

Editorial

Where is the Nurse in Nutritional care?

1. Dr Xiaoyue Xu | BN, MSc, MPH, PhD | Faculty of Health, University of Technology Sydney
2. Professor Deborah Parker | RN, BA, MSocSc, PhD | Faculty of Health, University of Technology Sydney
3. Dr Caleb Ferguson | RN, MHLth, PhD | Faculty of Health, University of Technology Sydney
4. Associate Professor Louise Hickman | RN, MPH, PhD | Faculty of Health, University of Technology Sydney

Nurses have the expertise and responsibility to ensure that patients and clients' nutritional needs are met. Providing nutrition screening and appropriate nutrition advice is essential to improve healthy eating and subsequent health outcomes. Non-communicable diseases are often associated with modifiable risk factors. Four key modifiable risk factors, unhealthy diet, physical inactivity, tobacco use and harmful consumption of alcohol, have shown the strong links with increased risk of non-communicable diseases (United Nations Department of Economic and Social Affairs 2013; World Health Organization 2003). The world's population is rapidly ageing, the proportion of people aged over 60 years is growing faster than other age groups (World Health Organisation 2016) and will double by 2050, the impact will be an increase from 605 million to 2 billion. This will be compounded by a quadrupling of the number of people aged 80 and over by 2050 (World Health Organisation 2015). Non-communicable diseases are the leading cause of death in the world, representing 63% of all annual deaths.

Poor nutrition increases the risk of dying from non-communicable diseases, such as cardiovascular diseases (CVDs), stroke, type 2 diabetes, and cancers (Forouzanfar *et al* 2016). While, traditional research on the association between dietary factors and non-communicable diseases tended to focus on individual nutrients, the associations between macronutrient (carbohydrate, protein, and fat) and non-communicable diseases have been well documented (Nielsen and Joensson 2008; Santesso *et al* 2012). For instance, excess carbohydrate intake can influence the development of type 2 diabetes through the effect on blood glucose and insulin concentration (Mann 2007). Emerging research on dietary patterns and non-communicable diseases explores a shift to focus on overall patterns of dietary intake, which can be effective indicators of the impact of diet on health outcomes, as they illustrate the combined effects of diet overall (Xu *et al* 2015a; Xu *et al* 2016; Xu *et al* 2015b). Two healthy dietary patterns, Mediterranean (Med) and 'Dietary approaches to stop hypertension (DASH)' diet have been widely reported to be models of healthy eating for its contribution to favourable health status. These two healthy dietary patterns have also applied as dietary interventions in promote healthy eating at the clinical settings. Med diet which contains high consumption of vegetables, fruits, legumes, cereals, fish, and a moderate intake of red wine, demonstrates a significant reduction in the risk of mortality from cancer, the development of CVDs, depressive disorders and incidence of Parkinson's

disease and Alzheimer's disease (Sofi *et al* 2008). Whereas the DASH diet has shown to significantly reduce the risk of hypertension, CVDs and cancer, through an emphasis on reduction of salt intake and monitoring dietary fat intake (Ndanuko *et al* 2016; Onvani *et al* 2015).

It is the dietitian and nutritionists' responsibility to maintain optimal nutrition for patients and clients. These include identify nutrition problems, assess nutritional status of patients in clinical settings, develop diet plans and counsel patients on special diet modification (Tappenden *et al* 2013). However, there are limited dietitians and nutritionists available to meet the growing needs of an ageing population. Nurses play a key multidisciplinary role as they have the most contact with patients and often initially provide nutrition screening, referral and facilitation of recommendations to adjust a diet plan and implementation of a special diet modification with patients, their family or significant carer.

To deliver high quality of care, it is also the multidisciplinary team's responsibility to ensure that patients and clients nutritional needs are met. Multidisciplinary nutritional care has demonstrated favourable health outcomes for quality of life (Hoekstra *et al* 2011). Nutritional supports should involve all health professionals, such as dietitians, nurses, medical staff, and speech and language therapists. A chronic care approach can improve models of care delivery for older persons (Hickman *et al* 2015). These supports should occur at all levels, entailing nutrition screening, assessing, planning, implementing, evaluating and monitoring the delivery of evidence based care in order to maximize health outcomes (Mcclinchy *et al* 2015). Evidence supports that intervention across multidisciplinary are important in improving the care of older people.

Nurse roles in supporting nutrition

In the healthcare settings, appropriate and adequate nutritional supports are linked with patients' quality of life and cost-effective service delivery. Nurses play equally important roles which complement the role of the dietitian to ensure adequate nutrition for patients (Jefferies *et al* 2011; McClinchy *et al* 2015). Nurses often fill the role of nutrition counsellors by providing nutrition screening and/or nutrition advice to patients.

