Nutrition Issues and Tools for Palliative Care

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Adequate nutritional intake is often difficult, if not impossible, for the person with a terminal illness. Patients, families, and caregivers struggle to continue providing food and fluids in the face of declining ability and interest. Nutrition issues often need to be addressed by home care clinicians, who should be armed with the basic concepts and tools for educating and counseling those involved in the area of palliative care nutrition.

Case Study

Mrs. M. was a 61-year-old home care hospice patient with amyotrophic lateral sclerosis. The nursing case manager requested a nutrition consult to address several issues and concerns that the patient and her husband, who was also the primary caregiver, had with her tube feedings and her ability to take food orally.

Mrs. M. was receiving both a standard 1 calorie/mL tube feeding and another tube feeding with 1.2 calorie/mL and slightly higher nutrient content. The formulas were alternated, and two cans were given at a time, three times a day, for a total of six cans a day. Six ounces of water was given before and after each feeding as a flush and to maintain hydration. Mrs. M. also enjoyed food and was still taking small amounts of soft foods.

The issues identified during the initial assessment were: (1) high residual amounts of tube feeding present when stomach content was checked, (2) congestion and secretions were becoming increasingly hard to manage, (3) oral intake was declining with her decreasing ability to swallow, (4) aspiration events with coughing were increasing, and (5) the patient wanted to maximize all nutrition for weight maintenance and enjoyment.

Initial education and changes implemented after discussion with the home care team were:

- Tube feeding formula was standardized to one 1.5 calorie/mL product with a higher nutrient density to be given 1 can per feeding, three times per day to reduce fluid volume and maximize nutrition.
- Free water was reduced to 2 ounces before and after feedings for flushes and hydration.
- The patient and caregiver were given specific instructions on pureeing foods and proper consistency.
- Oral intake was to be allowed for enjoyment but kept to a minimum, and food was to be chewed and spit out before swallowing if acceptable to the patient.
- Weight loss, decreasing ability to swallow, and decreasing tolerance to tube feeding was to be expected.

On follow-up, both patient and caregiver reported:

- Acceptance of simplified tube feeding regimen.
- Residuals were minimal.
- Congestion and secretions were present but improved.
- Episodes of aspiration were less frequent with oral intake.
- Weight loss was occurring but slowly.

Mrs. M. continued in home care for several months until her death. During that time, Mr. M. continued to report an ongoing decrease in her ability to swallow, with additional episodes of aspiration, but some foods for pleasure continued to be allowed at Mrs. M.’s request. With time, tolerance to tube feedings also diminished, and they were reduced to one-half can per feeding and then stopped just before death because of high residuals and to assist in management of congestion and secretions.
This case study provides an excellent example of how food and water, an area that is usually associated with caring and nurturing, can become a problem for the patient and caregiver at the end of life. The most important principle to be stressed at this point is that starvation and dehydration are not caused by lack of intake but by the disease process itself. Forcing or even providing food and fluids will not prolong or enhance life and may be a burden or even detrimental.

A healthy individual has an anabolic metabolism, which can use nutrients to build and repair tissue. During the dying process, however, the body shifts from an anabolic to a catabolic state, where nutrients cannot be used. It is this catabolic condition that leads to starvation and dehydration. This shift is a natural part of the dying process and occurs whether or not food and fluids are provided, even with tube feeding or total parenteral nutrition (TPN) (Food, Nutrition, and Artificial Feeding Methods, Constipation, and Quality of Life Issues, 2004).

The efforts associated with feeding or hydration can actually be uncomfortable to the dying patient. Many do not understand that starvation produces a euphoric state that increases comfort. This occurs when the body uses fat as the predominant energy source and ketones build up; it is the resulting ketonemia that causes the euphoria. Feeding even small amounts can prevent ketonemia and prolong the sense of hunger. As protein intake decreases, so does the need to excrete urea, thereby diminishing urine output. A byproduct of the conversion of body fat to energy is water. This endogenous source of energy and fluid, along with decreased urine output, can combine to meet the reduced metabolic needs of the patient (Smith & Andrews, 2000). The most common symptom when feeding or fluids are withheld is a dry mouth. Good mouth care can alleviate most discomfort and provide an outlet for the caregiver to still nurture.

Comfort and choice are the primary goals in palliative nutrition. All caregivers should be reminded to encourage but never to force intake of any kind.

Tube Feedings and Hydration: Guidelines and Comfort Considerations

The benefits of artificial nutrition and hydration are not clearly defined when a terminal illness is involved. Keep in mind that even when tube feeding and fluids are provided, the nutrients still might not be utilized. Decisions to start or continue feedings and hydration at this time should be based on whether it will help provide a reasonable length and quality of life, the wishes of the individual, and the degree of comfort desired.

Artificial feedings and hydration do not always ensure comfort. Additional fluid intake raises the risk of overload, leading to increased secretions and congestion, which make breathing more difficult. If the metabolism has already slowed, the feedings may cause bloating, distension, diarrhea, or aspiration. The risk of pneumonia is higher with tube feedings because of the aspiration being mixed with stomach contents and the increased acidity. The benefits, if tolerated, can result in increased energy, alertness, less nausea, and better quality and length of life.

When tube feedings are selected, the type of administration must be chosen. These are some of the options:

- Bolus feeding: uses a syringe to deliver a large volume during a short period of time. This type is the most common in home care. Bolus feeding is good when the risk of aspiration is low, to maintain some routine with feeding times, to maintain mobility by not using a pump with tubing, and to use in conjunction with oral intake.
- Continuous feeding: uses a pump and tubing and delivers a small amount of feeding during a long period of time. It is best suited for situations in which there is...
high aspiration risk and poor tolerance to feeding but is the most restrictive.

