

A Needs Assessment for Health Care Professionals in the Detection, Intervention and Interdisciplinary Treatment of Bulimia Nervosa Using Focus Group Methodology

Anne Hague, RDH, MS, PhD, RD; Joann Kovacich, PhD

The primary author is affiliated with the College of Dentistry, Section of Primary Care in Dental Hygiene at The Ohio State University; the secondary author is affiliated with the Department of Sociology and Anthropology at the Rochester Institute of Technology. **Contact author:** Anne Hague, 305 West 12th Avenue, PO Box 182357, Columbus, Ohio 43218-2357; Phone: 614-247-6961; Fax: 614-292-8013; Email: hague.23@osu.edu

Submitted April 18, 2007; Revised and Accepted June 20, 2007

Abstract

The incidence of bulimia nervosa has increased significantly in the second half of the twentieth century and its occurrence is more than twice that of anorexia nervosa. Due to its complex nature, successful treatment requires an interdisciplinary approach with nutritional, psychological, medical, pharmacological and dental therapies. Despite bulimia nervosa's growing incidence, many health care professionals fail to detect the condition in their patients. In addition, professionals lack adequate training in interdisciplinary health care delivery. As part of a larger federally funded Interdisciplinary Health Care for Rural Areas Project, the purpose of this study was to conduct focus groups with patients' and providers' to examine professional skill needs in four domains including the detection, intervention, assessment and interdisciplinary treatment of bulimia nervosa. Based on thematic analysis of transcripts from four focus groups, both the patient and professional participants indicated a need for more professional training in all four domains. The professional participants especially lacked an understanding of the interdisciplinary health care model. In addition, participants indicated interest in the use of online case based learning opportunities when available to advance their knowledge about bulimia nervosa.

Key words: *Bulimia Nervosa, Interdisciplinary Health Care, Skill Assessment, Online Continuing Education, Focus Groups*

Introduction

Bulimia nervosa is an eating disorder characterized by recurrent episodes of binge eating and inappropriate compensatory methods to prevent weight gain. Individuals with bulimia nervosa have a psychopathological fear of weight gain in which self-evaluation is overly influenced by a thin, yet culturally desirable, body shape.^{1,2} This condition primarily affects girls and young women and is associated with significant morbidity and mortality.³ The prevalence of bulimia nervosa among US adult women is estimated at 1.1%-2.8%⁴ with approximately 3% to 10% of US adolescent and college women afflicted.⁵ The incidence of bulimia has increased significantly in the second half of the twentieth century^{4,6} and its occurrence is more than twice that of anorexia nervosa.⁴

Despite its growing incidence, many health care professionals fail to detect bulimia nervosa in their patients due to inadequate training. In fact, the diagnosis is frequently missed by many portal of entry professionals such as primary care physicians^{7,8} obstetric gynecology physicians⁸ and oral health professionals.⁹ The lack of training makes detection especially difficult since patients commonly present with nonspecific complaints, have non-specific laboratory abnormalities,¹⁰ appear normal in body weight and frequently deny their disordered behavior due to feelings of guilt and shame.¹¹ Failure to recognize early signs of eating disorders is a grave concern since delayed treatment is associated with increased morbidity and mortality.^{12,13}

Treatment for bulimia nervosa is often long and difficult, with the majority of patients only reducing their symptoms over a ten year period.¹⁴ Due to its complex nature, successful treatment requires an interdisciplinary approach with nutritional, psychological, medical, pharmacological and dental therapies.^{2,15,16} The interdisciplinary model of care "involves a stable team where each member makes her/his own contribution that will in turn enrich and become enriched by contributions from the group, whose members will try to find a common language."¹⁷ Treatment success is dependent upon the cohesion, consistency and shared responsibilities of the team.¹⁷ Unfortunately, a comprehensive interdisciplinary model is not used frequently in the treatment of bulimia nervosa. Instead, professionals often use a fragmented multidisciplinary approach or choose not to refer their patients all together.^{7,18}

The purpose of this study was to conduct focus groups with patients and providers to examine professional skill needs in the detection, intervention, assessment and interdisciplinary treatment of bulimia nervosa and interest in online learning as a medium for continuing education. The focus group methodology and outcomes will be discussed.

