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More than just an online wound care course

KEY WORDS

- » Wound care
- » Online learning
- » Professional development
- » Improving clinical practice

Wound care competence is an essential component of clinical nursing. However, practice in this area can be determined by tradition rather than evidence. This may be one of the drivers for nurses to enrol in further formal wound care education. This mixed methodology study explores nurses' perceptions of the impact, both personal and professional, of undertaking an online post-registration wound care module. The evidence from this study will add to the knowledge base in this area.

Wound care is fundamental to delivering clinical care. Delivery of some aspects of wound care relies on prevention and treatment strategies that are constantly evolving (Dealey, 2005; Ousey et al, 2011) and, as nurses are bound by their code of practice to deliver the most contemporary evidence-based care (Nurses and Midwives Council [NMC], 2015), many embark on further study. This paper evaluates such students' perceptions of the impact of completing an online wound care (WC) module on their clinical practice.

Tissue viability has gained priority in the UK's healthcare quality agenda (Ousey, 2010; Health Improvement Scotland [HIS], 2014) with, for example, pressure ulcer prevention strategies often regarded as markers of high-quality care (HIS, 2014). Educational initiatives to improve this care vary widely (Watret, 2005) but freeing busy staff from work presents challenges (Flanagan, 2008) and limited funds necessitate flexibility and innovation.

Courses must provide learning and assessment that empowers nurses to apply their new knowledge and skills to real-life situations (Smith et al, 2009). Despite this, published evaluations into the efficacy of different forms of learning in wound care are scarce. Disappointingly, Gunningberg (2004) and Kelly et al (2004) both found that although education in tissue viability resulted in initial improvements in evidence-based clinical wound care and confidence to challenge out-of-date practice, effects diminished over time. This suggests educational initiatives should develop students' ability to confidently improve practice rather than focussing purely on specific knowledge and skill development.

Since 2006, Robert Gordon University has been offering an online WC module for qualified health professionals' professional development portfolio. This level 9, 15-credit module (Scottish Credit Qualification Framework, 2015) is designed for practitioners wishing to enhance their skills. A new team updated the module in collaboration with NHS tissue viability experts to ensure accuracy (Watret, 2005). Further online interactivity was added to the module to engage and encourage students to take control of their own learning rather than passively receive information (Huang, 2002; Clarke, 2008).

Many of the students who undertake this module are returning to education. Students chose to study this topic as a first step back into academic learning, suggesting that its practical, tangible links to evidence-based practice appeared less daunting than some other topics. Flexible online learning offers convenience that enables health professionals to fit studying into their busy work-life schedules (Atack, 2003; Pullen, 2006; Clarke, 2008; Holly, 2009), and provides easy access to information (Buckley, 2003). Nurse satisfaction with them relates to this flexibility (Gerkin et al, 2009). Online learning also allows nurses to meet their continuing professional development requirements (Ng et al, 2014). Learners see creating and sharing online material as a positive and enjoyable experience (Potts, 2011).

Although today's qualified nurses must undertake online courses, this is a new way of learning for many and involves a major change from traditional class-based approaches. As developing the skills for online learning alongside mastering the subject can be challenging (Dorrain and Wache, 2009), care must be taken to support nurses to learn online (Atack,

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2003; Purkis and Gabb, 2013) and to embed critical thinking skills into the content (Holly, 2009). Ng et al (2014) conclude that further research is needed around nurses learning online.

This paper discusses former Robert Gordon University WC course students' evaluation of their learning outcomes in order to guide future curriculum updates. The financial implications of completing the module were not explored.

METHODS

Ethical approval was gained from the Robert Gordon University School of Nursing and Midwifery Ethical Review Panel. Initial consent to participate was assumed by return of a completed questionnaire, the final question of which requested participants indicate their willingness to participate in a recorded telephone interview lasting up to 20 minutes, at a time convenient to them. Written consent was obtained from those who agreed. Anonymity was protected by using study numbers, password-protected PCs, and non-identifiable quotations.

This study used a mixed methods approach as this enables the researcher to uncover information (Cohen et al, 2011), and explore processes and reasoning behind the information (Densome, 2008).

