The Complex Gastrointestinal Patient and Jean Watson’s Theory of Caring in Nutrition Support

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The care of the patient with gastrointestinal disease is complex and challenging. The reasons for the complexity are varied and different for each patient. Complications following a bowel resection surgery, diseases of the GI tract (i.e., inflammatory bowel disease [IBD]), or conditions, such as cancer involving the GI tract, contribute to the complexity of the patient’s physical health. Emotional stability and social supports are elements that may further enhance or complicate the care of this patient. Any of these variables will affect the nutritional health of the patient, an essential element of care that supports healing, recovery, and improved quality of life.

Parenteral nutrition is the intravenous nutrition supplementation required when the oral or enteral route for nutrition support is unavailable or impossible. In this article, a clinical case scenario for a 34-year-old man with a history of cancer and an extensive bowel resection will be presented to better explore the decision-making process for determining appropriate nutrition support. In addition, various issues the health practitioner needs to consider when managing the nutritional health of the complex gastrointestinal patient will be explored, relative to Jean Watson’s Theory of Caring.

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Background

In order to understand the complexity of care specific to the GI patient, it is helpful to briefly review the anatomy and physiology of the GI tract. The GI tract extends from the oral cavity (mouth) to the anus and includes the stomach, small intestine, and colon. The oral cavity is the “gateway” for all oral intake. The teeth, tongue, and swallowing reflexes begin the ingestion process by mastication and lubrication of the food bolus. The esophagus carries the food bolus further into the GI tract via peristalsis. Once the food bolus passes through the lower esophageal sphincter and into the stomach, the food bolus is “blenderized” and reduced to a liquid chyme. The stomach “melts” this chyme in an acidic environment and pushes this chyme into the small intestine. The pylorus restricts the entry of contents from the stomach to the duodenum, which ensures the consistency is liquid, enhancing absorption of fluids and nutrients. It is essential that chyme be reduced to its most basic component to support absorption. To ensure that this is achieved, chyme within the small
intestine is mixed and dissolved by an assortment of enzymes secreted by the liver, gall bladder, pancreas, and small intestine. Fluids, electrolytes, and micro- and macro-nutrients are absorbed and reabsorbed throughout the small intestine. Any fluids not reabsorbed within the small intestine are absorbed in the colon, resulting in a final formed waste product.

**Case Study**

A 34-year-old married man (referred to as DL), father of two, was referred to the GI service. His past medical history included the diagnosis of bowel cancer 18 months ago. The tumor was located within the ascending colon and extended into the mucosal lining. There were no metastases discovered. DL underwent a bowel resection involving the removal of the terminal ileum, ileocecal valve, ascending colon, and part of the transverse colon. The pathology report cited clear margins and chemotherapy was therefore not prescribed postoperatively. He remained well until approximately four months ago when DL presented to the hospital with acute abdominal obstruction caused by a retroperitoneal mass compressing the bowel.

The resulting surgery involved the removal of approximately 90% of the stomach, duodenum, and proximal four feet of small bowel. The distal jejunum and ileum were anastomosed to the transverse colon. The liver appeared to be clear; however, his spleen and left kidney were removed, as part of the tumor was adhered to these organs. The surgical team was able to remove most of the cancer, but was unable to achieve “clear margins.” The oncology team recommended a course of chemotherapy for three months to shrink the tumor, which might increase the length of DL’s life, but would not, in all likelihood, cure him. DL has received two courses of chemotherapy and suffered side effects, in particular, mucositis. This has resulted in a reduced oral intake and a significant weight loss of greater than 20 kg in the past two months.

**Discussion**

Upon review of the “normal” anatomy and considering the changes in DL’s anatomy following his second surgery, it is understandable that there is now a significantly reduced length of bowel and an increased risk for the malabsorption of nutrients. Ninety percent of the stomach, which reduces oral intake to a liquid, has been removed. The pylorus, which serves as the gatekeeper to the small intestine, has been removed. The absence of these two sections of the GI tract alone will vastly change the consistency and concentration of food entering the small intestine. Within the normal small intestine, approximately 90% of all nutrients are absorbed within the first six feet (125 cm) of the bowel (Marieb, 2004). In the case of DL, this part of his anatomy has been completely removed. He has remaining bowel that encompasses the ileum with the exception of the ileocecal valve. It is recognized that gut adaptation may occur over time; however in DL’s case, sufficient time (two years or longer) is something he may not have.