Methodology

The focus group discussions were based on the principles of Krueger & Casey.¹⁹ Focus groups are an effective method to generate ideas and explore how groups of individuals feel or think about an issue. The focus group can be particularly useful in needs assessment since participants can compare experiences and clarify their perspectives. The spontaneous interaction of focus group members can also produce insights that can not be readily obtained from other research methods.¹⁹

The focus group objectives were to: 1) determine the professionals' knowledge regarding the recognition of physical signs/symptoms associated with bulimia nervosa, 2) identify intervention techniques, treatment approach and referral systems used among professionals, 3) examine the professionals' perspective regarding an interdisciplinary approach to patient assessment and treatment for bulimia nervosa, 4) explore the use of the Internet as a medium to deliver educational materials and 5) determine the patients' perspective regarding detection, intervention and treatment of bulimia nervosa. The request to conduct research with human subjects was approved by the university Institutional Review Board.

Recruitment

Participants were recruited from the Bangor area, Maine to participate in four separate focus groups. Health care professionals who were most likely to have initial contact with patients with bulimia nervosa were recruited to participate in the first two focus groups. These portal of entry professionals were identified as nurse practitioners, school nurses, physicians, physician assistants, social workers, registered dietitians, psychologists, chiropractors, dentists and dental hygienists. A professional from each respective discipline was recruited to participate in the focus groups. Those professionals with several years experience treating patients with eating disorders participated in the first focus group and were recruited from referral lists obtained from area treatment centers. Those professionals with little experience treating patients with eating disorders (i.e. ≤ 8 patients) participated in the second focus group

and were recruited from the Nynex Yellow Pages. These two discussions were conducted separately to obtain greater insight into the professionals' understanding of bulimia nervosa relative to their professional experience. Individuals who were diagnosed with bulimia nervosa were recruited to participate in the last two focus groups. Participants for the third focus group were recruited from a university campus via advertisements in a campus newspaper. Participants for the fourth focus group were recruited from support groups at an area treatment facility. Gift certificates were provided for each participant as an incentive and a token of appreciation.

Procedures

Three focus groups were conducted at The University of Maine, Orono campus. For the participants' convenience, the last focus group was held at an area treatment center for eating disorders where the participants' support groups were held regularly. The participants were contacted by phone the day before the scheduled focus group to confirm participation. Mailings were sent to the health care professionals one week before the scheduled interviews to provide appropriate directions. Mailings were not sent to the patient participants since directions were not needed. Each focus group consisted of five to 10 participants. The focus group sessions were held approximately two weeks apart and were 90 to 120 minutes in length. Refreshments and name tags were provided. Prior to the start of each focus group, the participants read and signed a consent form confirming their voluntary participation. The procedures and purpose of the discussion were explained to the participants and questions were answered by the primary moderator. The first author was the primary moderator for each focus group. A second moderator was also present at each session to audiotape the discussions and write observational notes.

The health care professionals were asked to provide feedback on issues pertaining to the detection, intervention, assessment and treatment of patients with bulimia nervosa as well as use of the Internet as a medium to deliver education for professional development. Selected information about bulimia nervosa, demographic data and perceptions regarding health informatics were obtained via an 18-item multiple choice response questionnaire administered at the beginning of the focus group sessions (Appendix A). Individuals who had been diagnosed with bulimia nervosa were asked to discuss experiences related to effective intervention techniques and treatment, and to discuss their

perception regarding the need for additional training among professionals. A structured moderator's guide was developed for the professional and patient focus groups (Appendix B). The guide was developed based on input from a multidisciplinary research team and the current literature. Focus group questions were tested for face validity by a panel of multidisciplinary health care experts and a third party health care consultant company specializing in focus group analysis. Minor changes were made to the moderator's guide to improve clarity of point. Both the panel and the consultant company received compensation via the project grant.

