Survey of clinical nutrition practices of Canadian gastroenterologists

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OBJECTIVE: Nutrition education is a required part of gastrointestinal training programs. The involvement of gastroenterologists in clinical nutrition once their training has been completed is unknown. The aim of the present study was to determine the practice pattern of gastroenterologists in clinical nutrition and their perceived adequacy of nutrition training during their gastroenterology (GI) fellowship.

METHODS: The Canadian Association of Gastroenterology mailed a survey to all of its 463 Canadian clinician members and 88 trainee members. Components of the survey included knowledge of nutritional assessment and total parenteral nutrition, involvement in a nutrition support service, physician involvement in nutritional assessment and nutrition support teams, obesity management, insertion of gastrostomy (G) tubes and management of tube-related complications, and adequacy of training in clinical nutrition.

RESULTS: Sixty per cent (n=279) of the Canadian Association of Gastroenterology clinicians and 38% (n=33) of the fellows responded. Of the clinicians, 80% were practicing adult gastroenterologists with the following demographics: those practicing full time in academic centres (42%), community practice (45%), completed training in the last 10 years (32%) and those that completed training in the United States (14%). Although only 6% had a primary focus of nutrition in their GI practices, 65% were involved in nutrition support (including total parenteral nutrition), 74% placed G tubes and 68% managed at least one of the major complications of G tube insertion. Respondents felt a gastroenterologist should be the physician’s consultant on nutrition support services (89%). Areas of potential inadequate training included nutritional assessment, indications for nutrition support, management of obesity and management of G tube-related complications. The majority of clinicians (67%) and trainees (73%) felt that nutrition training in their GI fellowship was underemphasized.

CONCLUSIONS: The majority of Canadian gastroenterologists are involved in nutrition support. However, this survey demonstrated that nutritional training is underemphasized in most training programs. It is important for GI fellowship programs to develop standardized nutrition training that prepares trainees for their practice.

Key Words: Gastroenterology; Nutrition training

Malnutrition is common in hospitalized patients and is often not recognized by physicians (1-5). Gastroenterologists are involved in clinical nutrition in several different ways:

1. Insertion of gastrostomy (G) tubes in patients to provide access for enteral nutrition;
2. Management of patients with gastrointestinal disorders (eg, inflammatory bowel disease, celiac disease and structural abnormalities of the gastrointestinal tract) associated with malnutrition; and
3. Involvement in the nutritional support of patients requiring long-term total parenteral nutrition (TPN) (eg, short-bowel syndrome).

Because of these factors, many gastroenterologists are involved in nutrition support teams and in the administration of TPN. Also, the basic nutritional physiology involves digestion and absorption.
Sixty per cent (n=279) of clinically active members of the CAG responded to the survey. More than 100% of the respondents marked more than one frequency. The sum of the responses to some of the questions was greater than 100%. The significance level was determined at P<0.05.

Demographics (Table 1)

The number of respondents practicing full time in academic medical centres was similar to that in community practices. The respondents were well-distributed according to time, from completion of the fellowship, with approximately one-third finishing training in the last 10 years, one-third finishing 10 to 20 years ago and one-third more than 20 years ago. The respondents were from all across Canada. The most common special interests included general GI, hepatology and endoscopy. A special interest in nutrition was reported by 6% (n=13) of the respondents. Of the trainees, most expressed special interest in GI, hepatology, pediatric gastroenterologists or members of other specialties (such as pathology or radiology) were not included in the final analysis.

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Involvement in clinical nutrition (Tables 2 and 3)

Two-thirds of the respondents (n=146) reported that they were involved in nutrition support, including TPN. There was no significant difference whether they finished their training in the last 10 years, 10 to 20 years ago or more than 20 years ago. The majority (n=138) reported that they could write TPN orders without a dietitian or a nurse clinician. Seventy-four per cent (n=167) were inserting percutaneous G tubes and 68% (n=154) were managing at least one of the major G tube-related complications, and adequacy of training in clinical nutrition. The mailing was sent out in November 2003 and the responses included in the present study were received until April 2004. The study protocol was approved by the Research Ethics Board of the University of Manitoba (Winnipeg, Manitoba).

Physician involvement in nutrition support teams

Fifty-three per cent (n=120) of the gastroenterologists across the country reported that there was a physician on the nutrition support team at the hospital at which they practiced. Almost all (89%, n=201) of the respondents felt that a gastroenterologist should be a consultant on the nutrition support team.
Obesity management
Ten per cent (n=23) of the respondents reported that they managed obesity in their practices. Six of the 10 respondents who listed themselves as hepatologists responded that they were involved in the management of obesity.

