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Citation: Coxall, Kim, Dawes, Emma, Forsyth, Emma and Lloyd, Hilary (2008) Applying the key principles of nutrition to nursing practice. *Nursing Standard*, 22 (36). pp. 44-48. ISSN 0029-6570

Published by: RCN Publishing

URL: <http://dx.doi.org/10.7748/ns2008.05.22.36.44.c6543>
<<http://dx.doi.org/10.7748/ns2008.05.22.36.44.c6543>>

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Applying the key principles of nutrition to nursing practice

Coxall K *et al* (2008) Applying the key principles of nutrition to nursing practice. *Nursing Standard*. 22, 36, 44-48. Date of acceptance: December 3 2007.

Summary

This article outlines the importance of good nutrition in adults and children. With reference to adult nursing, the article highlights the benefits of nutritional screening of patients, identifies alternative foods for undernourished patients, and discusses why feeding and planning meal times are vital aspects of patient care. In terms of paediatric nursing, the article discusses the implications of childhood obesity and the importance of eating the right balance of foods.

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Keywords

Malnutrition; Nutrition and diet; Obesity

These keywords are based on the subject headings from the British Nursing Index. This article has been subject to double-blind review. For author and research article guidelines visit the *Nursing Standard* home page at www.nursing-standard.co.uk. For related articles visit our online archive and search using the keywords.

THE IMPORTANCE OF good nutrition in children and adults cannot be overestimated. Nutrition underpins health, contributes to growth and development and can influence recovery from illness and disability (Bradley and Rees 2003). The aim of this article is to identify the key nutritional issues for nursing practice in the UK. While the key principles of nutrition remain the same, the challenges for adult and paediatric nurses can be different. This article addresses adult and paediatric issues separately, enabling readers to consider implications for their own practice.

Adult nutrition

Campaigns such as *Hungry to be Heard* (Age Concern 2006) and publications such as *Essence of Care* (Department of Health (DH) 2003),

Nutrition Support in Adults (National Institute for Health and Clinical Excellence (NICE) 2006), and *Nutrition Now* (Royal College of Nursing (RCN) 2007) have ensured that nutrition has become an important issue.

McWhirter and Pennington (1994) examined the prevalence of malnutrition in hospital. They found that 40% of patients were undernourished on admission and two thirds lost weight during their stay. Age Concern quoted similar statistics in 2006.

A high proportion of patients depend on hospital food to sustain them during their illness (British Association for Parenteral and Enteral Nutrition (BAPEN) 2007a), therefore it is essential that every patient's nutritional status and requirements are individually assessed on admission to hospital. Malnourished patients can have impaired mental and physical function, a prolonged stay in hospital, are more likely to develop complications during or post surgery, and have a higher mortality rate than well-fed patients (Age Concern 2006, BAPEN 2007a). Equipped with this knowledge, nurses should ensure that effective provision of suitable food is viewed as an important aspect of nursing care, that is, a treatment and not a hotel-style function (BAPEN 2007a).

Nutritional screening Feeding patients is often perceived as a basic nursing duty, but it is important to question how basic it is. When preparing to assist patients with their nutritional needs, three questions should be at the forefront of a nurse's mind:

- ▶ Are there any barriers to eating?
- ▶ Is a standard diet suitable?
- ▶ Is the patient adequately prepared?

The answers to these questions start with screening, assessment and effective care planning. NICE recommends that every patient should be screened for malnutrition at his or her first outpatient appointment, and on admission to hospital (NICE 2006). In older patients, distinguishing between age-related changes and

those that occur as a result of poor nutrition can be difficult and nutritional screening is crucial (Holmes 2006). BAPEN (2007b) recommends the use of the Malnutrition Universal Screening Tool (MUST). This is a five-step screening tool to identify adults who are malnourished, at risk of malnutrition or obese.

Incorporating management guidelines that can be used to develop a care plan, the MUST is recommended for use in hospitals, the community and other care settings. It is important to develop an individual care plan to ensure that appropriate care is established for all patients identified at risk as a result of the screening process. Further information on the use of the MUST is published by BAPEN (2007b) and is available on their website.

As the purpose of screening is to identify patients at risk of malnutrition, an important element of the care plan is the involvement of the dietician. Dieticians can assess the patient's nutritional needs and provide effective, evidence-based nutritional advice and support to patients, carers and staff.