The investigators developed an online questionnaire to ascertain the students' perceptions of the impact of undertaking the WC module. The questionnaire used a mix of closed- and open-ended questions, with text boxes for further information. These questions were set according to Kirkpatrick's (1994) levels 1–4 model of evaluation: reactions, learning, transfer and results. Participants were asked to identify any changes in the following areas: clinical practice when providing care for patients with wounds; confidence in caring for patients with wounds; career progression; initiating further studies or engagement in research; and fulfilling professional obligation to lifelong learning.

An expert panel of academic staff assessed the questionnaire and interview schedule for face and content validity, which led to further refinements (Parahoo, 2006). While this is a weak form of validity testing, it is a useful starting point (Jones and Rattray, 2010). A pilot study was not carried out since this would have reduced the number of participants eligible for the main study (Parahoo, 2006).

Purposeful recruitment was undertaken in this study. The primary researcher emailed all former

students with the study's participant information sheet, and gave them the opportunity to ask questions about the study before participating. Participants who agreed to it were contacted by telephone for an interview, to enable full investigation of questionnaire data and explore the impact the course had on their practice. The study also examined whether students had subsequently undertaken further courses, or achieved promotion.

Analysis

The quantitative data have been presented using descriptive statistics and a graph (Walters and Freeman, 2010). Both researchers independently considered the qualitative interview data for emerging themes, before comparing their findings using Creswell's steps of qualitative analysis (Creswell, 2007) and thematic analysis (Lathlean, 2010).

RESULTS

Over the past 6 years (2006–2012, with no course running in 2007), 53 students from around the world have enrolled for the WC module. While the course is open to any health professional, students have been primarily local registered nurses with the exception of one podiatrist. Nurse participants have come from diverse areas of practice within primary and secondary healthcare.

Fifty-three students enrolled on the WC module; 43 completing the course with 10 withdrawing during the course. Of the 43 students completing; 38 passed and 5 failed. Of the 38 who passed 32 completed the module as a stand-alone unit with only six (15%) completing it as part of their degree.

Questionnaire results

The questionnaire response rate of seven out of 53 potential participants was very poor. The literature suggests response rates to questionnaires are often poor (Parahoo, 2006). Of the seven respondents, only three agreed to participate in a telephone interview. Due to the scarcity of literature on the impact of completing a wound care course, the results of this study are still interesting and worth reporting.

Of the seven students who responded to the questionnaire, all reported that the module had been either very useful (four) or extremely useful (three). All respondents reported an increased wound care knowledge base, and five reported

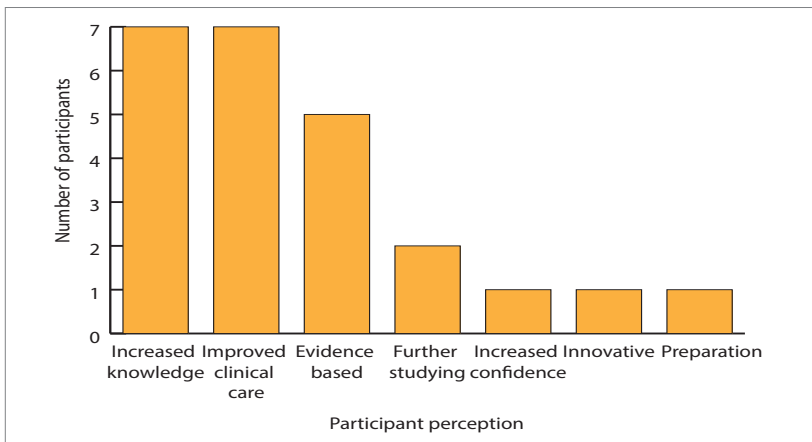


Figure 1. Respondents' perceptions of the impact of completing the wound care module

a self-perceived improvement in their evidence-based approach to clinical wound care practice. Figure 1 shows respondents' perceptions of the impact of completion of the wound care module.

The participants were asked what had motivated them to take part in a completely online wound care course. The most commonly reported reasons were flexibility (four respondents), difficulty getting time off (three respondents) and childcare (two respondents).

The participants were asked about the positive aspects of the module and areas for potential improvements (Table 1). The participants stated that the most important positive factor was being able to set their own work pace, but they also placed importance on the structured layout of the course, with its deadlines that helped motivate returners to learning. Interestingly, respondents placed less value on videoed or voice-recorded presentations than on the course's structure. The areas for improvement reflected personal preference and speciality.

