Eating Disorders: Assessment of Knowledge on a Dentist's Sample

Aurea Lumbau*, Giovanni Spano, Silvio Mario Meloni, Francesca Sanna and Pietrina Francesca Lugliè

Dipartimento di Scienze Chirurgiche, Microchirurgiche e Mediche, University of Sassari, Clinica Odontontoiatrica, Sassari, Italy

Abstract: *Aim*: To analyze the knowledge and experience of dentists with private practices in the Sassari district with regard to eating disorders and clinical stomatology manifestations.

Methods: A questionnaire to investigate dentists' knowledge and experience was created and submitted to a random sample of dentists. Data were collected and analysed using the Stata SE 10 software.

Results: In total, 150 dentists were enrolled (a representative sample). After questionnaire evaluation, the following results were obtained: 80.7% (121) of the participants had a degree in dentistry and 19.3% (29) had degrees in medicine with a dentistry master of science diploma, 46% (69) were males and 54% (81) were females, their age range was 25-62 (mean, 36.1) years, and the average work experience was 11.5 (range, 1-36) years. More than 90% of the participants defined eating disorders only as bulimia and anorexia.

Of the dentists, 77.3% (116) correctly identified Western populations as the most affected, whereas 52.7% identified only whites as the most affected people. In total, 80% of the dentists recognised dental erosion and abrasion as typical oral manifestations. Only 62% stated that salivary pH decreases in these conditions, and 63% did not recognise parotid gland tumefaction as a clinical sign.

Regarding operator experience, 60.7% (91 dentists) had clinical experience of patients with eating disorders: 43.9% of them had made diagnoses from oral manifestations, 51.3% (77) were not able to treat these patients, and 69.3% (104) would refer patients to specialized centres for treatment. Moreover, 119 (79.3%) considered that a dental hygienist was a valid collaborator for the treatment of oral cavity manifestations.

Regarding prophylaxis, 16.7% (25) suggested fluoride prophylaxis and 21.3% (32) oral hygiene education. Only 1.3% indicated the use of bicarbonate to change salivary pH values, suggested conservative or prosthetic restorations, suggested the use of saliva substitutes, or the sealing of permanent teeth.

Difficulties in clinically treating these patients were related to a lack of knowledge for 72% (108) of participants. Of them, 36.7% (55) had studied the clinical aspects of this pathology while attending dental school and 24.7% (37) after their degree. In total, 94.7% (142) expressed the need for further information and only 2% (3) considered they had sufficient clinical knowledge.

Conclusions: It is evident that there is a lack of knowledge regarding the problem and there would seem to be an urgent need to provide more training programs and to establish guidelines for the diagnosis and treatment of eating disorders among dentists. In our opinion, the acquisition of such knowledge will change the approach to related pathology, improving clinical skills, and subsequently diagnosis and treatment.

Keywords: Eating disorders, dentists, oral manifestations, knoledge, oral pathology.

INTRODUCTION

Eating disorders are defined as persistent behavioural problems related to food consumption, with the purpose of controlling body weight, that affect psychological health and that are not secondary to any known medical or psychiatric disease. All eating disorders share some clinical features: the excessive importance ascribed to body weight and body aspects leading people affected by such disorders to be obsessed by food checking and body checking.

It is difficult to determine the true incidence of such eating disorders due to the reluctance of people affected to recognise it as a disease, thus avoiding consulting with a specialist, especially when early eating disorders are considered [1]. In a review in 2003, only 30% of people affected of anorexia and only 6% affected by bulimia were treated at mental health centres [2].

Various studies have confirmed that these diseases typically affect white/Western young females (Table **1**) [3-7]. In Italy, eating disorders affect approximately two million young people; 10% of teenagers are affected by such eating disorders, while ~1-2% are affected by anorexia or bulimia [2]. According to data from November 2006, provided by the National Centre for Epidemiology, Surveillance and Health Promotion, the prevalence of anorexia nervosa and bulimia nervosa in Italy were 0.20%-8% and 1-5%, respectively [1, 8-10].

