Case Study

Evidenced-based practice in the management of malnutrition in an elderly patient: Case report

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Various medical fields are increasingly depending on evidence-based practice supported by scientific findings in the delivery of practices and services to their clients, and different health professionals are also advocating the integration of scientific-based evidence into day-to-day service provision. It is believed that evidence-based practice ensures that the best interventions are available and utilized in different settings (e.g hospitals); provides a road map for patients’ welfare; minimizes personal biases of staff and provides the ability to evaluate practices to ensure they meet agreed standards. It is upon this concept that this case report on our patient is based. The nutritional status of the patient and other factors were evaluated, reported and explanations supported by scientific evidence. It is our belief that this case report would provide an important insight into the role of evidenced-based practice in the management of malnutrition in an elderly patient.

Key words: Malnutrition, evidenced-based practice, elderly person, hospitalization, dementia.

INTRODUCTION

An 80 year old man was admitted into a surgical ward with anal pain accompanied by bleeding per rectum and was then taken to the theatre and had haemoroidectomy. He made a good recovery post-operatively within a week but could not be discharged home due to some other identified problems relating to his nutrition and bowel movement. It has been shown that poor nutrition leads to a slower recovery from illness, increased risk of infection and complications of surgery or hospitalization and poor healing (Romagnoni et al., 1999). Unfortunately, these factors further impair one’s appetite, making it a vicious cycle (Marshall et al., 2001). In this case study, management of malnutrition using evidenced-based practice will be examined in relation to a patient’s management.

It has been generally agreed that the risk of under-nutrition rather than over-nutrition is the main cause for concern in elderly people, particularly those who are hospitalized or institutionalized (Romagnoni et al., 1999). Up to 40% of hospital patients are thought to be at risk (NICE, 2006). Malnutrition is also thought to be particularly serious among the elderly with more than 10% of people aged over 65 and up to 60% of pensioners who are admitted to the hospital are malnourished (NHS Quality Improvement Scotland, 2003). Research has shown that older adults may be at risk for inadequate nutrition because of physiological changes related to organ function decline, which in turn can affect digestion, metabolism and absorption (Shikany and White, 2000). Age-related changes in the gastrointestinal system such as atrophy of gastric mucosa, reduced gastric motility and reduction in the secretion of digestive enzymes have been identified (Gershon et al., 1994).

On admission, the patient under study weighed 46.5 kg, appeared emaciated, eats /drinks very little at mealtimes, complains of sore mouth and difficulty in swallowing. He feels weak and lethargic on minimal exertion. These signs are known to be related to malnutrition (Marshall et al., 2001). His wife confirmed a...
progressive significant weight loss prior to admission. He developed mild oedema to his legs with a small blister on his left heel. The recent blood result confirms low albumin and haemoglobin levels. Micronutrient deficiencies have been shown to be common in the elderly due to reduced food intake and diet restriction as a result of social and psychological factors, longstanding dietary habit and physiological changes associated with aging (Marshall et al., 2001). The patient examined had a past medical history of mild dementia, migraine and hypertension. He lives with his wife in a ground flat prior to his admission, and generally has no difficulty in coping with activities of daily living. Although albumin level, as well as haemoglobin level might help to establish a diagnosis of malnutrition, these determinations do not contribute to finding the main cause of unintended weight loss (Calle et al., 1999). It has been shown that open wounds, nephrotic syndrome, infections and other conditions can lead to malnutrition (Johnstone et al., 2006). In the case of the patient under study, nutritional deficiency, infections and other conditions can also cause low serum albumin levels.

Hence, a patient with a low albumin level is not necessarily malnourished or losing weight. If the decision is made to provide nutritional supplementation in a patient with unintended weight loss, the serum albumin level can be used to guide supplement selection. For example, a patient with weight loss and depleted visceral protein stores, as reflected in a low serum albumin level, may need a supplement with high protein content. It should however, be noted that our patient presents no other possible causes of low albumin such as nephrotic syndrome. It is therefore possible that the low albumin and haemoglobin levels as reported for this patient may be associated with nutritional deficiency probably occasioned by reduced dietary intake/lack of appetite (Johnstone et al., 2006).

