



Virtual patients: Development in cancer nursing education



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SUMMARY

Background: The number of men diagnosed with prostate cancer is increasing and internationally there are high incidence rates. It is important that nurses and healthcare professionals are enabled to provide appropriate care to those men affected by prostate cancer and their families. Despite this need, there is recognition that many professionals feel ill prepared and lack knowledge in a number of areas. This paper presents the development of a Virtual Patient (VP) online resource to support practitioner learning.

Aim: To develop five online VP simulation scenarios to meet the learning needs of nurses and health-care professionals caring for men with prostate cancer.

Method: Topic areas for the VPs were taken from previous work exploring the needs of health care professionals working with men with prostate cancer. An initial scoping exercise involving nursing practitioners, students and a prostate cancer charity confirmed the focus of the case study scenarios. Service users and specialist practitioners reviewed an outline of each case study to ensure fidelity of the simulations scenarios. Cases were entered into UChoose, a web based interactive VP player and authoring tool. The final case studies were reviewed by a sample of both registered and non-registered nurses and nursing students.

Results: The majority of respondents reported an increase in knowledge and suggested that they would recommend the resource to others. A number of positive aspects of the resource were highlighted. Respondents also commented about areas of weakness, a number of which have been addressed subsequently.

Conclusions: The VP case studies provided an opportunity to develop knowledge and confidence in caring for men with prostate cancer. The mode of delivery and the content was acceptable for less experienced and knowledgeable staff.

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Introduction

Each year, over 1.1 million men are diagnosed with prostate cancer worldwide (Cancer Research UK, 2014). Incidence rates are highest in Australia and New Zealand and it is the most common cancer amongst males in the UK, with 1 in 8 men developing prostate cancer at some point in their lives (Cancer Research UK, 2014). Thus, regardless of their specialty, nurses are likely to care for men who have experience of prostate cancer. Given the increasing care demands, Moule et al. (2013) completed a review of the learning needs of health care professionals working with men affected by prostate cancer for Prostate Cancer UK, a UK based charity. The review found many nurses indicated educational support needs for topics such as management of psychosocial issues, sexual issues, continence management and urinary concerns, long term effects and end of life care. As a result, Prostate Cancer UK implemented a plan to develop and provide educational resources for a range of health-care professionals, including nurses. This paper presents a study to develop and review the educational

resources for nurses and healthcare professionals now available on line (prostatecanceruk.org/courses).

Background

E-learning involves innovative and interactive methods of learning, with increased accessibility to learning materials and flexibility in time, location and pace of learning (Koch, 2014; Button et al., 2013). Whilst some disadvantages have been identified relating to individual computer skills, user anxiety and IT access (Moule et al., 2010); technology enhanced learning is becoming increasingly prevalent as an educational approach in healthcare and in nursing education in particular (Koch, 2014; Button et al., 2013). The National Health Service (NHS) Technology Enhanced Learning Strategy Paper (Department of Health, 2011) identifies the need for delivering workforce learning online and stresses that healthcare professionals should learn skills in a simulation environment as part of the managed learning process. Simulations are activities that mimic the reality of clinical environments and are used to demonstrate procedures and enable decision making and critical thinking (Jeffries, 2005). E-simulation combines simulation with technology, and involves goal-based digital simulation via a computer screen

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whereby learning resources are accessed directly from the internet or downloaded as an application (Cant and Cooper, 2014).

Any technologies used in nursing education need to be engaging and innovative for the student (Moule et al., 2010). To support the design and evaluation of simulation activities in nursing, Jeffries (2005) developed a conceptual framework for simulation activities that focuses on clear objectives, fidelity (realism) of the simulation, complexity (thus enabling complex decision environments with differing levels of certainty and relevant information), cues and debriefing. This framework can be used when developing online virtual patient (VP) simulation. Written as branching narrative systems, VPs employ a wide set of patient-related data with which the learner interacts online and can practise their clinical decision making in a risk free environment (Ellaway et al., 2006). The data can be presented in multi-media formats, which enhance the learning experience (Jager et al., 2014). Virtual patients have been successfully integrated in medical and healthcare teaching for a number of years and are seen to offer advantages such as easy accessibility, reproducibility, interactivity, student autonomy and personalised feedback (Saleh, 2010). Botezatu et al. (2010a,b) demonstrated that integrating VP use in medical education increased learning and students highlighted the benefits as increasing their transferable skills, retention enhancement and the importance of learning from making mistakes. Developing on from this, VPs are increasingly being used in nurse education. Fosberg et al. (2011) investigated students' opinions about VP use for the assessment of clinical reasoning in nursing. The majority evaluated VPs positively and found them realistic and engaging. Participants in a 'thinking aloud study' using VPs reflected that the virtual patients were relevant and enjoyable (Fosberg et al., 2014).

UChoose is a web based interactive VP player and authoring tool developed by the University of the West of England, Bristol (UWE).

Each scenario starts with a video of an animated avatar and the learner has access to a variety of supporting information via pop up text, such as medical notes, patients information leaflets and observations charts. There is a set of on screen options for the learner to choose from and, based on the decisions of the learner, the case branches to the next screen, with may include either a different video clip of the animated avatar, a simulated telephone call or some on screen text information. Evaluations of UChoose support the findings elsewhere in the literature demonstrating that the simulations support higher order learning and clinical decision making and that learners find them to be engaging, realistic and enjoyable to do (Messer et al., 2014; Wint et al., 2012).

Methods

Aim

To develop five online VP simulation scenarios to meet the learning needs of nurses and health-care professionals caring for men with prostate cancer.

The objectives were to:

- i) explore and identify nurses' needs and requirements for prostate cancer CPD
- ii) use initial findings to develop five VPs, seek and incorporate clinical specialist and service user feedback
- iii) review the resource against learning outcomes, perceived increases in knowledge, accessibility and ease of use.

Ethical approval for the study was received by the University Ethics Committee.

The screenshot displays the UChoose web application interface. At the top left, the 'UChoose' logo is prominent, with the tagline 'Interactive Case Based Learning' and a navigation menu including 'About', 'CaseStudies', 'Pedagogy', 'Dashboard', and 'Help'. On the right side, there is a green navigation bar with buttons for 'Play Cases', 'Search for Cases', and 'Author Cases'. The main content area features a video player showing an animated avatar of a man. Below the video, there is a 'View Video Transcript' link and a 'You have 1 option' section with a 'Continue' button. To the right of the video, a 'Further Information' box contains a link to 'NICE Prostate Cancer Pathway'. The footer includes the UWE Bristol logo and three circular navigation icons: 'Restart', 'My Notes', and 'Journey'.

Fig. 1. Animated avatar.

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