When considering DL’s surgical and oncological history, it is important to determine realistic goals for care. An accurate assessment of his current health status provides the baseline for planning the most appropriate interventions. Optimally, DL’s nutritional requirements would be met by adjusting and maximizing his oral intake. Normally, if this cannot be done for reasons discovered during the assessment, the next option of nutritional support to consider is enteral nutrition. This modality of support offers significant opportunities for enhanced caloric intake and medication management without relying on the ability of DL to ingest calories. The final option for consideration in nutrition support will be parenteral nutrition (PN). This option would be available when the other modalities are impossible.

When considering a patient’s goals for nutritional support, it is incumbent on the nurse to provide the patient with the evidence of “best practice” to support his or her decision making. This evidence addresses the practical aspects of initiating nutrition support as well as the patient’s goals for care. To help the nurse articulate and blend practical aspects of care with the values of both the patient and the nurse, it is helpful to consider a nursing theory.

**Jean Watson’s Theory of Human Caring**

Jean Watson’s (1999) Theory of Human Caring explores a holistic approach to nursing. In this theory, Watson seeks to blend nursing as science and art. Whereas there is a scientific basis for the practice of nursing, it is the “body, mind, and spirit” of both the caregiver (nurse) and care receiver (patient) that has the greatest impact on the outcome of care. This theory contends that the nurse’s care for a patient extends beyond human contact and focuses instead on the soul of the patient. The values of respect, reverence, and autonomy are central to this theory. Watson states, however, that the guiding value of the model is the idea that caring is the moral ideal of nursing with a concern for the preservation of humanity, dignity, and fullness of self.

In Watson’s own practice at the Caring Centre in Colorado, complex care is delivered with the belief that understanding fosters healing (Watson, 2005). Watson’s conviction is that when a nurse caring for a patient, the nurse enters into the “life space” of that patient and detects his or her condition at a spiritual level. The nurse connects with the patient at a deep spiritual level, sometimes only for a moment, and that “connectedness” allows both the nurse and patient to heal. The emphasis of this theory and its ascribed method of caring is focused on the care of the whole patient rather than the pathology and treatment of the patient’s disease. Communication between the patient and the nurse is less verbal and more with touch, gestures, and sounds. The “healing” may need to be at an ontological (spiritual/metaphysical) level before physical healing can begin (Alligood & Tomey, 2002).

One of the primary concerns of DL was his nutritional health. If he were unable to maintain his health, chemotherapy treatments would be withdrawn. DL’s primary objective for his referral visit was advice, recommendations, and support of his nutritional health in order for him to continue to receive chemotherapy while optimizing his quality of life by remaining in his home.

**Assessment**

Nutritional health and support may have greater success when a clinician takes a holistic approach to the assessment process. Watson’s (1999) Theory of Caring supports this approach by suggesting that the guiding value of nursing be the preser-
viation of humanity, dignity, and fullness of self. This theory, when extended into the nutritional assessment, invites the clinician to expand the plan for intervention outside of simply the physical aspect. For example, the food ingested by DL over the course of a day may be dependent on many factors: desire, preferences, hunger, availability of food, social environment, and emotional attachment, to name a few. It becomes incumbent on the nurse to accurately assess the patient’s physical needs and combine those needs with the patient’s preferences, social environment, nutrition availability, and emotional needs.

**Anatomy**
The information involved in the patient’s physical assessment should include detailed GI anatomy. As noted previously, the anatomy of DL is vastly adjusted from normal anatomy, and he will, therefore, be intolerant of different foods. He complained of pain related to the mucositis and discomfort in the mid-abdominal region following any oral intake. In addition, he reported overwhelming nausea both with and without food or fluid intake. An abdominal film report suggested extrinsic compression in the mid-abdominal region. Additionally, DL has multiple sites of anastomosed bowel, all possible sites for strictures. His stools were very loose, and he reported being in the bathroom 4 to 10 times per day. The frequency and consistency of his stools is an important marker of bowel function, indicating either malabsorption or reduced transit times, both consistent with shortened bowel length and the sections of GI tract that were removed. He also complained of severe rectal and anal pain with defecation.

**Weight History**
Weight history is another valuable marker for the physical assessment. DL’s normal weight is 69 kg, which, when he was weighed 10 weeks ago, was his stable weight. He has experienced weight loss in the past two months in the range of 20 kg. His current weight is 49.9 kg. A weight loss >10% in the past six months is considered severe (Morrison & Hark, 1996). DL’s height is 174.5 cm. A useful clinical calculation of healthy weight for height is the body mass index (BMI). Normal BMI for a young male is 19 to 26 (Morrison & Hark). This patient’s BMI is 16.4, indicating a significantly underweight patient.

