CSIRO PUBLISHING

Australian Journal of Primary Health, 2019, **25**, 534–538
https://doi.org/10.1071/PY19075

Forum

Developing professional education for primary healthcare providers about nutrition

Catherine J. Lucas [A,C], *Anne T. McMahon* [B] *and Karen E. Charlton* [A]

[A]School of Medicine, University of Wollongong, Northfields Avenue, Wollongong, NSW 2522, Australia.
[B]School of Health and Society, University of Wollongong, Northfields Avenue, Wollongong, NSW 2522, Australia.
[C]Corresponding author. Email: cjl623@uowmail.edu.au

Abstract. Nutrition care is an important component of primary health care as a way to promote positive lifestyle behaviours and reduce risks of chronic disease. Despite this, it appears that primary healthcare settings, including antenatal care, miss opportunities to deliver nutrition care. Time constraints, lack of nutrition knowledge and lack of confidence have been identified as barriers for primary healthcare providers in delivering nutrition care. Nutrition training to upskill primary healthcare providers to deliver nutrition care in a timely manner therefore appears warranted. This forum article discusses models and methods of continuing professional development (CPD) and the effectiveness of nutrition CPD for primary healthcare professionals. It includes a case study as an example of developing nutrition CPD for midwives using adult learning theory and concludes with implications for developing nutrition education resources for primary healthcare providers.

Received 6 April 2019, accepted 5 August 2019, published online 19 November 2019

Introduction

Preventive health interventions, including strategies to improve the quality of diets and other lifestyle behaviours, are an important role of the primary healthcare system (Australian Institute of Health and Welfare 2016). Nutrition care can be defined as any practices or activities by a health professional that attempt to improve nutrition behaviour (Ball *et al.* 2014). The provision of nutrition care is included as a competency for numerous Australian healthcare professionals, including GPs and nurses and midwives (Ball *et al.* 2014). Primary healthcare providers are well positioned to provide health-promoting activities, including nutrition care, as they often have frequent patient encounters and are perceived as trustworthy (Ball *et al.* 2014).

Positive, albeit modest reviews, on lifestyle-based education programs implemented within primary healthcare settings have been published. A review exploring the effectiveness of nutrition education delivered by GPs highlighted improvements in nutrition behaviours and biochemical indicators, although results differed across studies (Ball *et al.* 2013). Nurse-led interventions have also shown promise. In a systematic review, it was reported that interventions delivered by general practice nurses to reduce cardiovascular disease risk resulted in increased physical activity levels and had positive effects on dietary risk factors (Halcomb *et al.* 2007).

This forum article explores the opportunity for nutrition interventions in primary health care. First, it explores the provision of nutrition care within primary care and the need to upskill primary healthcare workers about nutrition. Second, it discusses nutrition-related continuing professional development (CPD) for primary care providers, including models and methods of pedagogy, and the effectiveness of nutrition CPD for healthcare professionals. Drawing from this, a case study on developing a nutrition education workshop series for midwives is presented. The paper concludes with implications for developing nutrition education resources for primary healthcare providers.

Nutrition in primary health care

Most Australian adults regularly visit their GP. In the Australian Health Survey, 83.8% of Australians reported seeing a GP within the last 12 months (Australian Bureau of Statistics 2017). However, it appears that these consultations may represent a missed opportunity to provide nutrition care. A representative survey of South Australians reported that less than one-third of overweight or obese patients had received lifestyle advice for weight loss from their GP (Booth and Nowson 2010). Similarly, only one-third of those with hypertension had received advice from their GP about reducing dietary salt intake (Booth and Nowson 2010). Reported barriers for GPs in providing nutrition care include perceived lack of time and perceived low patient compliance (Crowley *et al.* 2012). Similarly, general practice nurses identify time constraints, lack of nutrition knowledge and lack of confidence as barriers in providing nutrition care (Cass *et al.* 2014).

Equally, despite the importance of nutrition during pregnancy, most women do not appear to receive adequate nutrition education within antenatal care (Lucas *et al.* 2014). Antenatal care providers perceive nutrition care to be important, and report identical barriers to GPs and general practice nurses (Lucas *et al.* 2014).

Journal compilation © La Trobe University 2019

www.manaraa.com

What is known about the topic?

- Upskilling the primary healthcare workforce to deliver nutrition care within routine primary care settings, including antenatal care, may be an important strategy to increase the reach of preventative health messages.

What does this paper add?

- This paper summarises adult learning theories important for professional education and describes a case study on developing nutrition education for midwives, utilising adult learning theory.

Effective professional development for healthcare providers to enable this exchange to take place is warranted.

