

*Full Length Research Paper*

# Assessment of Nutritional Knowledge Among Nurses: A Theoretical Analysis

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Nurses have a fundamental responsibility of promoting good health and educating the patients they care for. This research explores nurses' general knowledge about nutrition and whether the knowledge they have acquired is used in caring for their patients. The MEDLINE and the OVID database were searched for papers relating to the topic from 1990 to 2010 using "nurses and knowledge", "nurses" "nurses and nutrition" at different times during the search. Additional searches used the CINAHL and EMBASE databases, which brought out results that facilitated the organization of the literature review. The inclusion criteria were studies that specify nutritional knowledge of nurses and the exclusion criteria were studies that investigated other nurse's clinical knowledge. Fifteen studies that conform to the review criteria were identified. The results indicate that nurses have inadequate nutritional knowledge particularly in relation to when assessing the nutritional status of health care consumers.

**Key words:** Nurses, nutrition, knowledge.

## INTRODUCTION

This study appraises the literature in the area of nutritional knowledge of nurses, which is cited as a fundamental component of nursing educational curriculum that is usually incorporated into their school programmes (La Trobe University, 2003). Schaller and James (2005) claimed that the majority of nurses still in school are only tutored about clinical nutrition from the perspective of health in general; that is, health promotion and prevention. Wynder and Andres (1994) stated that nutrition is a major manageable risk factor that could impact on a patient's wellbeing; a crucial role in health promotion and eradication of disease. Despite the availability of dieticians to counsel patients' on the necessary diet for healthy living, nurses are also expected to provide adequate nutrition education to patients and be familiar with the consequences associated with poor nutrition (Lindseth, 1990; Wilt et al., 1990; Gibbons et al., 2000). Schaller and James (2005) also believe that being aware of the essential dietary

components is one of the most crucial trainings student nurses should undergo. However, Harminder and Sihgh (2006) reported that nurses have inadequate knowledge of nutrition and are not concerned about evaluating patients' nutritional status. There was an exceptional interest in this area since no specific paper had reported a review of the nutritional knowledge of nurses. This review demonstrates the depth of research that has been done in the area of nurses' nutritional knowledge in various health institutions around the globe. It focused mainly on quantitative research which involves the use of various nutritional knowledge questionnaires. The primary objective of this study is to draw a general conclusion on the level at which the nurses understand the term nutrition.

The aim of this study is to examine nurses' general knowledge about nutrition and whether the knowledge they have acquired is used in their care for patients.

## LITERATURE REVIEW

Nutrition is considered to be the bedrock of wellbeing and prevention of ill-health in the society (Schneeman, 1996),

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and is an essential factor in promoting the health of the public. It is referred to as the key condition for proper growth, infection control, and attainment of quality life (Brogden, 2004). Amarantos et al. (2001) stated that nutrition could be defined within the medical concept by taking into account the patient's dietary, biochemical and medical signs. It was established by Amarantos et al. (2001) that the dietary intake of a patient can be associated with their sensory, emotional and societal facet of life. Blades (2000) confirmed that satisfactory nutrition is not all about healthy food, but is more associated with the psychological wellbeing of the patient in question. This was supported by Potter (2008) who declared that adequate nutrition is a foundation of excellent recuperation from sickness.

It was recommended by Wynder and Andres (1994) that since nutrition is the key to the health of the populace; it is of great importance for all health care providers to understand how dietary intake could impact on patients' wellbeing. Hunt et al. (1995) suggested that nutrition psychotherapy should be a fundamental component of health care tradition, as it has been shown that educating patients on different aspects of nutrition is a means of reducing the cost of the management of ill-health as well as engaging in the promotion of good health. Worsley (2002) suggested that knowledge is needed to turn around people's ways and action, and is very important in influencing dietary behaviour. Nutrition education was claimed to influence dietary habit in reducing the intake of cholesterol and fatty food (Levy et al., 1993), buying nourishing and healthy food choices (Turrell and Kavanagh, 2006), increasing the intake of fruit and vegetables (Van et al., 2008; Ball et al., 2006), and weight reduction (Klohe-lehman et al., 2006).