**Diet History**
A diet history, especially a 24-hour recall, is useful in helping to establish some of the patient’s habits for food intake and tolerance to intake. The normal caloric intake for a young man of DL’s age, height, and weight should be in the range of 30 cal/kg, or approximately 1500 kCal/24 hrs, based on his current weight of 49.9 kg (Morrison & Hark, 1996). The diet history also helps to determine if the oral intake consists of sufficient carbohydrates, proteins, and fats. The 24-hour calorie count for DL indicated that the total caloric intake was approximately 300kCal/24 hrs, primarily carbohydrates. He described it as reflective of his usual intake over the past month, which falls significantly below what is required for satisfactory nutritional health.

**Intake and Output**
Accurate intake and output is another important consideration when determining the nutritional health of a patient. Estimated requirements for fluid intake range from 30 to 35 mL/kg or approximately 1700 mL/24 hrs (American Society for Parenteral & Enteral Nutrition [ASPEN], 1998; Morrison & Hark, 1996). Fluid intake is important, and DL estimated that he is able to tolerate approximately 1 liter from an assortment of fluids, such as water, Gatorade, and coffee. A 24-hour recall for fluid intake indicated that he fell far short of his base requirements of fluids.

Urinary output monitoring is a valuable measurement tool when determining hydration status. A reduced and concentrated output may indicate dehydration secondary to a reduced intake. When describing his urinary output, DL indicated that he urinates two to three times per day, and the color of the urine is dark amber. This finding correlates with his history of reduced fluid intake and his risk for dehydration.

**Medication Profile**
The medication profile, including naturopathic supplements, is an important part of the nutritional assessment. DL is currently prescribed several medications; however, because of his nausea and pain, he is unable to tolerate any of these. A side effect of many medications and supplements is GI upset. Often by adjusting the dose, the frequency of administration, or the time of administration, the side effect of the drug is minimized. The priority in medication management for DL is the reduction and possible elimination of the nausea. Medications, such as Imodium, Lomotil, and codeine, have all been utilized to slow transit and support nutrient and fluid reabsorption, reducing the number of bowel movements and decreasing the fluid (loose) consistency of the bowel movements (Ripamonti et al., 2001).

**Social History**
As mentioned before, DL is a young man, married with two small children. His wife is supportive and is the primary caregiver. She does not work outside of the home. The family is religious, and whereas this patient considers this life on earth important for him, he believes there is a better place after this life. DL’s faith offers him comfort; however, he struggles with leaving his wife and children, and for those reasons, he feels he must continue to “fight this disease.” The family is involved in a supportive church community and as a result, there is much activity within the home by the church family, providing both spiritual and emotional support. The extended family is also supportive and lives nearby. DL does not smoke, drink alcohol, or use illegal drugs.

Watson’s (1999) Theory of Caring insists that a holistic approach, including the social history of the patient, be considered, as it allows the interviewer to understand a more complete approach to the patients’ care. Details, such as the environment in which DL lives as well as his habits within that environment, help to provide a more complete and potentially more successful plan of care. Meal preparation time, for instance, is an important consideration for someone who is weak and in poor health. DL may feel well enough to prepare food, but too weak to eat it because of the energy expended in preparation. Because of his inability to work and resulting financial burden, his food choices may be limited. All of these are issues that must be considered when determining the nutritional intervention and support.

**Nutrition Support Options**
Although oral nutrition is the best and most natural way to ensure adequate nutrition, DL is unable to manage his nutri-
Orally (Barber & Fearon, 1998). It is important to remember that any amount of nutrition tolerated orally will help to support nutritional health, maintain the integrity of the bowel, and minimize gut villi atrophy (McCance & Huether, 2006). There is also a significant quality of life associated with oral intake (Ravasco, Monteiro-Grillo, & Camilo, 2003), so it will be very important for DL to continue to take some nutrition orally (Barber & Fearon, 1998).