Feeding Before offering patients a meal, it is important to establish whether they are allowed to eat. Depending on their medical or surgical status patients may have diet and/or fluid restrictions in place. If the patient is 'nil by mouth', for example, it is important that the nurse knows why and for how long. It is the nurse's responsibility to question lengthy periods of fasting and to ensure that other methods of nutrition and hydration support are established.

Patients with dysphagia are among those at risk of prolonged periods of fasting because of their inability to swallow. An assessment by a speech and language therapist or a dysphagia-trained nurse is required to ensure the safe intake of appropriate food and/or fluids. When oral intake is not safe, patients are required to be nil by mouth until further investigations or interventions are completed.

To prevent prolonged periods of fasting, a patient's ability to swallow safely may require regular reassessment. Nurses are increasingly being trained to undertake initial dysphagia screening before further investigation by a speech and language therapist. This extension to nursing practice should be underpinned by robust, locally agreed protocols and assessments of competence. Dysphagia diets, prescribed by a speech and language therapist, are highly individualised and include modification of food texture and fluid viscosity. Foods may be chopped, minced or puréed, and fluids thickened (Finestone and Greene-Finestone 2003). Patients with swallowing difficulties require particular attention at meal times so planning is vital.

When nutritional risk is identified, whether by the use of a screening tool or by further assessment by the nurse, systems should be set up to ensure that the patient's food intake is monitored and recorded. Age Concern (2006) and Bradley and Rees (2003) advocate the use of a visual prompt, for example a red tray system, to highlight at-risk patients. A similar system using red serviettes to identify at-risk patients has been implemented at Sunderland Royal Hospital. The named nurse informs the ward hostess of any patients at risk. These patients are then given a red serviette rather than a white one, which acts as a visual prompt to all staff and ensures that plates are not removed before the named nurse has documented the patient's food intake and taken appropriate action.

Care for undernourished patients Where a patient is identified as being at risk of undernourishment, the aim should always be to provide food as opposed to supplements whenever possible. If the patient is able to eat, then this is the best means of obtaining nutrition. Choosing foods that are high in energy and protein, for example milky puddings, will help patients meet their daily nutritional needs. Where a patient has a poor appetite it may be necessary for supplements to be prescribed by a dietician. Oral sip-feed supplements can be either milk or fruit juice-based. The fruit juice type is not ideal for patients with diabetes because of its higher sugar content, but if this is the patient's preference, diluting with water can help to control the absorption of sugar. Many different sip-feeds have been produced to suit different disease states. For patients who have high protein losses, for example, those with pressure ulcers, supplements with higher protein contents are available. Sip-feeds have also been designed to suit renal patients, patients with cancer and those with inflammatory bowel disease. Each has a nutritional composition that has been shown to benefit a specific patient group.

There are alternatives for patients who dislike carton milk supplements: sachet types are an option and can be made up with fresh milk. Dessert and soup styles are also widely available and are useful if the patient enjoys these food types. In addition, powdered supplements can be added to the patient's food to increase the energy and protein content. The powder dissolves without changing the taste or texture of the food. It is vital that nurses become familiar with the different nutritional products which can be prescribed by the dietician and know how to access them (Brogden 2004). If supplements are prescribed, it is the nurse's responsibility to ensure that they are taken and that all relevant details are documented correctly, including if the supplements are not taken, and why.

Artificial nutritional support is not discussed in-depth in this article, however there will be patients who are unable to meet their nutritional requirements orally. In this instance, it may be necessary to supplement oral intake with artificial nutrition or use artificial nutrition as the sole source of nourishment. This can be achieved by using enteral feeds via routes such as nasogastric, nasojejunal or gastrostomy. If a patient's gut is non-functioning, parenteral nutrition is required to provide the patient's nutritional needs.

Meal times The timing of meals is crucial for providing effective nutrition to patients. It is the nurse's responsibility to ensure that patients receive the right food and drink at the right time (Dzik-Jurasz 2007). The patient's usual eating patterns should be considered and extra snacks ordered where appropriate. For many patients meal times are something to look forward to. Eating with others can increase social interaction and enhance consumption so, wherever possible, meals should be taken sitting at a table with others. If this is not possible, patients should be encouraged and assisted to get out of bed. Eating in bed can be difficult and limit the amount of food a patient eats (Holmes 2006). Eating is enhanced if patients are involved in planning meals and meal times. Therefore, it is important that patients choose their own meals as close to the time of consumption as possible (Holmes 2006).