Data Analyses

The focus group interviews were audio taped and transcribed verbatim by an experienced transcriptionist. The participant names were replaced by their respective discipline (i.e. professionals) and numbers (i.e. patients) to maintain confidentiality. The transcripts were reviewed by both facilitators to confirm accuracy of the transcribed statements. The focus group data were evaluated via thematic analysis by multidisciplinary health care experts and a third party health care consultant company specializing in focus group analysis. The transcripts were coded for themes and the 18-item questionnaire was analyzed via measures of central tendency (i.e. mode).

Results

Health care providers (n=19) participated in the first two focus groups with four males in the first group, three males in the second group and six females in both groups. The first focus group (n=10) included a psychologist, chiropractor, dental hygienist, nurse, social worker, dietitian, physician, physician assistant, nurse practitioner and a dentist. Based on data from the questionnaire, majority of professionals in the first group were 36 to 55 years of age, practiced for at least 6 to 10 years and treated a minimum of 14 to 18 patients with bulimia nervosa. The same disciplines were represented in the second focus group (n=9) with the exception of a physician who was unable to attend at the last minute. The majority of professionals in the second group were 36 to 45 years of age, practiced for at least 11 to 15 years and treated a maximum of 4 to 8 patients with bulimia nervosa. The majority of professionals practiced in a non-rural area and did not think the incidence of bulimia is influenced by a rural or urban environment. Adult females (n=11) who completed treatment for bulimia nervosa participated in the last two focus groups. Undergraduate students from The University of Maine in Orono (n=5) participated in

the third focus group and participants from a support group for eating disorders (n=6) from an area treatment center participated in the last focus group.

The themes identified from the focus group data included a need for health care professionals to: 1) have a deeper understanding of bulimia nervosa, 2) receive more education/training specifically in the areas of detection, assessment, intervention and interdisciplinary treatment of bulimia nervosa and 3) use health informatics for professional development.

Detection

Although the experienced professionals were more knowledgeable about signs/symptoms associated with bulimia nervosa than the non-experienced professionals, the majority of participants (i.e. both patients and professionals) believed that health care providers need more training/education in the detection of bulimia nervosa. The following comments were shared by a dental hygienist and dentist (first focus group), respectively, and were representative of most of the participants in the professional groups.

....."that's kind of why I was very interested in coming [to the focus group] because I want to know 'What do I do? What is the right way? Or should I call? or How can I get help for the patient? Will they let me help them?'"

...."I can solve the dental problems but that's not curing the problem, that's curing the symptoms and bulimia is just a symptom of something else. That's why I would have no idea what to do."

Both experienced and inexperienced professionals felt it was difficult to detect bulimia nervosa since the patient often denies the condition and presents with a normal physical appearance. A chiropractor (second focus group) noted:

".....I assume maybe in the course of my practice there have been some [patients with bulimia nervosa] but again he [another participant] mentioned that these people are of normal weight range, I would just assume that they would have been thin so I probably missed a few....."

Although some patients believed the condition would not be difficult to detect if professionals were more knowledgeable, many of the patients believed the condition is hard to detect when the behaviors/symptoms are intentionally disguised or if

the patient lies about the condition. Patient participant #1 (third focus group) noted:

"I think that being bulimic is harder to detect [than anorexia], it is harder to detect to an extent, but it's also easier to hide. Because, like I said, you can be a normal weight and you look healthy and you look fine but you're throwing up 5 times a day and nobody knows it."

This observation was supported by another patient participant:

"I think it's very hard to detect, especially if you lie about it. I lied for years. I constantly had pneumonia, bronchitis, strep throat, things like that, that were obviously because my immune system was very low. I had mono, I had so many things that they didn't know what to do. They never thought of checking for an eating disorder." (patient participant #3, fourth focus group).

Many professionals believed the dental professional (i.e. dentist or dental hygienist) or school professional is likely to be the first professional to encounter a patient with bulimia nervosa due to the oral/dental signs/symptoms associated with bulimia nervosa and the developmental nature of the condition, respectively. The following comments were shared by a dentist and dental hygienist (second focus group), respectively, and were representative of most of the participants in the professional groups:

"I think the hygienist [is likely to encounter a patient with bulimia nervosa first] because they see the patient at least twice a year so they would be more likely to see it than I would actually."

"I think the school nurse and counselors [would be most likely to encounter someone with bulimia nervosa] and I think those types would possibly be more than even the dentist because not everyone goes to the dentist, unfortunately, so we're missing out."