Summary of themes from telephone interview

Three themes emerged from the interviews: learning; change in clinical practice; and benefits of the structured learning approach and online delivery.

Learning

Learning on the course was perceived as very good, with participants feeling they had good access to academic staff via email or online chats, and that they learnt a lot from them. Learning also came from other students on the course who were able to answer the questions they posted. Participants reported having a greater understanding of acute and chronic wounds,

taking a holistic approach to patient assessment and being more research aware after the course:

"The case study assessment was good as it really made you think."

Participants reported an enhanced knowledge on particular types of dressings, and more up-to-date knowledge of prevention and treatment of pressure ulcers. Participants also reported feeling more confident in their approach to wound care after completing the course:

"Definitely has given me far more confidence on current practice and makes me now investigate new products."

Change in clinical practice

This aspect of the questionnaire elicited a very positive response. Participants felt much more confident in their decision making abilities and ability to initiate changes in clinical care, especially for non-healing wounds or underperforming dressings. Participants reported undertaking research into wound care products, and using a wider range of dressings after the course. They also reported considering the wider factors involved in wound healing, including psychological health; viewing the situation *"through the patient's eyes"* was mentioned thus enabling participants to *"work better with patients"*. Participants also reported advice being sought from colleagues and being able to influence colleagues positively to use more suitable and up-to-date products.

Benefits of structured approach and online delivery

All of the participants reported that online course delivery was beneficial to them as it fitted in with their lifestyles and work commitments. As all students were working while studying, online learning enabled working nurses to undertake post-registration studies. Advantages were being able to stay at home and learn at times that suited them. Participants also liked the course's interactivity:

"This let you brainstorm and share challenges or problems."

Participants liked the fact materials could be posted online and shared with everyone:

"When you were so focussed on your one area it was good to be able to learn from the others about their chosen areas of wound care."

Online chats were seen as supportive, although

Table 1. Participants' comments from the questionnaire

Positive features (number of students)
Work at my own pace (7).
Select topic for summative assessment that meets own personal/clinical interest (4). Layout was easy to navigate (4). Prepared me for studying (4). Structured and sequenced in a logical way (4).
Videod presentations (3). Support from lecturers (3). Revision exercises (3). Delivered in a step-by-step manner (3).
Appropriate visual examples (2). Presentations from current experts in clinical practice (2). Resources—articles, guidelines, book chapters, reading lists, websites (2). Feedback from activities (2). Feedback from formative assessment (2). Discussion forums (2). Live chats (2).
Feedback from formative assessments (1). Interactive nature of the course (1). Presentations with voice overs (1).
Area for improvement (number of students)
I think that having one day of meeting at the University for students who are able to attend would be beneficial (1). I would appreciate one to one video chats with the course facilitator/tutor. Just for that personal communication and a space to answer some questions. I believe there is always a better understanding between people when communication is face to face (1). Teaching of this topic would be better done as lectures face to face to allow for questions and interaction, which I found difficult through the internet, very limited paediatric input and choices for case studies with no paediatric link to share experiences with or to aid discussion. Did enjoy course however felt could have got same by reading book myself (1).

one participant stated that it could be hard to participate when working 12-hour shifts.

The structured approach to the delivery of the course was seen as an asset. Participants particularly liked having clear guidelines on each week's activity so they could plan their work and take a step-by-step approach to their studies.

Not all students were familiar with studying online, with one describing it as *"a huge but enjoyable learning curve"*. Also identified was the fact that they did not meet up with other students, with one participant feeling that she *"missed the contact with people"*. There was a feeling that having a least one face-to-face study day for people to meet would have been beneficial.

DISCUSSION

Changing and improving clinical practice can be a major challenge for nurses. As up-to-date research evidence and clinical guidelines alone can't always facilitate best practice, training may also be required (National Institute for Health and Clinical Excellence, 2007). While evaluating the effectiveness of such courses is complex, improved clinical practice is

the hallmark of successful continuing professional education (Peden et al, 1990; Perry, 1995). Flanagan (2008) advocates using direct observation of practice to ascertain improvements in clinical practice, but this was not feasible within the remit of this study.