Some practical considerations can aid food intake. Food should be served as quickly as possible after preparation, ensuring that it is still hot and palatable (BAPEN 2007a), and when serving meals attention should be given to presentation and portion size. For example, being presented with an unrealistically large portion of food can be overwhelming for sick and/or older patients (Holmes 2006) and, whenever possible, patient meal times should be undisturbed. The *Better Hospital Food* programme advocates using protected meal times, that is, when all non-urgent clinical activity is stopped. This allows patients to eat their meals without interruption and, when required, with the assistance of staff (NHS Estates 2007).

During meal times nurses should focus on patients who need assistance. This may involve ensuring that appropriate aids are used, such as adapted plates and cutlery and non-slip mats, or that the meal is placed within easy reach of the patient. Nurses should offer handwashing facilities to those who are unable to walk to the

toilet, ensure that the patient's mouth is clean and fresh, and that well-fitting dentures are in place. Careful attention to these aspects of care can significantly enhance the patient's willingness and ability to eat (Holmes 2006).

Nurses have a key role in the multidisciplinary team in identifying vulnerable patients and in patient feeding (Holmes 2006). It is essential that nurses view this role as integral to their daily nursing practice and as an important part of the patient's treatment. It is only when the assessment of every patient's nutritional status has become a routine that the full benefits of nutritional treatment will be realised (Lennard-Jones 1992).

Paediatric nutrition

In recent years there has been an increased focus on improving children's diets as an overall strategy for preventing chronic disease. This has been prompted by evidence that young people in the UK are eating too much saturated fat, sugars and salt, and too few fruit and vegetables (Office for National Statistics (ONS) 2000).

Obesity Some conditions, notably diabetes and obesity, are increasingly affecting children. Diseases that are usually associated with adult life may result from poor eating habits in childhood (Parliamentary Office of Science and Technology 2003). The National Diet and Nutrition Survey found that children's consumption of fruit and vegetables has fallen over the past 20 years, with more than half of those surveyed eating no fruit and vegetables in a given week (ONS 2000). In the UK in 2004, 8.5% of six-year-olds and 15% of 15-year-olds were obese, making obesity the most common disorder in this age group (Reilly and Dorosty 1999).

There is further evidence to suggest an association between obesity in childhood and high blood pressure, diabetes, respiratory disease, adult obesity and orthopaedic disorders, as well as social and psychological effects such as stigmatisation, discrimination and prejudice (Mei *et al* 1998). Furthermore, Mei *et al* (1998) suggest a link between obesity and low self-image, low self-confidence and depression in children and adults.

The *National Service Framework for Children, Young People and Maternity Services* (DH 2004) advocates that hospitals should be healthy settings that present a consistent approach to health promotion and protection through their policies and day-to-day routine. A stay in hospital should not jeopardise the health of a child or young person further. Moreover, hospitals could be good environments to introduce health promotion messages.

Eating behaviours Paediatric nurses need to understand children's eating attitudes and behaviours, as this is linked to children's health. It is particularly important because there is evidence to indicate that dietary habits acquired in childhood often persist into adulthood (Ogden 2003). A range of explanations have been offered to understand why children eat what they eat. A lack of knowledge has been suggested as a cause of poor diets. However, this does not provide a full explanation because health education campaigns have had limited success in changing eating habits (Livingstone 2001).

Initiatives that encourage healthy eating and active living are important. For example, fruit rounds and healthy options on ward menus make it easier for the public to make healthier choices. Such strategies require funding for implementation, but aim to reduce the costs to the NHS from diet-related ill health (Livingstone 2001).

Importance of nutrition In children, malnutrition and overnutrition (obesity) can have early and serious consequences. Excess energy intake, coupled with reduced physical activity, can increase the risk of obesity and malnutrition can lead to slow growth, increased susceptibility to infections, impaired neurodevelopment and an increased length of hospital stay. Additionally, children cannot survive starvation as long as adults because they have less energy stores relative to their high rate of energy expenditure (NHS Estates 2003). This is particularly important for nurses when considering how long children should be kept on a 'nil by mouth' regimen.