Intervention

The patients indicated it is very important for the intervening professional to exhibit support and empathy. Although some professionals believed that scare tactics can be effective in convincing a patient to seek treatment, the majority of patients believed that scare tactics do not work because the patient is in denial.

“A lot of professionals, if you don’t go on the psychotherapy and you just focus on the eating, they do try to scare you into it, into getting better. ‘You might choke, you might do this, you might do that.’ And you’re like, that doesn’t work at all.” (patient participant #2, third focus group).

Rather than use scare tactics, the patients stressed the importance of a direct and factual approach by the professional in order to motivate the patient to pursue treatment. A registered nurse (first focus group) noted:

“I remember one young woman who said; ‘I wish somebody had come right out and asked me if I was vomiting because that’s what I was hoping that they would do in all of those visits with my sore throats.’ ”

This observation was supported by another patient participant:

“It was like I was dying and all the scare tactics in the world wouldn’t work. I think that health professionals need to tell you just the facts. Don’t try to punish you or threaten or shame you in any way.” (patient participant #4, third focus group).

The patients also emphasized the importance of maintaining a sense of control during the intervention. For instance, the patient should choose when and how to inform their parents rather than the intervening professional.

“...the best way, obviously, would be the child getting confronted and they being able to tell the parents themselves. Just because it’s the control thing.” (patient participant #3, third focus group).

All participants expressed the importance of a trusting relationship between the patient and professional and indicated that the patient must first accept the condition and the need for treatment in order for the intervention to be successful.

“There’s an extent to which, you’ve got this big intervention thing, or even if someone pushed me on it and I’m just not ready to deal with it, it’s going to shut me off from treatment.” (patient participant #2, third focus group).

Assessment and Referral

Although all participants believed that bulimia nervosa requires multidisciplinary treatment, both experienced and inexperienced professionals were

uncertain of the role that other professionals have in the clinical assessment of bulimia nervosa. As noted by a dental hygienist (second focus group):

“A lot of times the patients aren’t aware that you can tell a lot by just looking in their mouth. Maybe we’re the first step, but I don’t know what the second step is. But if we can gain their respect and confidence, maybe we could be the first link in the long chain.”

The professionals were not only uncertain of each other’s role in the assessment of bulimia nervosa, but also lacked agreement regarding when or which professional to refer to. As noted by a chiropractor (first focus group):

“Once we’ve gotten those handled [immediate dangers] then I might counsel them on some of the different approaches that we can use in a chiropractic office, be it acupuncture, diet/nutrition counseling but I also in relation to this question, if I look at this person and I say ‘Gee, they’re not complying with what I am saying and I realize that they need more than the nutritional counseling that I have available, then I might refer to a nutritionist specifically for that aspect.’ ”

Many professionals also had no referral protocol because they believed the condition was not commonly encountered. A dentist (second focus group) noted:

“I don’t have a protocol only because I see it so infrequent. It’s one of those things that I would just be dealing with it on a case by case basis based on that individual because it’s just not something I see, and maybe it’s just the population that I’m working with.”

Interdisciplinary Treatment

Although the participants lacked agreement on which professional to see for initial treatment, all of the participants agreed that treatment requires an interdisciplinary team including the patient, physician, psychologist, social worker, dietitian, and a dental professional. Most of the participants believed that such an approach is more efficient than non-coordinated multidisciplinary treatment. The following comments were shared by two patients and a professional participant, respectively, and were representative of most of the participants:

“I have a psychiatrist, a psychologist, a regular physician, I have an after-care worker who makes

sure I'm taking my medication, makes sure there's food in the house. And they all communicate. That's very important, at least in my recovery it has been." (patient participant #3, fourth focus group).

"It would be nice to not have a meeting with every different professional and having each professional try to call each other when you could just sit down and be like, 'This is what's going on.' And put it all out on the table and let everyone look through it together, rather than having everyone do it on their own." (patient participant #1, fourth focus group).

"I wish we had more ways to do team meetings where we really could talk together as an interdisciplinary rather than just writing notes and sending information back and forth by phone or fax. That's just not as effective as it could be." (dietitian, first focus group).