**PROCESS AND MANAGEMENT OF NURSING CARE**

Mental health conditions such as depression or dementia can sometimes make people feel like not eating and can lead to malnutrition (Johnstone et al., 2006). In the case of the patient under study, nutritional deficiency, dementia and reduced mobility (non-specific symptoms) were identified. The patient under study complains of burning sensations in the mouth causing irritation and pain with difficulty in swallowing each time he attempts to eat or drink. An oral assessment was carried out by a registered nurse. It was observed that patient had oral thrush. The patient was then seen by the doctor who prescribed nystatin suspensions to treat the oral thrush, accompanied by two hourly corsodyl mouth wash (Pappas et al., 2004).

An initial nutritional screening to obtain a complete picture of nutritional state was carried out on the patient using appropriate tools; this is discussed in details later in this case study. A registered nurse and other health professional have basic knowledge about nutritional status and can apply this knowledge to maximize the health of frail older people (Johnstone et al., 2006). There are guidelines to assist recognizing malnutrition in the elderly (NICE, 2006; Milne et al., 2009). Also, it was part of routine assessment of all patients admitted into surgical wards in accordance with NICE guideline. Screening tools such as “The malnutrition Universal Screening Tool” (MUST) has been designed by the Malnutrition Advisory Group (MAG) of the British Association for Parenteral and Enteral Nutrition (BAPEN) as an effective way of identifying adults (particularly the elderly) who are malnourished, at a risk of malnutrition or obese (BAPEN, 2009).

However, it should be noted that “MUST” can only be used to identify malnutrition or the risk of malnutrition in adults; it is not designed to identify deficiencies (or excesses) in the intake of vitamins and minerals (NHS Scotland, 2009). The patient’s height and weight were measured to establish a body mass index (BMI). Body mass index (BMI) was calculated using recognized method of weight in kilogram per height in metre square. BMI of 17 to 18.5 is considered to be mild nutrition, 16-17 is moderate while <16 is severe (BAPEN, 2009). Weight was monitored weekly and the patient was referred to the dietician following certain criteria (BAPEN, 2009). In a study conducted by Calle et al. (1999), it was found that a BMI of less than 22 kg per m² in women and less than 23.5 in men is associated with increased mortality. Beck and Ovesen (1998) reported that the optimal BMI in the elderly is 24 to 29 kg per m². Because of difficulty in determining height in some elderly patients (e.g., those who are bedbound or wheelchair-bound), BMI is less commonly used than weight. An alternative measurement for estimating BMI if neither height nor weight is available is mid upper area circumference (MUAC) (BAPEN, 2009). MUST was used in assessing the nutritional status of the patient. The patient’s BMI was 16.5 which is considered mild to moderate malnutrition.

With the initial nutritional screening by the registered nurse coupled with the review by the doctor, it became evident that the patient needs nutritional support as to be able to get him back to the normal level of function in a short time and prevent the problem of delayed discharge. Research has shown that two of the three problems of the elderly, poor mobility and poor intellectual function, are major risk factors for malnutrition (Prinsley, 1981). The dietician placed the patient on supplement drinks of calogen 30 ml three times per day and fortisip drinks to provide extra calories and nutrient. Nutritional supplements are used to replace nutrients that may be missing in an elderly person’s diet and also decreases the risk of certain diseases (BPAC, 2008). The patient was placed on soft/mashed diet to aid easy chewing and swallowing of food and also encouraged to take lots of drinks to aid easy digestion and fluid hydration (American Dietetic Association, 2009). Patient was commenced on food record chart for three days after which the dietician would...
RE-ASSESSMENT

Following treatment for the oral thrush, the patient now complaints less of pain in the mouth but still showed lack of appetite as he was not interested in eating. He only takes sips of drinks at intervals. The dietician reassessed food intake after three days (NHS Quality Improvement Scotland, 2003) and suggested that the patient should be commenced on nasogastric tube feeding or enteral feeding to help patients’ daily calorie intake, pending improvement in patient’s appetite (Prisley, 1981). A prescription of feeding regime of nutriton standard feed at the rate of 50 ml an hour for 20 h daily and to be increased to 75 ml an hour after 24 h if well tolerated, this is to prevent bloating and vomiting as a result of too rapid rate of feed (NHS Lothian Policy, 2007).

Meanwhile the patient was still supervised and encouraged to eat at mealtimes by the nurses and the wife being involved at mealtimes (NICE, 2006). As part of the treatment for malnutrition, the patient’s progress was regularly monitored by the health professionals to make sure that the correct amount of calories required to meet the nutritional needs is given. Treatment was adjusted as his nutritional requirements changes and nasogastric tube feeding was stopped once patient can eat and digest solid/liquid food normally (NHS Scotland, 2009).