Adult learning and professional development

Applying adult learning theory to the development of CPD for health and medical professionals has been acknowledged as important to engage the target audience and to facilitate the application of new knowledge to clinical practice (Mann 2011; Taylor and Hamdy 2013). Two key learning theories, Constructivism and Social Cognitive Theory, are particularly relevant in designing learning resources for this audience.

Constructivism is based on the premise that learning occurs when people construct meaning from their experiences (Merriam and Bierema 2014). It centres upon learners drawing connections between previous experiences and new knowledge. Constructivism highlights the importance of students being engaged in the learning and of social collaboration in learning (Kantar 2014). Using a constructivist approach, the role of the educator is to enable learning by creating quality learning materials and facilitating social interaction (Kala *et al.* 2010).

The importance of social interaction also underpins Social Cognitive Theory, which asserts that learning occurs in a social environment and the educators' role is to create social and peer-to-peer learning opportunities (Merriam and Bierema 2014). In Social Cognitive Theory, the learner develops skills and knowledge through their interactions with the educator, their peers and the environment (Mann 2011).

These learning theories lend themselves to numerous active learning techniques, including problem-based learning, experiential learning and reflective practice. Problem-based learning is particularly important in CPD, as it supports learners to bridge the gap between knowledge and clinical practice (Kantar 2014). Studies with nursing students suggest that using a problem-based learning approach increases learner satisfaction (Kantar 2014). Experiential learning involves the whole person, recognises the relevant life experiences of the learner and engages the learner in reflection to develop deeper understanding (Kolb 1984). It therefore sits within Social Cognitive Theory (Yardley *et al.* 2012). Experiential learning recognises the importance of workplace culture and other factors that influence whether changes in knowledge lead to changes to professional practice (Yardley *et al.* 2012). Finally, reflective practice enables learners to construct meaning by drawing on past experiences and considering how they could address these situations differently utilising new knowledge (Kala *et al.* 2010). Reflective practice is underpinned by constructivism, as it encourages learners to apply new knowledge to their own practices.

Effectiveness of nutrition CPD for primary healthcare professionals

Evidence exists that CPD can be effective in changing practices of healthcare professionals by enhancing knowledge both immediately (Brathwaite and Majumdar 2006; Williams *et al.* 2013) and in the longer term (Madigan *et al.* 2014).

Research on the practices of Australian nurses and midwives regarding CPD activities indicates that timing and content area for CPD are important, with nurses preferring to undertake CPD during work hours and for it to be related to immediate practice needs (Katsikitis *et al.* 2013). Barriers to undertaking CPD include lack of time and concern that CPD would interfere with time outside work (Katsikitis *et al.* 2013). A systematic literature review by Mitchell *et al.* (2018) found that nutrition CPD programs that utilise active learning strategies delivered either face-to-face or via self-directed learning manuals improved nurses' nutrition knowledge.

Training programs that upskill nurses on lifestyle-related topics, including nutrition, have resulted in an increased frequency of nurses providing brief interventions for physical activity and nutrition with clients (Chan *et al.* 2013). Training sessions for midwives about nutrition, physical activity and weight management in pregnancy has been shown to improve midwives' knowledge and confidence in providing education related to pregnant clients (Basu *et al.* 2014).

Case study: 'Nutrition for Two': approach to developing nutrition education for midwives

Undoubtedly, good nutrition during pregnancy is critical for foetal development and maternal health. Despite this, women do not appear to receive sufficient nutrition care through antenatal care services (Lucas *et al.* 2014). Drawing on adult learning theory, this case study discusses the development of a nutrition CPD program for midwives.

Formative evaluation

A formative evaluation was conducted to understand the need for nutrition education within a local public hospital antenatal clinic. The research team met with key stakeholders in the antenatal clinic, including the nurse unit manager and midwives. Key barriers and issues with relation to nutrition were identified, including lack of time within the patient history appointment to discuss nutrition, and a high proportion of women attending clinics who were overweight or obese. These meetings were essential to obtain an understanding of the real-life context of the clinic, as well as to gain support from the broader clinical team. Based on the formative evaluation conducted, four topics were selected (healthy eating, nutrition supplements, gestational weight gain and nutrition for breastfeeding). A workshop-style approach was chosen as the method for delivery.