Inclusion of the patient as part of the treatment team was strongly supported by all participants. The patients believed it was important to have a "voice" in the decision making process and the professionals felt it was important that the patient take responsibility for their treatment needs.

"It's important to make sure that they [the patient] own a piece of the responsibility as well and in some instances it seems that often times they would like to hand it over and it's important to involve them and make sure that they understand that they are a part of the team as well." (nurse practitioner, first focus group).

Although the patients believed that the underlying problem for the eating disorder must be treated via psychotherapy, the patients agreed that there was no universal treatment plan that would work in all cases; in other words treatment plans needed to be context specific and tailored to each individual. For example, some patients do well with rules and regulations and others do not. The patients also stressed the importance that professionals need to have experience treating eating disorders since several patients noted that physicians, in particular, often do not know how to treat eating disorders. Patient participant #4 (third focus group) noted:

"I think physicians are ignorant to the fact. I think they're just ignorant to eating disorders in general, especially bulimia."

All of the patients believed that the health care providers in the team must be supportive and that the

patient/professional relationship must be based on trust. Patient participant #4 (fourth focus group) noted:

"I think one of the most, in my opinion, is just knowing that somebody is there that is going to support you or is not going to tell you what you can and cannot eat, it's a lot about control. You don't want anybody to control you. You want somebody to be there that's going to be supportive." "I have a psychiatrist right now that I trust and she trusts me. I think before you can get anything accomplished you need trust because you'll do a whole bunch of work and there won't be any trust there and it's down the tubes."

The participants, especially the patients, strongly believed that the patient's family and friends need to be involved in the treatment process.

"If you're not getting the support, whether it be from a boyfriend or parent or your friends I don't think you're going to change." (patient participant #1, third focus group).

"One of the things that I need for my recovery, I need more support from my family. It's like my problem, they don't want to deal with it. That hurts me a lot because I'm fighting this alone" (patient participant #2, fourth focus group).

Internet

Although the majority of professionals had not used the Internet as a medium for continuing education, they believed the Internet would be advantageous particularly in regards to convenience, ease and cost effectiveness since time is not spent traveling to the site.

"...we have our nursing institute every summer where nurses come from all over the country and they are 'it' in their school with very little opportunity to get away to conferences and I think these kinds [web-based] of programs would be really beneficial to some of them"..... (registered nurse, first focus group).

"...for each of our professions, [there are] so many things to keep up with, that to take the time to go to a conference to learn this for one or two cases that may pop up during the course of a year, where as somebody comes in your door and you think 'Oh!' and then you tap into the Internet and you can get some information, that's incredibly invaluable,

particularly in a rural area where you don't have that kind of accessibility or money to just hop to Boston to a conference or something." (psychologist, second focus group).

Discussion

Numerous studies have demonstrated inadequate training in eating disorders among health care professionals. In a recent survey of 129 experienced physicians, most rated their quality of undergraduate and postgraduate training as poor.²⁰ In another survey of 27 accredited dental programs and 137 accredited dental hygiene programs, the majority of programs dedicated less than one hour of teaching to eating disorders and many other programs (i.e. 41% dental and 15% dental hygiene) reported no inclusion of eating disorders in their curriculum.²¹ The present study results confirm this need for more professional training in bulimia nervosa, specifically in the areas of detection, intervention, assessment and interdisciplinary treatment. Both the professional and patient participants shared this perspective.

Although the professional participants believed that bulimia nervosa is difficult to detect, some patients believed it would not be difficult if professionals knew what to look for. A lack of knowledge regarding common signs/symptoms associated with bulimia nervosa was evident among several professional participants. For instance, some professionals were unaware that individuals with bulimia nervosa often present with a normal body weight. These findings are consistent with other studies in which dental and medical practitioners did not know that a normal body weight is characteristic of bulimia nervosa.^{9,22,23}