Among health care consumers, the prevalence of nutrition related ailments of obesity and cardiovascular disease has increased for almost a decade affecting the quality of the patient's life making them less productive for the rest of their life (Park et al., 2008). The prevention of dietary related ailments involves modification of one's way of life through changes in choice and quantity of food consumed. However, patients that are affected tend not to adhere to the dietary advice in most developed countries (Graham et al., 2007). In some cases, patients that are suffering from ill-health due to poor dietary control often lack sufficient knowledge about the diet they are required to eat and are not getting accurate nutrition education from nurses and other health care workers (Waśkiewicz et al., 2008).

Schaller and James (2005) have stated that maintaining a high-quality dietary intake is fundamental for optimum wellbeing, while good dietary intake is a very crucial factor in promoting good health and disease eradication (Mowe et al., 2008). However, while acquiring facts about nutrition is very important, knowledge alone is not adequate for dietary transformation (Hendrie et al., 2008).

One important way in which the health care workers knowledge and practice are influenced is through their learning programme (Morison et al., 2010). This establishes the proficiency, outlook and information they require to maintain their position as an expert in their field (Morison et al., 2010).

This literature review presents a mainstay structure, and it contains literature that encompasses the subject of nutritional knowledge of nurses. The literature review will affirm that the nutritional knowledge of nurses' in relation to people's health is both a health and health promotion issue and will create more awareness of the essence of good nutrition in health care practice.

## METHODOLOGY

According to Grant (2004), achieving a wealth of appropriate literature for a study requires going through several databases. Following the guiding principle laid down by Haynes et al. (2005) and Shaw et al. (2004), the MEDLINE and the OVID database were searched for papers related to the topic from 1990 to 2010 using keywords "nurses and knowledge", "nurses" "nurses and nutrition" at different times during the search. Additional searches used the CINAHL and EMBASE databases, which brought out results that facilitated the organization of the literature review.

The inclusion criteria for study design and study samples were used. This includes studies that specify nutritional knowledge of nurses, while the exclusion criteria were studies that investigated other nurse's clinical knowledge, the review focused on data from quantitative and qualitative design studies. Participants include graduate nurses, geriatric nurses and registered nurses.

Most of the articles that did not meet the inclusion criteria through viewing their title and abstract were discarded. 15 full text copies of papers were evaluated separately to ascertain that they meet the inclusion criteria.

## Nutrition education and training among nurses

Nutrition matters have been given greater improvement currently through several promotions carried out by the Royal College of Nursing (2006) and the age concern which are titled "Nutrition Now" (2006) and "Hungry to be heard" (2006) respectively (cited in Morison et al., 2010). The accountability of nurses for nutritional care relates to all sick individuals no matter their age (Morison et al., 2010). The nursing and midwifery council (NMC) acknowledges that it is the duty of the nurses to ensure hospitalized patients eat a well-nourished diet (NMC, 2007). This obligation also encompasses nutrition screening, scrutinizing patient nutritional status, supporting the patient when eating and ensuring meals are completed, recognizing patient needing diet modification, and directing other health care practitioners to patients' nutritional care (RCP, 2002).

The Nursing and Midwifery Council (NMC) has also created an 'Essential Skills Clusters' (2007) which harmonize some of the NMC expected outcomes and competencies based on the standards of proficiency for pre-registration nursing education (Morison, 2010). This standard of proficiency includes the expectation that recently qualified registered nurses understand the importance of the management of the dietary and fluid intake of patients through the thorough assessment and examination of the patient. This should lead to the creation of a valuable care plan which includes the establishment of suitable environment for liquid and food intake, ensuring that those patients that needed other forms of feeding aside from feeding orally are adequately taken care of and finally

giving concern and proper provision to cater for patient that can take fluid independently (Morison, 2010).