Resource development

The Australian Midwife Standards for Practice do not include any specific nutrition care-related competencies (Nursing and

www.manaraa.com

Table 1. Overview of education techniques and their theoretical underpinnings applied in the development of 'Nutrition for Two'

Education technique	Theoretical underpinning	Application to 'Nutrition for Two'
Problem-based learning	Constructivism	Video case studies
Experiential learning	Social cognitive theory	Group discussion
Reflective practice	Constructivism	Group discussion and personal reflection (workbooks)

Midwifery Board of Australia 2018). The authors are also not aware of any other published nutrition care competencies specifically developed for healthcare professionals that provide antenatal services. Therefore, the workshops were developed using the recommendations outlined in the Australian Antenatal Care Clinical Guidelines about each of the four chosen topics (Australian Health Ministers' Advisory Council 2012).

Active learning strategies underpinned by constructivist and social cognitive theories were used to maximise engagement (Table 1). Each of the four modules included a short information presentation and workbook, a case study-style video and an opportunity for discussion and reflection.

Each case study video modelled a short 5-min nutrition care conversation between a midwife and pregnant client. The topics for the videos were drawn from examples obtained during stakeholder meetings with practising midwives. The videos aimed to highlight that key nutrition information can be effectively communicated in a short period using motivational interviewing techniques and drawing from the Trans-theoretical model to adapt communication to an individual's readiness to change (Spahn *et al.* 2010). Scripts were reviewed by a retired midwife and a student midwife, who also 'acted' out the scenes for filming. Using people familiar with the roles aimed to make the videos seem more natural than if actors were used.

Each module also included group discussion and reflection, with the accompanying workbooks including space for individual reflection. The workshops were designed to provide opportunities for 'mirroring', whereby participants engage in a group discussion to reflect on concepts together as a way to exchange ideas and translate new knowledge into delivery (Mann *et al.* 2009).

Strategies to measure the effectiveness of nutrition CPD is beyond the scope of this forum article. Briefly, published evaluation studies of nutrition education for healthcare professionals are heterogeneous in approaches to measuring outcomes. In their systematic review of nutrition education interventions for undergraduate-level healthcare professionals, Dang and Maggio (2017) reported most interventions used a pre-/post-test study design that assessed various combinations of satisfaction, knowledge, attitudes, clinical skills and learners' health behaviours. In a systematic review of CPD training programs for malnutrition, the majority assessed learner-based outcomes, whereas only approximately half assessed patient-focussed outcomes (Marples *et al.* 2017). Few studies have used validated questionnaires to measure outcomes (Marples *et al.* 2017; Mitchell *et al.* 2018). Validated tools do exist to assess healthcare professionals' self-perceived competence in providing nutrition care for chronic disease management (Ball and Leveritt 2015). While not applicable to pregnancy nutrition care, it is recommended that such tools be considered for future primary care nutrition education interventions.

The feasibility of implementing the workshops, along with preliminary findings from a pre-/post-test evaluation has been published elsewhere (Lucas *et al.* 2019). The pre-/post-test surveys assessed participants' satisfaction, knowledge specific to nutrition recommendations for pregnancy and confidence in delivering nutrition care. Findings were promising, with a significant increase in participants correctly answering assessment items and indicating satisfaction with the workshops.

The workshops were also translated into an online learning program hosted on OpenLearning (https://www.openlearning.com/). It has been recommended that nutrition education for healthcare professionals utilise online education approaches to circumvent the challenge of finding local experts, and to allow dissemination of content to a broader audience (Dang and Maggio 2017). In our case, the use of an online mode of delivery aimed to improve flexibility for participants and may have implications for improving the financial viability in the long term; for example, many universities now offer short courses in a massive open online course (MOOC) format as a branding strategy (Burd *et al.* 2015), providing participants with free access.

Implications for developing nutrition education resources for primary healthcare providers

Providing consistent nutrition messages across primary health care is important to optimise population health outcomes. It is therefore essential that the primary healthcare workforce, along with specialists such as midwives, have the capacity to deliver evidence-based nutrition care across the life-cycle of patients (DiMaria-Ghalili *et al.* 2014). The emergence of shared care, whereby pregnant women are managed jointly by general practice and hospital-based antenatal care services, likely necessitates an upskilling in nutrition for most practice nurses and GPs, as well as midwives. Our case study illustrates an example of how applying adult learning theory when designing nutrition education resources for primary healthcare professionals supports best practice learning for the target groups.

It is clear that inter-disciplinary collaboration is required to meet the demands of the increase in chronic lifestyle diseases in Australia (DiMaria-Ghalili *et al.* 2014). However, resource constraints mean alternative approaches to providing key speciality expertise need to be utilised. A key opportunity in terms of enhancing nutrition care is for the dietetic workforce to engage with and upskill primary healthcare providers to expand and improve the nutrition care services received by the general public. This ultimately ensures the increased reach of evidence-based nutrition care is maximised throughout the primary care setting and is a worthwhile approach to be implemented to improve population health outcomes.