Nurses' roles in nutritional support have been documented in healthcare guidance internationally. In Australia, the nurses' role is to ensure patients are well supported and patients nutritional intake is well monitored and documented (Ministry of Health NSW 2011). In the UK, National Health Service implementation guidance states that nurses are expected to promote healthier lifestyle choices from the point of admission through to discharge. Patients' nutritional assessment accompanied by appropriate lifestyle advice and an effective referral system are essential in supporting positive long-term behavioural change (Varley and Muaureen 2014). In the US, nutrition has been the second most important area for nursing care. Nutrition topic such as nutritional assessment and monitoring, diet therapy, and enteral and parenteral nutrition have been included in the National Council Licensure Examination for Registered Nurses (DiMaria-Ghalili, Mirtallo, Tobin *et al* 2014).

The process of ageing affects nutrition needs and can be associated with changes in lifestyle. It has been widely recognised for a long-term illness, such as dementia, that prioritisation of nutrition is extremely important (Murphy *et al* 2017; O'connor 2007). Older

people are at risk of becoming even more malnourished (Telford *et al* 2007). Research among 12 countries demonstrated that up to half (50.5%) of older people in rehabilitation were malnourished, closely followed by older people in hospital (38.7%) and then those in aged care facilities(13.8%) (Kaiser *et al* 2010). Now more than ever before the nurses' role in initial nutrition screening is crucial to identify patients who are already malnourished or at risk of becoming so, and further develop nutritional care strategies to prevent severe malnutrition (Tappenden *et al* 2013).

Nurses play a significant role in understanding the importance of nutrition basics and need to be able to explain the facts about healthy food choices to patients. Nurses are expected to deliver healthy diet education (The Nursing and Midwifery Council 2010; DiMaria-Ghalili *et al* 2014; Perry *et al* 2015). However, nurses working across both primary and secondary care have inadequate knowledge in both their nutrition education and their pivotal role in helping to detect risk factors in order to improve patients' health outcomes (Murphy and Girot 2013; DiMaria-Ghalili *et al* 2014). Given concerns over the increasing strong links between diet and diseases, nutritional training for nurses is recommended to ensure them providing accurate information to patients and clients on nutrition issues (DiMaria-Ghalili *et al* 2014). Also, engaging with health academics to provide the emerging nutrition research evidence of healthy dietary patterns in the prevention of non-communicable diseases is extremely important.

Nurses must raise awareness of their role in nutritional supports for their patients and clients. Moreover, interprofessional and collaborative working is also encouraged to improve patients' health outcomes. There is need to continue to raise the awareness of the importance of multidisciplinary nutritional care in improving health outcomes for both primary and secondary care. Finally, nutritional training, which aiming to deliver both nutrition basics and emerging nutritional knowledge, is highly recommended. These trainings can help nurses and all health professionals further deliver better evidence based care that meets the nutritional needs of patients.

References

- DiMaria-Ghalili R, Mirtallo JM, Tobin BW, Hark L, Horn LV & Palmer CA (2014) Challenges and opportunities for nutrition education and training in the health care professions: intraprofessional and interprofessional call to action, *American Journal of Clinical Nutrition*, 99(5):1184S-1193S.
- Forouzanfar MH, Afshin A, Alexander LT, Anderson HR, Bhutta ZA, Biryukov S, Brauer M, Burnett R, Cercy K & Charlson FJ (2016) Global, regional, and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015, *The Lancet*, 388(10053): 1659-1724.
- Hickman LD, Phillips JL, Newton PJ, Halcomb EJ, Al Abed N & Davidson PM (2015) Multidisciplinary team interventions to optimise health outcomes for older people in acute care settings: A systematic review, *Archives of Gerontology and Geriatrics*, 61(3): 322-329.
- Hoekstra JC, Goosen JH, De-Wolf GS & Verheyen CC (2011) Effectiveness of multidisciplinary nutritional care on nutritional intake, nutritional status and quality of life in patients with hip fractures: a controlled prospective cohort study, *Clinical Nutrition*, 30(4): 455-461.
- Jefferies D, Johnson M & Ravens J (2011) Nurturing and nourishing: the nurses' role in nutritional care, *Journal of Clinical Nursing*, 20(3-4): 317-330.
- Kaiser MJ, Bauer JM, R amsch C, Uter W, Guigoz Y, Cederholm T, Thomas DR, Anthony PS, Charlton KE & Maggio M (2010) Frequency of malnutrition in older adults: a multinational perspective using the mini nutritional assessment, *Journal of the American Geriatrics Society*, 58(9): 1734-1738.
- Mann J. (2007) Dietary carbohydrate: relationship to cardiovascular disease and disorders of carbohydrate metabolism, *European Journal of Clinical Nutrition*, 61(1): S100-S111.
- Mcclinchy J, Williams J, Gordon L, Cairns M & Fairey G (2015) Dietary advice and collaborative working: do pharmacists and allied health professionals other than dietitians have a role? *Healthcare*, 3(1): 64-77.
- Ministry of Health NSW (2011) Nutrition care. *Ministry of Health*, accessed at http://www1.health.nsw.gov.au/pds/ActivePDSDocuments/PD2011_078.pdf on 2 July, 2017
- Murphy JL & Girot EA (2013) The importance of nutrition, diet and lifestyle advice for cancer survivors—the role of nursing staff and interprofessional workers, *Journal of Clinical Nursing*, 22(11-12): 1539-1549.
- Murphy JL, Holmes J & Brooks C (2017) Nutrition and dementia care: developing an evidence-based model for nutritional care in nursing homes, *BMC Geriatrics*, 17 (55): doi: 10.1186/s12877-017-0443-2.
- Ndanuko RN, Tapsell LC, Charlton KE, Neale EP & Batterham MJ (2016) Dietary patterns and blood pressure in adults: a systematic review and meta-analysis of randomized controlled trials, *Advances in Nutrition: An International Review Journal*, 7(1): 76-89.
- Nielsen JV & Joensson EA (2008) Low-carbohydrate diet in type 2 diabetes: stable improvement of bodyweight and glycemic control during 44 months follow-up, *Nutrition Metabolism*, 5(14): doi:10.1186/1743-7075-5-14.
- O'connor M (2007) 'I just not interested in eating': When nutrition becomes an issue in palliative care, *Contemporary Nurse*, 27(1): 23-28.
- Onvani S, Haghghatdoost F & Azadbakht L (2015) Dietary approach to stop hypertension (DASH): diet components may be related to lower prevalence of different kinds of cancer: A review on the related documents, *Journal of Research in Medical Sciences*, 20(7): 707-713.
- Perry L, Gallagher R & Duffield C (2015) The health and health behaviours of Australian metropolitan nurses: an exploratory study, *BMC Nursing*, 14(45): doi: 10.1186/s12912-015-0091-9.
- Santesso N, Akl EA, Bianchi M, Mente A, Mustafa R, Heels-Ansell D & Schunemann HJ (2012) Effects of higher- versus lower-protein diets on health outcomes: a systematic review and meta-analysis, *European Journal Clinical Nutrition*, 66(7):780-788.