It was declared by the European Nutrition for Health Alliance (ENHA) (2006) that it is important for all health care practitioners to become sensitive and responsive to the pervasive increase in the rate of malnutrition and ensure that they are well informed about how to combat it through its recognition and avoidance. They also confirmed that health care experts require extensive training to gain more knowledge on how to evaluate the nutritional status of patient put in their care and that bodies in charge of professional training should ensure they undertake good programme development to disseminate nutrition education for health care experts (ENHA, 2006; p. 8). Johnston et al. (2008; p. 217) discovered there is inadequate nutrition education, reduced time of lectures delivery and insufficient topics covered in the undergraduate module of student nurses taught in the United Kingdom because more precedence is placed on topics other than nutrition. In order to ensure health care, practitioners are effectively trained to dissipate the knowledge acquired judiciously, it is necessary to augment the depth and priority given to nutrition in the nursing curriculum and appraisal (Morison et al., 2010).

### **Description of studies**

In total, fifteen studies were identified, which were all hospital based. Overall, most of the studies targeted nurses at their place of work. Only one out of the fifteen studies used the qualitative mode of data collection, while the remaining fourteen used different type of nutrition knowledge questionnaire to arrive at their result.

### **RESULTS**

Palmer (1998) states that since the curriculum of nurses have been deprived of adequate nutrition courses, nurses may be unaware of the important role they can play in ensuring that patients receive adequate nutrition rather than delegating this task to nursing assistants. Wilt et al. (1990) reported in their study of registered nurses that there were insufficient nutritional knowledge scores of some basic chronic diseases affecting patients in hospitals. Lindseth (1990) identified that the general knowledge score of nutrition among some samples of rural nurses in North Dakota was low with an average of about 65%. The samples of this study drawn from care homes, community health agencies and hospitals, revealed that the community health nursing staff scored the highest in their nutrition knowledge compared to the medical hospital nursing staff. In another study featuring 71 geriatric nurses, Lindseth concluded there was significant difference among nurses knowledge of nutrition in most of the nutrition areas examined, showing that nurses need adequate knowledge of nutrition when taking care of their patients (Lindseth, 1994). In a study of 129 graduating nurses of over 25 years of age that had worked over 10 years in their profession, it was revealed that few numbers of nurses have had the opportunity to attend a nutrition oriented continuing education program since they started their profession (Lindseth, 1997). Starnek et al. (1997) established in a study involving 95 nurses that the training of nurses in lifelong care services

for nutrition of the elderly was insufficient and suggested more attention be given to improving nurses' knowledge about older persons' nutritional needs. Taylor and Baker (1997) in a study involving 27 nurses concluded their nutritional knowledge was very low compared to the results derived from other studies and suggested a nutrition education update course to cater for the deficient area.

A qualitative study carried out on seven internal medicine nurses in Australia showed that several nurses lack the comprehensive knowledge required to give proper nutritional care to the health care consumers in their custody (Kowanko et al., 1999). They identified there is inadequate basic nutritional knowledge relating to under-nutrition and over-nutrition among the acute nursing staff and concluded that although nurses consider nutritional care of patient to be of paramount importance, they still find it very difficult to place it at the forefront of any care they provide for the patients under their supervision due to time limitation and multiple tasks to complete. They suggested that sufficient knowledge about nutrition must be incorporated into the training of nurses for optimum care delivery (Kowanko et al., 1999).