المنارة للاستشارات
www.manaraa.com

Conflicts of interest

The authors of this paper have no conflicts of interest to declare.

Acknowledgements

The authors would like to sincerely thank Ms Leanne Cummins and Ms Victoria Elder for their support in the formative evaluation with midwives at the antenatal clinic. The authors would also like to acknowledge Jennifer Lane and Kirsten Ramsey for their roles in the case study videos. This research was carried out as part of a PhD student's candidature who received support of the Australian Government Research Training Program Scholarship, as well as a top-up scholarship from The University of Wollongong Global Challenges program.

References

Australian Bureau of Statistics (2017) 4364.0.55.002 – Australian health survey: health service usage and health related actions, 2011–12. (ABS: Canberra, ACT, Australia) Available at http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/F758234080C6F33BCA257B39000F296E?opendocument [Verified 12 June 2017]

Australian Health Ministers' Advisory Council (2012) Clinical practice guidelines: antenatal care – module 1. (Australian Government Department of Health and Ageing: Canberra, ACT, Australia) Available at https://consultations.health.gov.au/phd-tobacco/clinical-practice-guidelines-antenatal-care-module/supporting_documents/ANC_Guidelines_Mod1FINAL%20D13871243.PDF [Verified 6 November 2019]

Australian Institute of Health and Welfare (2016) Primary health care in Australia. AIHW, Canberra, ACT, Australia.

Ball LE, Leveritt MD (2015) Development of a validated questionnaire to measure the self-perceived competence of primary health professionals in providing nutrition care to patients with chronic disease. *Family Practice* **32**, 706–710. doi:10.1093/fampra/cmv073

Ball L, Johnson C, Desbrow B, Leveritt M (2013) General practitioners can offer effective nutrition care to patients with lifestyle-related chronic disease. *Journal of Primary Health Care* **5**, 59–69. doi:10.1071/HC13059

Ball L, Desbrow B, Leveritt M (2014) An exploration of individuals' preferences for nutrition care from Australian primary care health professionals. *Australian Journal of Primary Health* **20**, 113–120. doi:10.1071/PY12127

Basu A, Kennedy L, Tocque K, Jones S (2014) Eating for 1, healthy and active for 2; feasibility of delivering novel, compact training for midwives to build knowledge and confidence in giving nutrition, physical activity and weight management advice during pregnancy. *BMC Pregnancy and Childbirth* **14**, 218. doi:10.1186/1471-2393-14-218

Booth AO, Nowson CA (2010) Patient recall of receiving lifestyle advice for overweight and hypertension from their general practitioner. *BMC Family Practice* **11**, 8. doi:10.1186/1471-2296-11-8

Brathwaite AC, Majumdar B (2006) Evaluation of a cultural competence educational programme. *Journal of Advanced Nursing* **53**, 470–479. doi:10.1111/j.1365-2648.2006.03742.x

Burd EL, Smith SP, Reisman S (2015) Exploring business models for MOOCs in higher education. *Innovative Higher Education* **40**, 37–49. doi:10.1007/s10755-014-9297-0

Cass S, Ball L, Leveritt M (2014) Australian practice nurses' perceptions of their role and competency to provide nutrition care to patients living with chronic disease. *Australian Journal of Primary Health* **20**, 203–208. doi:10.1071/PY12118

Chan BC, Jayasinghe UW, Christl B, Laws RA, Orr N, Williams A, Partington K, Harris MF (2013) The impact of a team-based intervention on the lifestyle risk factor management practices of community nurses: outcomes of the Community Nursing Snap Trial. *BMC Health Services Research* **13**, 54. doi:10.1186/1472-6963-13-54

Crowley J, Ball L, Wall C, Leveritt M (2012) Nutrition beyond drugs and devices: a review of the approaches to enhance the capacity of nutrition care provision by general practitioners. *Australian Journal of Primary Health* **18**, 90–95. doi:10.1071/PY11116

Dang TM, Maggio LA (2017) Supporting the call to action: a review of nutrition educational interventions in the health professions literature and MedEdPORTAL. *Academic Medicine* **92**, 403–416. doi:10.1097/ACM.0000000000001532

DiMaria-Ghalili RA, Mirtallo JM, Tobin BW, Hark L, Van Horn L, Palmer CA (2014) Challenges and opportunities for nutrition education and training in the health care professions: intraprofessional and interprofessional call to action. *The American Journal of Clinical Nutrition* **99**, 1184S–1193S. doi:10.3945/ajcn.113.073536

Halcomb E, Moujalli S, Griffiths R, Davidson P (2007) Effectiveness of general practice nurse interventions in cardiac risk factor reduction among adults. *International Journal of Evidence-Based Healthcare* **5**, 269–295.