Children should be eating the right amount and the right types of food because their diet affects growth and development. A healthy balanced diet can help to prevent disease in childhood, such as anaemia, dental decay and childhood obesity. In the long term, a good diet can protect against diseases in later life, such as heart disease, stroke, osteoporosis, obesity and cancers (National Audit Office (NAO) 2001).

When children are admitted to hospital it is important to ensure they eat sufficient food to meet their nutritional requirements, particularly following surgery. A stay in hospital interrupts the child's usual routine and, although this can be disruptive, it can also provide an opportunity to introduce new eating habits, health promotion messages and dispel any food myths the family and the child may believe.

The effect of these interventions can result in changes in eating habits, shopping practices and consumption of types of food for the whole family (Edmunds *et al* 2001).

Food balance

Whether children are at home or in hospital there are four basic food groups recommended by the Food Standards Agency (FSA) (2007). These are:

- ▶ Breads, cereals and potatoes.
- ▶ Fruit and vegetables.
- ▶ Milk and dairy foods.
- ▶ Meat, fish and other alternatives.

The fifth group includes foods that are low in nutrient density, such as crisps, cakes and carbonated soft drinks. They should be used sparingly or enjoyed as treats because they contain higher levels of fat and sugar.

Recommendations meant for the general population are not suitable for children under the age of five. However, by the age of five children should have adopted a diet that obtains 35% of energy requirements from fat (FSA 2007). The aim is to eat a variety of food in each food group.

Paediatric nurses should be aware of the messages they are portraying to children during meal times, for example telling children that they will get a dessert if they eat all of their vegetables sends the wrong message about vegetables (Epstein *et al* 2002). Similarly, when foods such as sweets are used as rewards, children often assume that these foods are better or more valuable than other foods. When designing menus for children the catering team, comprising dieticians and nursing staff, should recognise the effects of advertising and its influence on the choices children make. Parents should be encouraged to work with the nursing team to support their children to make healthy choices.

Nutritional risk Hospitalised children can be at nutritional risk (NHS Estates 2003), and screening hospitalised patients is relatively easy. There are no validated nutritional screening tools for children in the UK, but an accurate assessment of the child's height and weight on admission and subsequent plotting on growth charts will identify children at risk (NHS Estates 2003). Body mass index (BMI) trigger points have been agreed for adults, but for children the situation is more complex. A child's BMI varies with age, therefore different trigger points have to be used to define overweight and underweight children that depend on the child's age (NAO 2001). Despite this, the *Better Hospital Food* programme (NHS Estates 2003) recommends that every hospital should have nutritional screening tools which, at least, ensure measurement of a child's height and weight on admission, weekly measurement of weight and three monthly measurements of height. In addition, it recommends that the nurse should

ensure that there are accurate records of children's intake of food and drink, identification of children whose intake is a cause for concern, and the identification of children at risk of obesity.

Responsibility and the team approach

To ensure optimum nutritional care for patients of all ages, a multidisciplinary team-based approach is essential (NHS Estates 2007, RCN 2007). While nurses are not solely responsible for nutritional care, they play a significant role in feeding and identifying vulnerable patients (Holmes 1999). Nurses are accountable and responsible for the care that they give. *The Code* outlines professional accountability for nurses and midwives, clearly stating: 'As a professional, you are personally accountable for actions and omissions in your

practice and must always be able to justify your decisions' (Nursing and Midwifery Council (NMC) 2008). This includes appropriate nutritional screening/assessment, effective care planning and evaluation of nursing interventions (RCN 2007). Accurate record keeping and documentation of a patient's food intake are important aspects of this process. The quality of a nurse's record keeping is also a reflection of the standard of his or her professional practice (NMC 2008).