- Sofi F, Cesari F, Abbate R, Gensini GF & Casini A (2008) Adherence to Mediterranean diet and health status: meta-analysis, *BMJ*, 337(a1344):doi: <https://doi.org/10.1136/bmj.a1344>.
- Tappenden KA, Quatrara B, Parkhurst ML, Malone AM, Fanjiang G & Ziegler TR (2013) Critical role of nutrition in improving quality of care: an interdisciplinary call to action to address adult hospital malnutrition, *Journal of the Academy of Nutrition and Dietetics*, 113(9): 1219-1237.
- Telford K, Kralik D & Isam C (2007) Constructions of nutrition for community dwelling people with chronic disease, *Contemporary Nurse*, 23(2): 202-215.
- The Nursing and Midwifery Council (2010) Standards for competence for registered nurses, accessed at <https://www.nmc.org.uk/globalassets/sitedocuments/standards/nmc-standards-for-competence-for-registered-nurses.pdf> on 26 July 2017.
- United Nations Department of Economic and Social Affairs (2013) World Population Ageing, accessed at <http://www.un.org/en/development/desa/population/publications/pdf/ageing/WorldPopulationAgeing2013.pdf> on 10 Jun 2017.
- Varley E & Mueauren M (2014) An implementation guide and toolkit for making every contact count: using every opportunity to achieve health and wellbeing, accessed at <https://www.england.nhs.uk/wp-content/uploads/2014/06/mecc-guid-booklet.pdf> on 7 July 2017.
- World Health Organisation (2013) 10 facts on noncommunicable diseases, WHO, Geneva, accessed at http://www.who.int/features/factfiles/noncommunicable_diseases/en/ on 10 Dec 2015.
- World Health Organisation (2015) 10 facts on ageing and the life course. WHO, Geneva, accessed at <http://www.who.int/features/factfiles/ageing/en/> on 11 Dec 2015.
- World Health Organisation (2016) Ageing, WHO, Geneva, accessed at <http://www.who.int/topics/ageing/en/> on 2 January 2017.
- World Health Organization (2003) Diet, nutrition and the prevention of chronic disease: report of a joint WHO/FAO expert, WHO, Geneva, accessed at http://whqlibdoc.who.int/trs/who_trs_916.pdf on 2 Dec 2013.
- Xu X, Hall J, Byles J & Shi Z (2015a) Dietary pattern, serum magnesium, ferritin, C-reactive protein and anaemia among older people. *Clinical Nutrition*, 36(2):444-451.
- Xu X, Byles J, Shi Z, Mcelduff P & Hall J (2016) Dietary pattern transitions, and the associations with BMI, waist circumference, weight and hypertension in a 7-year follow-up among the older Chinese population: a longitudinal study, *BMC Public Health*, 16(743): doi: 10.1186/s12889-016-3425-y.
- Xu X, Hall J, Byles J & Shi Z (2015b) Dietary pattern is associated with obesity in older people in China: Data from China Health and Nutrition Survey (CHNS), *Nutrients*, 7 (9): 8170-8188.