Although some professional participants felt that scare tactics were effective in motivating a patient to seek help, the patients stressed the importance of a direct and factual approach. For instance, one patient participant expressed that she wished a professional had just asked her if she was vomiting when she presented with an associated symptom. Unfortunately, many professionals are uncomfortable confronting patients about a possible eating disorder.^{18,23,24} Early detection and treatment is vital since it results in a more favorable prognosis, and may also help prevent the development of a more serious eating disorder in as many as two-thirds of patients.³ Role-playing appropriate intervention techniques via case studies may help professionals feel more comfortable and subsequently may facilitate earlier interventions and treatment when

needed.²⁰ Those professionals with minimal experience lacked a general understanding of patient management and referral. In fact, some professionals had no referral protocol. For instance, one of the professionals (dentist) noted that a referral system was not needed because he sees a patient with bulimia nervosa so infrequently. However, it is probable that the noted "infrequency" is likely to be attributed to failed detection rather than a low incidence. Investigators have found that professionals are often unaware of their failure to detect bulimia nervosa. In a survey of 240 Ohio physicians, one-third of the participants had never diagnosed the condition and almost two-thirds of the physicians had no patients with bulimia in their practice.⁷ Based on the prevalence of bulimia, the investigators determined that almost all physicians should have patients with bulimia. Furthermore, not all of the physicians who treated patients referred them for appropriate interdisciplinary care and those physicians who saw the most patients with bulimia nervosa were least likely to refer care.

Based on the current results, most of the professional participants lacked an understanding of the interdisciplinary health care model. Many of the professional participants were uncertain of the role each discipline played in the assessment and treatment of bulimia nervosa and more specifically, how interdisciplinary treatment is coordinated. Educating professionals about the respective roles of the team may help facilitate a greater understanding and use of the interdisciplinary health care model. The interdisciplinary model not only improves coordination of patient services but results in improved quality and cost-effectiveness of health care delivery.^{25,26}

Case-based educational programs, and other forms of continuing education, are viewed by providers as necessary and vital in helping them understand the diagnosis, management planning and resources/services available for bulimia nervosa.²⁷ As noted by Boule & McSherry,²⁰ "Developing case-based educational programs to address these issues could effectively improve awareness of eating disorders, lead to earlier diagnosis and ultimately improve prognosis and management." The professional participants were very receptive to the development of a case-based learning module for the purpose of skill development. Outcomes from these focus groups will be used to develop a hypothetical case-based educational module. The module will be developed to improve the detection, intervention and interdisciplinary assessment/treatment of bulimia

nervosa among health care professionals, as well as improve the professional's understanding of the patient and the involvement of the patient's family during various aspects of treatment.

Since the professional participants considered the Internet a useful and convenient medium to deliver continuing education, the case study will be developed using a web-based medium. Computer-mediated communication (CMC) was especially valued by the professional participants for providing cost-effective, easily accessible, current information, without the added cost of traveling to courses and the interruption of patient care services. These attributes were considered especially important for those professionals who reside in rural areas where it is often more difficult to travel and take time away from patient care responsibilities. Such findings are consistent with other researchers.^{28,29} Currently, the Internet is the most commonly used resource for health information³⁰ and it is found to be particularly useful to health care providers.³¹ Given the results of this study, it is hypothesized that professionals would utilize an online learning module for professional development and that their level of awareness and knowledge of bulimia nervosa would increase as a result of their participation, particularly since CMC promotes interactive learning, encourages critical thinking and allows participants to determine their own learning pace.³² Further research and evaluation is needed to test these hypotheses, as well as examine the effect of such professional continuing education programs on the quality of patient care.

Acknowledgements

This project was supported by Grant No. 2 D36 AH11000 from the Department of Health and Human Services (DHHS), Public Health Services (PHS), Health Resources and Services Administration (HRSA), and the Bureau of Health Professions (BHP).