DEMENTIA AND ITS EFFECTS ON PATIENT FEEDING

From the past medical history, the patient has mild dementia. He is slow at understanding and comprehending information. This problem of slow understanding and ability to comprehend information was also reported by the wife and confirmed by the nursing staff. Generally and professionally, gaining patient consent before attempting any procedure is primary and important in nursing care (Callahan et al., 1999; Gillick and Mitchell, 2002). Based on this rule and principle, the patient was therefore approached by the registered nurse who explained the plan of care, rationale and procedure for passing nasogastric tube for the purpose of feeding. Patient initially refused nasogastric tube to be passed but with persuasion from the wife and daughter who regularly visited, the patient finally consented to have the nasogastric tube passed. A fine bore nasogastric feeding tube was successfully passed following the procedure guidelines (NHS Quality Improvement Scotland, 2003). Feed was well tolerated for about 18 h after which the patient intentionally pulled out the nasogastric feeding tube. Such behaviour in which patient intentionally pulled out the nasogastric feeding tube and other related behaviours are known to be common characteristic of patients with dementia (Gillick, 2000). The wife was also encouraged to bring soup and drinks that the husband likes that would encourage increased food and fluid intake (NICE, 2006).

The patient was persuaded with a detailed explanation about the need to continue with the current care as per his nutrition. The feeding tube was re-passed; feeding regime recommenced and patient was checked regularly by the nursing staff (NHS Lothian Policy, 2002) and reminded of the need to keep the nasogastric feeding tube in place. He was successfully tube-fed for ten days and appetite gradually improved during the feeding period. He ate more than half the portion of quantity of food at mealtimes. Following the dietician’s review of the food record chart, as per the patient’s total daily calorie intake, improvement of his appetite and slight increase in weight, the nasogastric tube feeding was discontinued (Prinsley, 1981).

PATIENT MOBILITY AND SELF CARE

It has been shown that unplanned weight loss and malnutrition are common problems in the elderly (Huffman et al., 2002). Weight loss and malnutrition have been shown to result in a loss of muscle mass, causing further decrease in strength which may impair mobility and ability to care for oneself (Olivera et al., 2009). It is important that the elderly and their caregivers understand the value of nutritious foods, and make them a regular part of their daily routine. Preventing weight loss and malnutrition has been linked with longevity and a better quality of life. During hospitalization, the elderly patient often experiences reduced mobility and activity levels (Olivera et al., 2009). Functional decline, including changes in physical status and mobility, have been identified as the leading complications of hospitalization for the elderly (Johnstone et al., 2006).

Prior to the patient’s admission, he walked independently with occasional use of a walking stick for
support. He was quite independent with activities of daily living. During hospital admission, his level of physical function was slightly affected; however, as the patient’s nutritional status improves, he was daily assisted by the physiotherapist in providing professional assistance in getting him to the original level of mobility.

FAMILY INVOLVEMENT IN PATIENT’S CARE AND DISCHARGE PLANS

The patient’s wife and daughter were involved in his care during hospitalization (NICE, 2006). They were regularly informed about the care provided and progress of the patient. The NICE guideline (2006) states that all healthcare professional involved with patient care are required to provide education and training on the importance of providing adequate nutrition, therefore the registered nurse provided the family with information/education on balanced diet and their questions attended to (Yaffe and Klvana, 2002).

Appropriate printed materials on balanced diet were made available and given to the relatives. The family members were willing to give all the necessary support to the patient for speedy recovery after discharge. No concern was identified as regards patient’s home circumstances as the wife can assist when necessary as regards patient’s activities of daily living at home (Scottish Health Advisory Service, 2000).

CONCLUSION

Nutrition is a key issue for healthcare professionals. However, the management of nutritional problems is often poor. Malnutrition is a significant risk for patients in hospital and it is generally viewed that a failure to address the issue of malnutrition is a failure of the duty of nurses to protect the health of patients. As presented in this case report, it can be seen that different factors combine to affect the health status and recovery of elderly people which include nutrition, dementia, immobility, inability to self-feed and other social and psychological problems. Multidisciplinary professionals such as the doctors, dieticians, nurses and physiotherapist are needed to provide optimal care and support. Family support is equally helpful for patient speedy recovery and support as observed in the case of the patient studied.

REFERENCES


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