Conclusion

Nutrition is an essential aspect of nursing care. It is as vital as medication and other types of treatment. Nurses should ensure that patients in their care have the right nutrition at the right time. Through effective management, leadership and professional development, and by sharing best practice, challenging poor practice and working in partnership with patients, families and carers, nurses can overcome that which stands in the way of excellence (RCN 2007) **NS**

References

- Age Concern** (2006) *Hungry to be Heard*. Age Concern, London.
- Bradley L, Rees C** (2003) Reducing nutritional risk in hospital: the red tray. *Nursing Standard*. 17, 26, 33-37.
- British Association for Parenteral and Enteral Nutrition** (2007a) *Hospital Food as Treatment*. www.bapen.org.uk/res_bhfi_treatment.html (Last accessed: May 1 2008.)
- British Association for Parenteral and Enteral Nutrition** (2007b) *Malnutrition Universal Screening Tool*. www.bapen.org.uk/must_tool.html (Last accessed: May 1 2008.)
- Brogden BJ** (2004) Clinical skills: importance of nutrition for acutely ill hospital patients. *British Journal of Nursing*. 13, 15, 914-920.
- Department of Health** (2003) *Essence of Care: Patient-Focused Benchmarks for Clinical Governance*. The Stationery Office, London.
- Department of Health** (2004) *National Service Framework for Children, Young People and Maternity Services*. The Stationery Office, London.
- Dzik-Jurasz D** (2007) Food for thought. *RCN Magazine*. Spring suppl, 40-41.
- Edmunds L, Waters E, Elliott EJ** (2001) Evidence-based management of childhood obesity. *British Medical Journal*. 323, 7318, 916-919.
- Epstein LH, Paluch RA, Gordy CC, Saelens BE, Ernst MM** (2002) Problem solving in the treatment of childhood obesity. *Journal of Consulting and Clinical Psychology*. 68, 4, 717-721.
- Finestone HM, Greene-Finestone LS** (2003) Rehabilitation medicine: 2. Diagnosis of dysphagia and its nutritional management for stroke patients. *Canadian Medical Association Journal*. 169, 10, 1041-1044.
- Food Standards Agency** (2007) *The Balance of Good Health*. www.food.gov.uk/multimedia/pdfs/bghbooklet.pdf (Last accessed: May 1 2008.)
- Holmes S** (1999) Hospital related malnutrition. *Nursing Times*. Clinical Monograph No 3. Emap, London.
- Holmes S** (2006) Barriers to effective nutritional care for older adults. *Nursing Standard*. 21, 3, 50-54.
- Lennard-Jones JE** (1992) *A Positive Approach to Nutrition as Treatment*. King's Fund, London.
- Livingstone MB** (2001) Childhood obesity in Europe: a growing concern. *Public Health Nutrition*. 4, 1A, 109-116.
- McWhirter JP, Pennington CR** (1994) Incidence and recognition of malnutrition in hospital. *British Medical Journal*. 308, 6934, 945-948.
- Mei Z, Scanlon KS, Grummer-Strawn LM, Freedman DS, Yip R, Trowbridge FL** (1998) Increasing prevalence of overweight among US low-income preschool children: the Centers for Disease Control and Prevention pediatric nutrition surveillance, 1983 to 1995. *Pediatrics*. 101, 1, E12.
- National Audit Office** (2001) *Tackling Obesity in England: Report by the Comptroller and Auditor General*. The Stationery Office, London.
- National Institute for Health and Clinical Excellence** (2006) *Nutrition Support in Adults*. Clinical Guideline 32. NICE, London.
- NHS Estates** (2003) *Better Hospital Food Programme: Catering Services for Children and Young Adults*. The Stationery Office, London.
- NHS Estates** (2007) *Better Hospital Food*. 195.92.246.148/nhsstates/better_hospital_food/bhf_content/introduction/home.asp (Last accessed: May 1 2008.)
- Nursing and Midwifery Council** (2008) *The Code: Standards of Conduct, Performance and Ethics for Nurses and Midwives*. NMC, London.
- Office for National Statistics** (2000) *National Diet and Nutrition Survey: Young People Aged 4-18 Years*. The Stationery Office, London.
- Ogden J** (2003) *The Psychology of Eating: From Healthy to Disordered Behaviour*. Blackwell, Oxford.
- Parliamentary Office of Science and Technology** (2003) *Childhood Obesity*. www.parliament.uk/post/pn205.pdf (Last accessed: May 1 2008.)
- Reilly JJ, Dorosty AR** (1999) Epidemic of obesity in UK children. *The Lancet*. 354, 9193, 1874-1875.
- Royal College of Nursing** (2007) *Nutrition Now: Principles for Nutrition and Hydration*. RCN, London.