**Enteral Nutrition**

Enteral nutrition is another option in nutrition support. An access device, such as a gastrostomy tube or jejunostomy tube, is required so that nutrition can be infused through the tube directly into the stomach or gut, bypassing the oral route (ASPEN, 1998). A nasogastric or nasojejunal tube may be used for short-term intervention to assess a patient’s tolerance to this type of nutrition support. A permanent skin-level device is often preferred if the enteral nutrition support is required for a long period of time. The nutrition support products range from predigested liquid, with minimal “work” required by the GI tract for absorption, to complex formulas where digestion is much the same as oral ingested foods. The predigested formula is beneficial for the patient who may have limited length of the GI tract. The complex formula may be indicated for patients experiencing difficult swallowing or other problems related to the ingestion of nutrition. Enteral nutrition support is contraindicated if there is a bowel obstruction; however, in some very specific cases where the exact location of the bowel obstruction is determined, there may be opportunity to “feed” below or above the obstruction.

**Parenteral Nutrition**

Parenteral nutrition is the intravenous nutrition supplementation required when the oral or enteral route for nutrition support is unavailable or impossible. Once the most preferred modes of nutrition support (oral and enteral) are ruled out, and the patient requires intervention to support nutritional health, PN must be explored. Parenteral nutrition is a complex nutrition support modality containing dextrose, amino acids, and fats in a specific combination to maintain solute compatibility. Parenteral nutrition can provide the patient with up to 100% of their nutritional requirements (ASPEN, 1998).

The delivery system for PN requires that the patient have a venous access, preferably a central venous access device (CVAD), through which the concentrated solution is infused (Canadian Intravenous Nurses Association [CINA], 1999). There are significant limitations to this therapy, and the decision to offer this modality of nutrition support must be considered in a risk-benefit fashion. The patient must have a central line inserted, a procedure requiring surgical or radiological support. The care of this line is especially important in that it can be a major site of infection (Bestul & Vandenbussche, 2003; Sutton, Garcea, Pollard, Berry, & Dennison, 2004).

Registered nurses require specific training for the care of the CVAD used in PN. The PN formula must be compatible, stable, and stored in a safe, refrigerated space at the patient’s home. The infusion time, ideally, is to support independence in the home (i.e., over 12 hours nightly) so that the patient’s quality of life is maximized. Remember, it is important that all other modes of nutrition support be ruled out prior to the consideration of PN.

**No Nutrition Support**

Finally, there is the option of no nutrition support intervention. This would mean that DL would maintain his current regime, which was minimal, and ultimately succumb to his disease or to starvation, whichever came first. The mere suggestion of no nutrition support begs a question of ethics as it relates to nutrition support in a cancer patient. It is incumbent on the team to engage patients and families in meaningful discussions (Casaretto, Kapo, & Caplan, 2005).

To ensure that the decisions surrounding nutrition support are appropriate, it is the responsibility of the team members to ensure that the patient and family have all of the available information about the certainties and the uncertainties of the interventions. The patient and the family must clearly understand that this is their decision to make (Levi, 2003). The fact that DL has been referred to the clinic suggests that his primary care physician and healthcare team would support nutrition intervention. As well, his desire for recommendations and support of his nutritional health, the continuance of chemotherapy, and the optimization of his quality of life speak to his desire to receive some form of nutrition support.

**Goals of Care Based on Watson’s Theory of Caring**

Clearly understanding the patient’s goal of care is important. DL is not disease free. He has great difficulty taking anything orally. He is in pain. He has a wife and two small children. He does not want to die. What are his immediate and intermediate goals, with both nutrition support and quality of life?

A holistic approach to DL’s care, his goal setting, and finally, his decisions regarding interventions and care must be explored. The nurse must have a deep appreciation of the patient’s definition of life; the quality of his life; and the things, actions, and events that make his life important. For example, if DL’s primary goal is to maintain his quality of life and secondarily to enhance the length of his life, then he will need to evaluate each recommendation in the light of how it affects his activities of daily living, the impact on his family, and to what end it will adjust the course of his therapy and, ultimately, his life.

When considering Watson’s (1999) Theory of Caring, it is helpful for the nurse to consider the curative factors described in Watson’s theory. The development of the helping-trust relationship requires that the nurse be willing to support whatever decision the patient makes. When the evidence in favor of intervention or, alternatively, against nutrition support is presented to the patient, he and his family will make a decision, weighing the evidence presented but also considering their values and belief system. The helping-trust relationship between the nurse and the patient supports the patient’s decision, regardless of what it is.