Nutritional assessment (Tables 4 and 5)
The majority of the respondents thought that a dietitian should be primarily responsible for nutritional assessment of hospitalized patients. Subjective global assessment was thought to be the best clinical indicator for nutritional assessment by most of the respondents. A significant minority thought that albumin or prealbumin were the best markers for the assessment nutritional status. Responses of the trainees were similar, with 70% considering subjective global assessment as the best marker for assessing a person's nutritional status and 12% albumin or prealbumin.

Initiation of nutrition support (Figure 2)
Approximately 60% of the respondents recommended initiation of nutrition support within seven to 10 days of minimal nutrition intake in a well-nourished individual, while one-third recommended nutrition support within five days.

Nutrition training (Table 6)
The majority of the respondents thought that training in nutrition was underemphasized in their fellowship programs. There was no significant difference in the responses of those who had finished training recently when compared with those who had finished their training some time ago. Response of the current GI trainees was not significantly different from the practicing physicians and the majority thought that the training in nutrition was underemphasized in their training program. Only one of the respondents, a practicing gastroenterologist, felt that the training in nutrition had been overemphasized in his/her training.

DISCUSSION
Our survey of the Canadian clinical gastroenterologists suggested that 89% of Canadian gastroenterologists believe that a gastroenterologist should be involved in clinical nutrition as a consultant on the nutrition support team. In spite of this, it was thought by most that the training in nutrition continues to be underemphasized during the fellowship programs.

Inadequate training in nutrition during GI fellowship programs may be due to a lack of gastroenterologists who are physician nutrition specialists. Gastroenterologists with expertise in nutrition are most important in providing leadership in the education of GI fellows. Currently, there is little opportunity for individuals with an interest in clinical nutrition to achieve additional training. As a result, the paucity of gastroenterologists, who are also clinical nutrition specialists, is likely to continue. In the United States, the number of clinical nutrition training programs for physicians to develop into physician nutrition specialists is declining (7). There is a need to develop clinical fellowships in nutrition for Canadian GI fellows.

Our survey demonstrated that there are still misunderstandings about the interpretation of visceral proteins and nutritional status. A significant number of gastroenterologists and GI trainees believe that albumin or prealbumin are the best markers for nutritional assessment. In hospitalized patients, these proteins are usually a reflection of underlying physiological injury as opposed to malnutrition (8). Albumin levels are predictors of morbidity and mortality, and therefore are important in overall patient...
In the United States. In Canada, there are few dedicated obesity programs. Gastroenterologists have a potentially important role in the management of obesity including presurgical selection, complications during postsurgery requiring endoscopic intervention, and malnutrition and vitamin deficiencies postsurgery. Nonalcoholic fatty liver disease is a common cause of abnormal liver enzymes and in many cases is related to underlying obesity. This is an entity that is frequently seen by gastroenterologists and at present the only known treatment is weight loss. For all of these reasons, obesity management has become an important topic for gastroenterologists and thus, training in some aspects of obesity should also be included in a GI fellowship program.

Self-reported nutrition proficiency has been previously positively correlated with the perceived quality of nutritional training (15). We suggest that training in nutrition in Canadian GI programs needs to be emphasized and standardized. This would best be accomplished by gastroenterologists who are physician nutrition specialists. For the practicing physicians, nutrition content should be included in CAG programs. The Canadian Society of Clinical Nutrition sponsors clinical nutrition symposia and many of these have been relevant to gastroenterologists. There is evidence that these courses can have an effect on clinical practice. In Latin America, a two-day course in clinical nutrition developed for physicians has been completed by over 8000 physicians in 16 Latin American countries (16). A recent survey (17) performed six months after the participants had completed the course showed that even such a short course was effective in changing the nutritional management practices of physicians. Similar courses and symposia have also been recently organized by the American Gastroenterological Association in the United States. At present, training in clinical nutrition is perceived to be inadequate in most Canadian GI fellowship programs. The majority of Canadian gastroenterologists are currently involved in clinical nutrition in their practice and feel this is an important role. Training of clinical nutrition in GI training programs needs to be relevant and standardized to better prepare future gastroenterologists for clinical and academic practice.

### REFERENCES