References

- American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed., text revision. Washington, DC: American Psychiatric Association; 2000.
- Henry BW, Ozier AD. Position of the American Dietetic Association: Nutrition intervention in the treatment of anorexia nervosa, bulimia nervosa, and other eating disorders. *J Am Dent Assoc*. 2006; 106(12):2073-2082.
- Dichter JR, Cohen J, Connolly PM. Bulimia nervosa: knowledge, awareness, and skill levels among advanced practice nurses. *J Am Acad Nurse Pract*. 2002; 14(6):269-275.
- Hudson JI, Hiripi E, Pope HG, Kessler RC. The prevalence and correlates of eating disorders in the national comorbidity survey replication. *Biol Psychiatry*. 2007; 61:348-358.
- Walsh JME, Wheat ME, Freund K. Detection, evaluation, and treatment of eating disorders. *J Gen Intern Med*. 2000;15:577-590.
- Hoek HW, vanHoeken D. Review of the prevalence and incidence of eating disorders. *Int J Eat Disord*. 2003;34:383-396.
- Stager Bursten M, Gabel LL, Brose JA, Monk JS. Detecting and treating bulimia nervosa: how involved are family physicians? *J Am Board Fam Pract*. 1996; 9(4):241-248.
- Johnson JG, Spitzer RL, Williams JBW. Health problems, impairment and illnesses associated with bulimia nervosa and binge eating disorder among primary care and obstetric gynaecology patients. *Psychol Med*. 2001; 31:1455-1466.
- DeBate RD, Tedesco LA, Kerschbaum WE. Knowledge of oral and physical manifestations of anorexia and bulimia nervosa among dentists and dental hygienists. *J Dent Educ*. 2005; 69(3):346-354.
- Freund KM, Graham SM, Lesky LG, Moskowitz MA. Detection of bulimia in a primary care setting. *J Gen Intern Med*. 1993; 8:236-242.
- Gurenlian JA. Eating Disorders. *J Dent Hyg*. 2002; 76(3):219-234.
- Becker AE, Franko DL, Nussbaum K, Hertzog DB. Secondary prevention for

- eating disorders: the impact of education, screening, and referral in a college-based screening program. *Int J Eat Disord.* 2004; 36(2):157-162.
13. Johnson CJ. Current challenges in recognizing and treating eating disorders. *Minn Med.* 2003; 86(11):34-39.
 14. Robinson PH. Review article: recognition and treatment of eating disorders in primary and secondary care. *Aliment Pharmacol Ther.* 2000; 14:367-377.
 15. Stewart TM, Williamson DA. Multidisciplinary treatment of eating disorders – part 2. *Behav Modif.* 2004; 28(6):831-853.
 16. American Psychiatric Association. *Practice Guideline for the Treatment of Patients with Eating Disorders* (third edition). Washington, DC: American Psychiatric Association; 2006.
 17. Garcia de Amusquibar AM. Interdisciplinary team for the treatment of eating disorders. *Eat Weight Disord.* 2000; 5:223-227.
 18. DeBate RD, Tedesco L. Increasing dentists' capacity for secondary prevention of eating disorders: identification of training, network, and professional contingencies. *J Dent Educ.* 2006; 70(10):1066-1075.
 19. Kruegar RA, Casey MA. *Focus Groups A Practical Guide for Applied Research.* 3rd ed. Thousand Oaks, CA: Sage Publications; 2000.
 20. Boule CJ, McSherry JA. Patients with eating disorders; how well are family physicians managing them? *Can Fam Physician.* 2002; 48:1807-1813.
 21. Gross KBW, Mayberry WE, Feil PH, Cowan RD. Bulimia and anorexia nervosa in dental and dental hygiene curricula. *J Dent Educ.* 1990; 54(3):210-212.
 22. Morgan, JF. Eating disorders and gynecology: knowledge and attitudes among clinicians. *Acta Obstet Gynecol Scand.* 1999; 78:233-239.
 23. DiGiacchino RF, Keenan MF, Sargent R. Assessment of dental practitioners in the secondary and tertiary prevention of eating disorders. *Eat Behav.* 2000; 1:79-91.
 24. Burkhart N, Roberts M, Alexander M, Dodds A. Communicating effectively with patients suspected of having bulimia nervosa. *J Am Dent Assoc.* 2005;136:1130-1137.
 25. Drinka TJK, Clark PG. *Health Care Teamwork: Interdisciplinary Practice & Teaching.* Westport, CT: Greenwood Publishing Group; 2000.
 26. Lecca PJ, McNeil JS. *Interdisciplinary Team Practice: Issues and Trends.* New York, NY: Praeger;1976.
 27. Clarke DE, Polimeni-Walker I. Treating individuals with eating disorders in family practice: A needs assessment. *Eat Disord.* 2004;12:293-301.
 28. Kovacich J, Arndt J, Clark N. New technologies in distance education to increase access to rural health care. *J Health Educ.* 1998; 29(5):S41-47.
 29. Vroman K, Kovacich J. Computer-mediated interdisciplinary teams: theory and reality. *J Interprof Care.* 2002;16(2):159-170.
 30. Kouris-Blazos A, Setter TL, Wahlqvist ML. Nutrition and health informatics. *Nutr Res.* 2001; 21:269-278.
 31. Telleen S, Martin E. Improving information access for public health professionals. *J Med Syst.* 2002; 26(6):529-543.
 32. Kovacich J, Cook C, Pelletier V, Weaver S. Building interdisciplinary teams on-line in rural health care. In Knight P, ed. In: *Masterclass: Curriculum, Learning and Teaching at Master's Level.* UK: Cassell Publications;1997:137-148.