Physical healing is important; however, as dictated by Watson’s (1999) theory, without spiritual healing, optimal care and healing cannot be achieved. This patient is deeply religious, and the acknowledgement of phenomenological forces in his and his family’s lives, without criticism from the staff, allows for a supportive spiritual environment. To consider a single part of this care without respect of the holistic
approach would risk separation of the practice of nursing from the art of nursing. If separated, there may be some degree of success; however, this success will be far short of what might have been achieved for the patient who requires complex nutrition support.

Developing the Plan of Care

DL presents with limited options for nutrition support. The oral modality is not effective at this time. Enteral nutrition is also ruled out as a modality because DL's intermittent bowel obstruction, suggesting unpredictability in his bowel function and, thus, unpredictability for ongoing, consistent, nutrition support. The final option available is PN. While the risks for this modality are higher then the previous two modalities, it offers consistent nutrition support, which can start as soon as possible.

There are considerations with PN however. This is a complex therapy and requires ongoing team support. The team needs to be expert in the field of nutrition. Ongoing monitoring of DL's condition is essential. As his condition and prognosis is poor, it is imperative that the support, nutrition, or otherwise be determined so that no harm comes to the patient. It is essential for DL's quality of life for him to remain in his home and as such, it is imperative that the appropriate resources be mobilized in the community. These resources include his health insurance company, nurses, physicians, dietitian, case manager, pharmacists, medical supply companies, outpatient laboratories, and other support personnel. Even if all of these professional services are arranged, it is important to determine if the patient is well enough to be in his home. Equally important is whether this level of complex nutrition support in the home would enhance or, at a minimum, maintain DL's quality of life.

Consider the patient: DL is unable to manage his health issues and tolerate further chemotherapy treatments without an improvement in his health. He cannot resolve either of these if he is unable to receive some form of nutrition. That acknowledgement indicates that the decision to better manage DL's health requires nutrition. That said, it becomes imperative to support his nutritional requirements somehow. As previously outlined, the oral and enteral routes for nutrition support are not available. The only way to give DL nutrition support is through PN. In short, without PN, DL will die of starvation; in all likelihood, before he dies of his underlying disease. It is with this in mind that the decision is made to explore the PN support option.

This decision is a practical one. There are no guarantees that the nutrition will improve his health; this is an assumption. The literature in support of PN for the palliative patient is by no means clear—there is support for and against using this complex support in this population (Isenring, Capra, & Bauer, 2004; Pais-Ribeiro, 2004; Ravasco et al., 2003; Ripamonti et al., 2001). DL wants nutrition and in order to support his health, he requires a nutrition intervention.

The oncology team will not consider continued chemotherapy or possible radiation therapy without an improvement in his health. DL sees PN as a way to receive chemotherapy and thereby extend the length of his life. The challenge for the healthcare team is to support DL's decision. They are compelled to consider evidence-based literature and discuss it with the patient. Based on that information, DL will be able to make a practical decision reflecting his values and belief system. This is an example of Watson's (1999) theory at its best: an evidence-based decision reflective of a patient and nurse's commitment to holistic care. This is instillation of faith-hope; not a false hope, but a hope that the very best possible is being done (Alligood & Tomey, 2002).

Conclusion

The care of the complex GI patient is challenging. Nutrition and the gut are intricately linked. When there is extensive resection of the gut, the risk of malnutrition becomes significant. When considering an underlying disease process, such as cancer, the plan of care of the patient is complicated further. It is essential that any plans for the care of the complex GI patient take into consideration the patient's goals of care. In all decisions, evidence-based information must be available and the risks and benefits of any intervention must be considered and discussed with the patient.

DL commenced PN support and was able to gain two to three pounds a week for the next eight weeks. He continued his chemotherapy for two more treatments, each treatment three weeks apart. His care was managed and maintained in his home with the support of his wife, extended family, and community nursing. He spent quality time with his children, something that he “appreciated more than words could say.” DL's energy level improved and he was able to take a weekend trip to visit family during the course of therapy. Nutrition support did not change the course of his illness however; he succumbed to the cancer almost five months after the initiation of nutrition support.

In this case study, it is accepted that nutrition support would not cure the underlying disease. It did, however, support DL's physical body well enough for him to continue to receive chemotherapy, an intervention advocated by the oncology team because this met the goals of the client. Utilizing Watson's (1999) theory, the nurse was guided to care for the patient holistically by providing the therapy required and by blending the science and art of nursing practice. It was important to the patient and his family that they achieve their personal goals as DL's disease progressed. Application of Watson's Theory of Caring gave the nurse the opportunity to support the patient holistically and, in turn, the patient received the best possible care.

References