Nevertheless, the data obtained from the study's questionnaires and interviews suggests the WC module was successful in empowering students to provide evidence-based wound care. The course demonstrated students' ability to find, evaluate and apply research evidence to a real problem in practice through the assessment using a case study. Taking this approach appears to be valued by the students as: the formal academic assessment is tangible; taken from the students' own experience of practice; and based on a real patient from the students' own clinical area. Applying research evidence to a real problem also involved complex critical thinking (Lorenzo and Dziuban, 2006; Jenkins, 2007).

After completing the course, participants reported sharing their new wound care knowledge with colleagues. Patients and staff now saw them as a source of wound care expertise, linking to level 4 of Kirkpatrick's (1994) model of evaluation — influencing those in the organisation. All interviewees referred to this, either directly or indirectly during their conversation, as significantly enhancing their confidence. In this respect, their learning had been transformative. Transformative learning can be described as a process of critical reflection, which also involves changes in understanding of self and developing new belief systems. In order to be truly transformative, these changes in beliefs need to be put into practice, which appears to have happened.

Participants indicated that the impact of completing the course had not been limited to theoretical learning — they reported changes to their practice. Clarke (2008) posits that online courses can facilitate closer application of theory to practice when learning activities allow students to draw on their own clinical practice experiences. This allows participants to study and challenge practice simultaneously (Keyte and Richardson, 2011). However, Cercone (2008) and Purkis and Gabb (2013) point out that while it offers flexibility, online learning should not be seen as the panacea to supporting continuing professional development. Despite the challenges of online learning, participants appear to have reached levels 3–4 in Kirkpatrick's training evaluation

model (1994) — influencing others in their organisation to practice more evidence-based wound care.

Participants rated the structured approach of weekly activities and deadlines highly. The 12 weeks of activity is outlined at the beginning of the module, to clarify expectations. Purkis and Gabb (2013) highlighted that clear instructions and structured timelines help online learners to remain motivated.

Limitations

As participants completed the wound care course during the 7 years preceding this study, a limitation is that recall may vary between recent students and those who completed it some time ago. This also may have affected the poor recruitment to the study.

CONCLUSION

Nurse educators are often faced with the challenge of providing suitable and attractive courses for qualified staff who are usually working full time and are unlikely to gain leave to attend university. Wound care is a key aspect of nursing practice pertinent to different clinical locations and professional development. Although participant numbers were small, this study provides valuable information on the advantages of undertaking an online post-registration wound care course. The main benefits were: flexibility of study; increased knowledge; confidence to influence practice; using the course as a stepping stone to or part of further study; and as a route to promotion. Importantly, the resultant knowledge and ability gained from completing this course should improve the quality of nursing care for patients.

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Box 1. Recommendations

- Continue to offer an online wound care module.
- Consider implementing one face-to-face study day to complement the module.
- Have ongoing evaluation of student cohorts and adaptation of learning materials as necessary.
- Further research is required to assess the impact of wound care education in clinical practice.