Warber et al. (2000) in their study of 200 nurse experts concluded that the basic knowledge of nutrition that nurses are supposed to display is deficient. This was supported in another study carried out on 44 geriatric nurses, which gave an outcome of a reduced nutrition knowledge score of 65% (Crogan et al., 2001). This reflected the fact that a small number of nurses have had the privilege to receive adequate training in nutrition since they graduated from their nursing institution (Crogan et al., 2001). The ability of nurses' nutritional awareness in tackling protein energy malnutrition (PEM) among residents in care homes was also demonstrated in this study. They discovered that nurses lack skills as to how residents' diet is being handled and they suggested that an educational seminar provision to all nurses can help to deal with the issue (Crogan et al., 2001). A related result was also gathered from a survey carried out on 103 practice nurses in a regional hospital in Australia where the mean nutritional knowledge score attained was 60.2%, showing that qualified and skilled nurses that have been in practice for several years scored higher compared to the rest of the nurses with lower qualification and new to the profession (Schaller and James, 2005).

A survey carried out by Mowe et al. (2008) on 4512 healthcare professionals found that an inadequate nutritional knowledge among health professionals could lead to bad nutritional practice resulting in delay of patient discharge from hospital. This finding was supported by Kim and Choue (2009) where they demonstrated in their study involving 283 nursing participants that nurses have inadequate nutritional knowledge particularly in relation to assessing the nutritional status of health care consumers when using a standardized questionnaire. A study carried out by Endevelt et al. (2009) on 600 nursing staff

confirmed nurses that had a university qualification have an enhanced outlook about the nutrition of the elderly than the other registered nurses, and that nutritional knowledge was associated with age. This indicates that as the nurses grow older in their profession their knowledge about nutrition diminishes if proper programmes for skills development are not put in place.

A related study conducted by Park et al. (2010) with questionnaires containing 42 diet related questions, administered to a total of 506 nurses in three different health institutions in Seoul exposed the fact that nurses' knowledge of nutrition was not as good as those described in some developed countries in relation to cardiovascular disease (CVD) and overweight. Even though the nurses were conscious of the benefits of some food nutrients, they lacked some basic knowledge about specific diets that protect humans against cardio vascular disease (Park et al., 2010). An obstacle to successful dietary care for patients is an inadequate knowledge of nutrition among all nurses and other health care staff (Morison et al., 2010). Park et al. (2010) states that nurse are known to have close relationship with hospitalized patients, and this ideally places them to advise patients on the best dietary option.

### Use of nutritional knowledge by nurses in practice

McWhirter and Pennington (1994) and Coxall et al. (2008) reported that inadequate dietary status of patients could be due to limited expertise in the detection of health care consumers at risk of under-nutrition. Haward (2001) and Lennard-Jones et al. (1995) stated that assessing the nutritional status of patients was not considered as essential by nurses, with little effort being made in checking the dietary status of patients. Davison and Staples (1996) confirmed that nurses often over or underrate the dietary requirement of their patients. It is important for nurses to acquire necessary nutrition education and have a genuine dietary need of the patients they care for, so malnutrition can be overcome and good nutritional status of patients can be achieved (Cooke, 1995; Kowanko, 1997).

### DISCUSSION

Health promotion theory has changed from the usual health education concept (Pender, 1996) to a wider environmental, inexpensive, and supportive measure of promoting the health of the public (Whitehead, 2006). On the other hand, many studies relating to nursing are still directed towards participants' way of life and behavioural change (Kim et al., 2003; McCabe et al., 2005; Pender, 2005).

Although, these studies shared collective objectives, their differences in the area of sample sizes and the instrument used in their data collection precluded the

opportunity to generalize the result. Most studies were conducted in US and the small number of studies on this area of research restricts the generalizability of the findings.

### Conclusion

The literature review demonstrated the depth of research that has been done on various aspects of the nutritional knowledge of nurses on health care consumers. The review showed that there was still little research done on this topic in the United Kingdom. It shows that there is still a lot of effort needed to update the general knowledge of nurses in nutrition. This is important to ensure optimum care is delivered and that the patient and their relatives are comfortable with the kind of nutritional care received from their health care provider. This study also shows there is need to be a reevaluation of the curriculum used for nurses in various institutions of higher learning so as to close the gap that might be affecting the nurses' knowledge about nutrition of the patient they take care.

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