- **Cyclic feeding:** combines both bolus and continuous. It is suited for situations in which there is moderate aspiration risk or tolerance and can decrease the distress of bolus feeding by spreading feeding throughout 8 to 16 hours a day. It offers improved mobility by allowing time when the patient is not connected to the pump, and it can be supplemented with oral intake (Mahan & Escott-Stump, 2004).

Routine precautions and procedures that can reduce side effects and risks associated with tube feeding include:

- **Aspiration:** elevate the patient’s upper body at least 35 to 40 degrees during and for one-half hour after feeding. Assess volume and rate.
- **Nausea and vomiting:** withhold feeding if the residual stomach content is 50 to 100 mL. Hold feedings for 12 hours if symptoms persist. Assess volume and rate.
- **Diarrhea:** assess volume, rate, and medications and consider use of fiber. Assess osmolality of product because higher osmolality formulas are more likely to cause diarrhea. Hold feedings 12 hours or until diarrhea resolves.
- **Distension:** assess volume and rate, whether fiber or lactose is present, and if bowel movements are regular. Constipation and its avoidance are addressed in this article.

**Oral Intake: Guidelines and Considerations**

Oral intake is preferred and should be encouraged when possible. Loss of appetite and a decrease in intake happen frequently. The basic goal of oral feeding is to maximize nutrition by following some simple steps:

- Serve small portions: remember to offer small amounts more frequently.
- Include nutritious high-calorie snacks; include ice cream, cheese, and dried fruit and nuts with the foods being served.
- Use fats and sweets: butter, cream cheese, sour cream, honey, jams, and jellies can provide an important source of calories. Avoid diet and low-fat foods.
- Consider supplements: use commercial supplement drinks, prepare homemade milkshakes using instant powdered breakfast mixes, or add powdered milk in cooking for additional calories and protein.
- Limit beverages with meals: this can reduce total gastric volume and saves room for food.
- Allow adequate time for meals: meals may take a considerable amount of time for the ingestion of a small amount of food. Encourage caregivers to be patient and create a pleasant atmosphere if possible.

**Dysphagia: Considerations for Intake and Safety**

Dysphagia is a weakening of the gag reflex that causes swallowing difficulties and can affect a person’s ability to safely consume foods (Mahan & Escott-Stump, 2004). It is a common barrier to oral nutrition and can be affected by one’s positioning and ability to chew. Warning signs include drooling, pocketing food in the cheek, coughing or choking related to swallowing, and gurgling. Problems and suggestions for management of dysphagia include:

- **Consistency:** thin liquids are often a problem, but the best consistency to use may vary with time and from one individual to another. Commercial thickeners are available, but acceptance is marginal. Use minimal thickener to achieve desired consistency by allowing adequate time for the thickener to work for best taste and acceptance.
- **Smooth and moist food:** consistencies may vary from very thin purees to ground or even chopped foods. Use foods that are smooth and moist, such as custard, tuna fish salad, or mashed potatoes; or foods that can be pureed to a uniform texture.
- **Liquids:** gravies, broths, or milk can be used to adjust thickness with commercial thickeners or instant mashed potato flakes when pureeing foods to achieve the desired consistency.
- **Fats:** encourage liberal use of fats such as gravy, butter, and mayonnaise to lubricate, to aid in forming a bolus of food, and to add calories.
- **Avoid dry foods:** foods that crumble or do not form a bolus, such as crackers, rice, and pasta, are often a problem.
- **Encourage ice chips, Popsicles, and Italian ice products if the patient is unable to drink.**
Nausea and Vomiting: Suggestions for Management

Nausea and vomiting are problems that affect many for varying lengths of time and degrees of severity. Tips for assisting with management include:

- Serve small frequent meals: offer odorless, bland foods such as toast, crackers, canned fruit, and gelatins.
- Take fluids between meals: this minimizes pressure in the stomach that may cause reflux.
- Keep the patient’s head elevated: elevating the upper torso for 2 hours after eating allows gravity to help keep food in the stomach while digestion occurs.
- Avoid heavy or greasy foods: heavy foods take longer to digest and delay gastric emptying.
- Use clear liquids for nausea: limit intake to clear liquids such as broths, gelatins, and flat ginger ale when nausea is severe.
- Prescribe anti-emetics: medications are commonly used for the management of prolonged or severe nausea and vomiting.

Constipation

All patients taking pain medications, especially opioids, are susceptible to constipation, regardless of whether they are taking tube feedings or maintaining oral intake. Patients and caregivers should be aware of the need for a bowel movement at least every 3 days. Nausea, vomiting, distension, and loss of appetite are all possible symptoms of constipation. Resolution of constipation can lead to improved appetite, intake, and quality of life. Management strategies include possible addition of fluids and fiber, but there are instances, such as the presence of a partial bowel obstruction or an impaction, in which additional fiber could cause more problems. In these cases, reducing fiber and residue may be beneficial. In all cases of constipation, management with a regimen of bowel medications should be considered.

Summary

Comfort and choice are the primary goals in palliative nutrition. All caregivers should be reminded to encourage but never to force intake of any kind. Caregivers often feel the need to continue tube feedings or feeding orally with unrealistic expectations of the benefits, and they may also be unaware of the burden and discomfort that can arise from continued feeding.

The patient’s choice should be respected in deciding what, when, and how to take nourishment. At a time when the caregiver is struggling to provide some type of care, it should be pointed out that nurturing can still be provided through good mouth care and spending time with the patient.

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REFERENCES