Kala S, Isaramalai SA, Pohthong A (2010) Electronic learning and constructivism: a model for nursing education. *Nurse Education Today* **30**, 61–66. doi:10.1016/j.nedt.2009.06.002

Kantar L (2014) Incorporation of constructivist assumptions into problem-based instruction: a literature review. *Nurse Education in Practice* **14**, 233–241. doi:10.1016/j.nepr.2013.08.010

Katsikitis M, McAllister M, Sharman R, Raith L, Faithfull-Byrne A, Priaulx R (2013) Continuing professional development in nursing in Australia: current awareness, practice and future directions. *Contemporary Nurse* **45**, 33–45. doi:10.5172/conu.2013.45.1.33

Kolb D (1984) 'Experiential Learning: Experience as the Source of Learning and Development.' (Prentice-Hall: Englewood Cliffs, MI, USA)

Lucas C, Charlton K, Yeatman H (2014) Nutrition advice during pregnancy: do women receive it and can health professionals provide it? *Maternal and Child Health Journal* **18**, 2465–2478. doi:10.1007/s10995-014-1485-0

Lucas CJ, Lyell E, Koch B, Elder V, Cummins L, Lambert S, McMahon AT, Charlton KE (2019) Feasibility of face-to-face and online learning methods to provide nutrition education to midwives, general practice nurses and student nurses. *BMJ Nutrition, Prevention and Health* in press. doi:10.1136/bmjnph-2019-000031

Madigan SM, Fleming P, Wright ME, Stevenson M, Macauley D (2014) A cluster randomised controlled trial of a nutrition education intervention in the community. *Journal of Human Nutrition and Dietetics: the Official Journal of the British Dietetic Association* **27**, 12–20. doi:10.1111/jhn.12079

Mann KV (2011) Theoretical perspectives in medical education: past experience and future possibilities. *Medical Education* **45**, 60–68. doi:10.1111/j.1365-2923.2010.03757.x

Mann K, Gordon J, MacLeod A (2009) Reflection and reflective practice in health professions education: a systematic review. *Advances in Health Sciences Education: Theory and Practice* **14**, 595–621. doi:10.1007/s10459-007-9090-2

Marples O, Baldwin C, Weekes CE (2017) The effect of nutrition training for health care staff on learner and patient outcomes in adults: a systematic review and meta-analysis. *The American Journal of Clinical Nutrition* **106**, 284–310. doi:10.3945/ajcn.116.144808

Merriam SB, Bierema L (2014) 'Adult Learning. Linking Theory and Practice.' (Jossey-Bass: San Francisco, CA, USA)

Mitchell H, Lucas C, Chartlon KE, McMahon A (2018) Models of nutrition continuing education programs for nurses: a systematic review of the evidence. *Australian Journal of Primary Health* **24**, 101–108. doi:10.1071/PY17088

Nursing and Midwifery Board of Australia (2018) Midwife standards for practice. (Australian Health Practitioner Regulation Agency: Canberra, ACT, Australia) Available at https://www.nursingmidwiferyboard.gov.au/Codes-Guidelines-Statements/Professional-standards/Midwife-standards-for-practice.aspx [Verified 6 November 2019]

www.manaraa.com

Spahn JM, Reeves RS, Keim KS, Laguatra I, Kellogg M, Jortberg B, Clark NA (2010) State of the evidence regarding behavior change theories and strategies in nutrition counseling to facilitate health and food behavior change. *Journal of the American Dietetic Association* **110**, 879–891. doi:10.1016/j.jada.2010.03.021

Taylor DC, Hamdy H (2013) Adult learning theories: implications for learning and teaching in medical education: AMEE Guide No. 83. *Medical Teacher* **35**, e1561–e1572. doi:10.3109/0142159X.2013.828153

Williams A, Young J, Kearney L, Keogh S (2013) Improving knowledge of breastfeeding management: a practice development intervention for paediatric nurses. *Neonatal, Paediatric and Child Health Nursing* **16**, 8–14.

Yardley S, Teunissen PW, Dornan T (2012) Experiential learning: transforming theory into practice. *Medical Teacher* **34**, 161–164. doi:10.3109/0142159X.2012.643264

www.manaraa.com

Reproduced with permission of copyright owner. Further reproduction prohibited without permission.

www.manaraa.com