APPENDIX A**Health Care Professional Questionnaire**

This questionnaire will take 10 minutes or less to complete. Please answer and/or identify the following questions.

1) Age (years): <25 26-35 36-45 46-55 56-65 >65

2) Gender: Female Male

3) Discipline: _____

4) Title: _____

5) Credential(s): _____

6) Number of years practicing in your chosen profession:

 < 1 2-5 6-10 11-15 16-20 21-25 > 25

7) Do you practice in a rural area (population less than 2,500)? Yes No

8) Approximate number of patients/clients with bulimia nervosa that you have worked with on a professional basis:

 < 3 4-8 9-13 14-18 19-23 24-28 >28

9) Do you think treatment for bulimia nervosa requires a multidisciplinary approach?

 Yes No

10) Do you refer patients with bulimia nervosa to other health care professionals?

 Yes No

11) As a professional, do you think bulimia nervosa is difficult to detect?

 Yes No

12) By virtue of the profession, which type of health professional do you think is most likely to detect bulimia nervosa? (Please rank with #1 as most likely and #10 as least likely).

- Chiropractor _____
- Dental Hygienist _____
- Dentist _____
- Dietitian _____
- Nurse Practitioner _____
- Physician _____
- Physician Assistants _____
- Psychologist _____
- School Nurse _____
- Social Worker _____

13) Which health professional do you think has the greatest amount of contact with undiagnosed bulimics? _____

14) Do you think environment (rural versus urban) influences the incidence of bulimia nervosa?

Yes No

15) Do you think you would benefit from an educational program designed to improve detection of bulimia nervosa?

Yes No

16) How many times have you participated in professional continuing education courses via the Internet?

Never 1-3 4-6 7-9 >10

17) Do you think it is advantageous to participate in continuing education courses via the Internet?

Yes No

18) Do you think computer-mediated communication (CMC) can improve the quality and cost-effectiveness of rural health care delivery?

Yes No

Thank you for completing this questionnaire.

APPENDIX B

Interview Guides

The health care provider:

What signs/symptoms would make you suspect a patient/client has bulimia nervosa?

Why do you think it may be challenging to detect bulimia nervosa?

Which health care professionals are more likely to detect bulimia nervosa and why?

How do you initiate intervention with a patient who you suspect may have bulimia nervosa?

How do you treat/care for bulimia nervosa as a professional within your chosen field?

How do you determine when it is appropriate to refer a patient with possible bulimia to another professional?

How do you determine which health care professional to refer to?

How do you feel about using an interdisciplinary approach in the treatment of bulimia nervosa?

How do you feel about participating in professional continuing education programs via the Internet?

The patient:

What do you perceive as the most effective form of treatment for bulimia nervosa?

What do you perceive as the least effective form of treatment for bulimia nervosa?

What type of health care provider should an individual with bulimia nervosa initially contact for treatment?

Do you think treatment requires an interdisciplinary approach?

Do you think professionals have a difficult time detecting bulimia nervosa? Why or why not?

If you had a friend who you thought had bulimia, what type of professional would you recommend that he/she speak with?

What do you think would be the most effective treatment intervention approach by a health care professional?