REFERENCES

- Atack L (2003) Becoming a web based learner: registered nurses' experiences. *J Adv Nurs* 44(3):289–97
- Buckley KM (2003) Evaluation of classroom-based, web-enhanced, and web-based distance learning nutrition courses for undergraduate. *J Nurs Educ* 42(8):367–70
- Cercone K (2008) Characteristics of adult learners with implications for online learning design. *Assoc Adv Comp Educ J* 16(2):137–59
- Clarke A (2008) *Palgrave Study Skills: E learning*. 2nd edn. Palgrave, Macmillan, Basingstoke
- Cresswell JW (2007) *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. 2nd edn. Sage, Thousand Oaks
- Cohen L, Manion L, Morrison K (2011) *Research Methods in Education*. 7th edn. Routledge, London
- Dealey C (2005) *The Care of Wounds, A Guide for Nurses*. 3rd edition. Blackwell Science, Oxford
- Densome M (2008) Communities of Practice: a research paradigm for a mixed methods approach. *J Mix Methods Res* 2(3):270–83
- Dorrian J, Wache L (2009) Introduction of a flexible approach to online learning for on campus and distance students: lessons learned and ways forward. *Nurs Educ Today* 29(2):157–67
- Flanagan M (2008) Improving wound care teaching and learning in clinical practice. *Wounds UK* 4(4):96–101
- Gerkin KL, Taylor TH, Weatherby FM (2009) The Perception of Learning and Satisfaction of Nurses in the Online Environment. *J Nurses Staff Dev* 25(1):E8–13
- Gunningberg L (2004) Pressure ulcer prevention: evaluation of an education programme for Swedish nurses. *JWC* 13(3):85–9
- Health Improvement Scotland (2014) *Tissue Viability*. Available at: www.healthcareimprovementscotland.org/our_work/patient_safety/tissue_viability.aspx (accessed 21.01.2016)
- Holly C (2009) *The Case for Distance Education in Nursing*. Available at: http://jolt.merlot.org/vol5no3/holly_0909.pdf (accessed 21.01.2016)
- Huang HM (2002) Toward constructivism for adult learners in online learning environments. *Br J Educ Tech* 33(1):27–37
- Jenkins H (2007) *Confronting the challenges of participatory culture: Media education for the 21st Century*. Chicago, IL: MacArthur Foundation
- Jones M, Rattray J (2010) Questionnaire design. In: Gerrish L, Lacey A (eds) *The Research Process in Nursing*. 6th edn. Oxford: Wiley-Blackwell:369–82
- Kelly ML, Habjan S, Aegard J (2004) Building capacity to provide palliative care in rural and remote communities: does education make a difference? *J Palliat Care* 20(4):308–15
- Keyte D, Richardson F (2011) Re-thinking pain educational strategies: Pain a new model using e-learning and PBL. *Nurse Educ Today* 31(2):117–21
- Kirkpatrick DL (1994) *Evaluating Training Programs: The Four Levels*. Berrett-Koehler, San Francisco
- Lathlean J (2010) Qualitative Analysis. In: Gerrish L, Lacey A (eds), *The Research Process in Nursing*. 6th edn. Wiley-Blackwell, Oxford:424–35
- Lorenzo G, Dziuban C (2006) Ensuring the net generation is net savvy. EDUCUASE, Washington, D.C. Available from: www.educause.edu/ir/library/pdf/ELI3006.pdf (accessed 21.01.2016)
- Ng LC, Tuckett AG, Fox-Young SK, Kain VJ (2014) Exploring registered nurses' attitudes towards postgraduate education in Australia: An overview of the literature. *J Nurs Educ Pract* 4(2):162–70
- NHS National Institute for Health and Clinical Excellence (2007) *How to Change Practice*. Available at: www.nice.org.uk/media/default/about/what-we-do/into-practice/support-for-service-improvement-and-audit/how-to-change-practice-barriers-to-change.pdf (accessed 21.01.2016)
- Nursing and Midwifery Council (2015) *The Code, Professional Standards of Practice and Behaviour for Nurses and Midwives*. NMC, London
- Ousey K et al (2011) How can we maintain effective and relevant wound care education? *Wounds UK* 7(1):145–47
- Ousey K (2010) The role of education in developing tissue viability to meet the quality agenda. *Wounds UK* 6(2):94–8
- Parahoo K (2006) *Nursing Research: Principles, Process and Issues*. 2nd edn. Macmillan, London
- Peden A, Rose H, Smith M (1990) Transfer to continuing education to practice. *J Cont Educ Nurs*. 21(2):68–72.
- Perry L (1995) Continuing professional education: luxury or necessity? *J Adv Nurs*. 21:766–771.
- Potts HWW (2011) Student Experiences of Creating and Sharing Material in Online Learning. *Med Teach* 33(11):E607–14
- Pullen DL (2006) An Evaluation of case study online learning for Healthcare Professionals. *J Continuing Educ Nurs* 37(5):225–32
- Purkis N, Gabb CA (2013) Online Learning for Professional Development. *Nurs Times* 109(51):16–8
- Scottish Credit and Qualifications Framework (2015) *The Framework*. Available at: www.scfq.org.uk/The%20Framework/last (accessed 21.01.2016)
- Smith GG, Passmore D, Faught T (2009) The Challenges of Online Nursing Education. *Internet Higher Educ* 12(2):98–103
- Walters S, Freeman J (2010) Quantitative Analysis. In: Gerrish L, Lacey A. eds, *The Research Process in Nursing*. 6th edn. Wiley-Blackwell, Oxford:437–54
- Watret L (2005) Teaching Wound management: a collaborative model for future education. World Wide Wounds available from www.worldwidewounds.com/2005/november/Watret/Teaching-Wound-Mgt-Collaborative-Model.html (accessed 19.05.2015)