



## Virtual patient simulation in psychiatric care – A pilot study of digital support for collaborate learning



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### ABSTRACT

Psychiatric and mental health nursing is built on a trusted nurse and patient relationship. Therefore communication and clinical reasoning are two important issues. Our experiences as teachers in psychiatric educational programmes are that the students feel anxiety and fear before they start their clinical practices in psychiatry. Therefore there is a need for bridging over the fear. Technology enhanced learning might support such activities so we used Virtual patients (VPs), an interactive computer simulations of real-life clinical scenarios. The aim of this study was to investigate 4th term nursing students' opinions on the use of Virtual Patients for assessment in a Mental Health and Ill-health course module. We asked 24 volunteering students to practise with five different VP cases during almost 10 weeks before the exam. The participants were gathered together for participating in a written and an oral evaluation. The students were positive to the use of VPs in psychiatry and were very positive to use VPs in their continued nursing education. It seems that Virtual Patients can be an activity producing pedagogic model promoting students' independent knowledge development, critical thinking, reflection and problem solving ability for nurse students in psychiatric care.

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### Introduction

A central theme for the Department of [Care Science at Malmö University], is that Lifelong Learning should be a central foundation for the underlying educational philosophy. This means that the education should support the students' independent development of knowledge, critical thinking and reflection but also their problem solving ability (Willman and Carlson, 2012). Students should also receive the “tools” to search, validate and use current and updated resources of information to form their own knowledge and skills. Another important foundation for the Department of [deleted for the review] is that the educational format should facilitate active and creative involvements in teaching with the intention of motivate the students' development of professional competence (Willman and Carlson, 2012). Technology enhanced learning might support such activities and especially student-activating methods like Virtual Patients (VPs) may foster students' independent

knowledge development, critical thinking, reflection and problem solving ability (Botezatu et al., 2010a, 2010c). Typically, clinical training is an important part of all nursing programmes. This means that training with VPs or other simulation models, together with clinical practice should constitute the bulk of the nursing programme's clinical training.

One especially important topic is reflection by the learners on their gaps in knowledge and skills and how they might improve that. Reflection is an important strategy which may increase the awareness and understanding of nursing situations experienced by the student; it is enabling for the student, and also develops the student's ability for critical thinking (Willman and Carlson, 2012).

For students in nursing education, large demands are to be faced in the meeting with a real patient and thus appropriate training should be included in all educational programmes. A nurse should be able to handle many different situations including patients that are unwilling, culturally diverse and/or mentally impaired. Today, nurses also are confronted with patient relatives that can be upset, worried or disturbed in other ways. Therefore, nurse education should include preparedness for handling also such situations. VP systems simulate the encounter between a student and a patient in a realistic and challenging way, to promote the development of

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medical and care skills and knowledge (Kononowicz and Hege, 2010). VPs may in a very realistic and engaging way visualize any type of clinical condition, including cases that seldom appear on the local university clinic.

Therefore VPs may offer important ingredients for lifelong learning and also be a successful pedagogic model for nursing students in psychiatric courses.

Nurse education in Sweden is a Bachelor programme over three years and all students have a foundation course in psychiatry (8–15 ECTS credits) depending on which University the students are studying at. There is also a Nurse Specialist Programme for Psychiatric care on advanced level (180 ECTS credits) for nurses that want to deepen their knowledge and skills and thus become specialized in a certain field.

### *Psychiatric and mental health nursing*

The purpose of psychiatric and mental health in nursing practise is to promote mental and physical health and to increase life quality and recovery of the patient. One common implication of this is to help the patient to “see” and understand her or his needs and problems. More specifically, psychiatric and mental health nursing is built on a trusted nurse and patient relationship (Peplau, 1992; Barker, 2001) and therefore communication and clinical reasoning are two very important issues to master by nurses. However, one complicating issue that is special with psychiatry is also that most of both the diagnostic process and care situation is dependent on oral communication, with less support from e.g. physical examinations, lab tests or imaging, making the nursing process even more complex to master by students.

