedom to manage situations independently, to not worry about making mistakes and to receive constructive feedback from the simulated service users themselves, lecturing staff, the practitioner present and their peers. In many respects these comments could be deemed contradictory – how can a situation be both safe and not reflect the unpredictability of clinical practice? Dieckmann et al. (2007) use the concepts of fictional and realistic cues to suggest that the simulation experience needs to be seen as a specific social situation in and of itself. Fictional cues are those artefacts, actions, perceptions, structures and situations that emphasise the artificial nature of the experience; whereas reality cues are those elements which are similar to the “real life” clinical setting (Dieckmann et al., 2007). The student feedback reported through the evaluation process indicates that the balance within the simulation of fictional and reality cues enabled to them to both experience the safety of the Higher Education setting and also the reality of clinical practice. This presents a contrast to Berragan’s (2011) view regarding simulation as limiting students’ engagement with the social and cultural world of nursing. In this case, the balance of fictional and reality cues within the simulation enabled the mental health students to experience what it is like to have the responsibility associated with being a registered nurse.

The evaluation of the simulated experience has highlighted important issues in relation to mental health nurse education and practice. However, when considering the relevance and importance of the findings it is necessary to take into account the strengths and limitations of the study design process. The quality of the “acting” from the simulated service users was a key strength of the project and was vital in ensuring the situation had the level of realism required. The involvement of practitioners in both the design of the scenarios and the delivery of the simulated session also assisted with what Dieckmann et al. (2007) refer to as the “realistic” cues. The numbers of mental health students involved in the evaluation may limit the transferability of the findings to other settings. It should also be noted that the insights gained were from students who were very close to qualification, it is not clear if the same responses would be obtained from individuals who were at an earlier point in their education.

6. Implications for practice

This development and evaluation of simulation within a mental health nurse education context has illuminated some of the potential benefits the approach offers as part of a flexible learning pedagogy. By focusing on the role and use of simulated patients, rather than the technological aspects more widely reported in the literature, the approach gives students the opportunity to develop their confidence, communication and other clinical skills. Whilst it may be expected that a mental health based simulation enables students to practice their interpersonal capabilities, this development suggests that the greatest value is in being able to work autonomously and develop complex decision making skills. Tentatively, it could therefore be suggested that simulation learning experiences facilitate student nurses, near the end of their training, to start to make the transition to registered mental health nurse.

Conflicts of interest

There are no conflicts of interest to declare for this submission.

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References

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