The clinical information used as a base for psychiatric clinical reasoning is gathered by interviewing the patient, by performing a mental status examination and by administrating different kind of rating scales. An interview is a conversation with a deliberate purpose. The purpose of psychiatric nursing interview is to gather the necessary information needed to understand and to help the patient to recovery. The content of the interview varies according to the state of the patient. The therapeutic relationship is of great importance for the outcome of care and treatment (Barker, 2001). It is the means by which a nurse and a patient hope to engage with each other and effect beneficial change. So, this is a crucial part of nursing education and training.

Another important part in psychiatry is to make different kind of assessment for example assessment of suicidality and to use relevant rating scales (Cochrane-Brink et al., 2000; Billings, 2003; Aflague and Ferszt, 2010; Sunnqvist et al., 2013). A VP system might offer the students to train different kinds of assessments and to use relevant rating scales to increase their awareness and understanding of the field.

Our experiences as teachers in psychiatric courses are that the students often feel anxiety and fear before they start their clinical practices in psychiatry (Sharif and Masoumi, 2005). Most of them have never met a mentally ill person before and they presume it is difficult to communicate with them. Therefore there is a need for bridging over the fear and help the student to increase the awareness and understanding of common nursing situations within psychiatry.

### *Virtual patients in nursing education*

VP systems have been used with positive results in nursing education and assessment previously (Forsberg et al., 2011, 2013; Koch et al., 2010; Bloomfield et al., 2010). Research made in medical education has found that VP systems foster better retention than traditional learning methods (Botezatu et al.,

2010a) and that they are best suited for training of clinical reasoning (Cook and Triola, 2009). Another study of Botezatu et al. (2010b) explored medical students' opinions about VPs using focus group interviews. They found five main themes to be associated with successful VP use: Learning, Teaching, Assessment, Authenticity and Implementation. The students thought they remembered more because of improved clinical reasoning abilities and stepwise case solving. They were not afraid of making mistakes which gave them meaningful learning opportunities when they could repeat and redo the cases. They also found the assessment and feed-back session to be important part for their learning ability. Another important issue brought up in that study was that the VPs were created from real life cases and thus fostering clinical reasoning in preparation for future clinical practice as young doctors. In the study by Forsberg et al. (2011), the nursing students thought the VP were good for practising their clinical skills and to make adequate clinical decisions. The also thought that there was a wide range in ability to explain their clinical reasoning process but wanted the system to be less “medical”.

### *The Web-SP virtual patient system*

The Web-based Simulation of Patients system (Web-SP) is a virtual patient system used at several universities worldwide and was initially developed at Karolinska Institutet in Sweden (Zary et al., 2006; Botezatu et al., 2010a). This VP system can be tailored to follow the nursing process and includes a detailed interactive illness history taking section, physical examination, lab/imaging tests and features for suggesting appropriate nursing diagnosis and nursing measures, as well as individualized feedback to the learner. Web-SP thus allows the learner to in his/her own pace go through a case, as if it was a real patient and ask any healthcare related question to the VP, select and perform physical exams and order appropriate lab/imaging tests, to make different kind of assessment and to use relevant rating scales. The learner should also suggest proper diagnosis/es and treatments, and finally receives detailed feedback on actions taken and decisions made (Zary et al., 2006).

Since psychiatric aspects in nursing is a complex matter and because of that students often feel discomfort before meeting their first mentally ill patient, it has been suggested to introduce VP-based training to support their clinical introduction. Thereby, the students might “meet” patients with mental health issues before their first real encounter and train clinical reasoning and clinical decision making during the whole procedure with and without their clinical supervisor.

The aim of this study was therefore to investigate 4th term nursing students' opinions on the use of Virtual Patients for assessment in a Mental Health and Ill-health course module.

### **Research design**

During spring term 2012 three teachers (the three first authors) designed five VP cases and two exam cases with different psychiatric conditions to be used in the course (OM411, Mental Health and Ill-health). The cases illustrated major depressive disorder, psychotic behaviour, substance abuse, a person with bipolar disorder in a manic state and schizoaffective disorder. The exam cases were two patients who continued as inpatients. Every case was peer reviewed in terms of content, design and media by experienced clinical nurses from the psychiatric clinic at [deleted for the review] University Hospital [deleted for the review].

The participants in the study were 4th term pre-registration nursing students (the nursing programme includes 6th terms) at

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