There are numerous systemic manifestations caused by eating disorders; some are not

*Address correspondence to this author at the Dipartimento di Scienze Chirurgiche, Microchirurgiche e Mediche, University of Sassari, Clinica Odontontoiatrica, viale San Pietro 43/c, C/O Complesso Biologico, Sassari, Italy; Tel: +39 079228505; Fax: +39 079228541; E-mail: alumbau@uniss.it

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Table 1: Distribution of Eating Disorders [1, 4-7]

	Anorexia	Bulimia
Global distribution	Western society	Western society
Races	Mainly white	Mainly white
Sex	Females (about 90%)	Females
Age	Teens (and also young adults)	Young Adults (few teens)
Social	Wealthy classes	No distinction
Incidence (1000,000 per year)	19 women, 2 males	29 women, 1 male
Changes over time	Can increase	In increasing

pathognomonic, while others could lead the clinician to suspect the presence of a disease, such as the 'sign of Russell' (lesions of the dorsum of the hands, arising from their repeated use to induce vomiting; the scars tend to become permanent). Eating disorders are also characterized by intra-oral and extra-oral manifestations (Table **2**) [11, 12]. The most common intra-oral manifestations include dental erosion, trauma to the mucosa of the oral cavity and pharynx, dry mouth, an increased risk of caries, periodontal problems, and injuries to the soft tissues secondary to the direct actions of emesis, or indirectly because of effects induced systemically by vomiting. The extra-oral manifestations are mostly related to the pathological behavioural habits and include dysfunction and swelling of the parotid glands, temporomandibular disorders, and cheilitis.

The aim of the study was to investigate the knowledge and personal experience of dentists working in the Sardinia Island regarding eating disorders and their oral manifestations.

MATERIALS AND METHODS

Study Design

The design was a cross-sectional study. It was conducted at The Dentistry Unit, Department of Surgery, Microsurgical and Medical Sciences, University of Sassari, Italy.

Inclusion and Exclusion Criteria

Dentists with private practices in the Sassari district with at least 5 years of experience in clinical practice were selected for enrolment. Dentists with practices in the national health system were not enrolled.

Procedures

A questionnaire to investigate dentists' knowledge and experience was created and submitted to a random sample of dentists. Data were collected in a Microsoft Excel spreadsheet and were analysed using the Stata SE 10 software.

The questionnaire was prepared after a review of previous studies [11, 13-16], drawing on papers selected from the Pubmed/Medline database, using the key words eating disorders, secondary prevention, behavioural research, dentists, and dental education. The questionnaire consisted of 19 questions, 17 multiple choice and two open-ended) designed to assess data related to the knowledge and experience of the clinicians involved. Participation in the program was requested with the direct delivery of the questionnaire to health professionals.

Table 2: Oral Manifestations and TMJ Disorder

Oral Manifestations		Causes
Mucosal lesions	Atrophy-Glossities -Erythematous lesions (soft palate)	Hypovitaminosi-Nutritional deficiency-Frequent vomiting
Dental lesions	Dental erosion-Caries	Vomiting -Less attention to oral hygiene
Periodontal lesions	Gingivitis-Periodontitis	Poor oral hygiene
Saliva changes	Hyposalivation-Salivas component changes	Drugs, dehydration
TMJ Disorders		
Other symptoms	Burning mouth syndrome-Xerostomia-Dentine sensitivity-Acute pain	Mucosal atrophy-Drugs-Erosions-Caries-Periodontal lesions

Sample Size Calculation

Sample size calculations were performed using G*Power (3.1) using a χ^2 analysis with an effect size (w) of 0.35 and a probability of error of 0.05. The analysis suggested a total sample size of 141; thus, we set the sample size at 150.

RESULTS

A representative sample of 150 dentists was enrolled. After evaluation of the questionnaires, the following results were obtained: 80.7% (121) of the participants had a degree in dentistry and 19.3% (29) had degrees in medicine with a dentistry master of science diploma, 46% (69) were males and 51% (81) were females, the age range was 25-62 (mean, 36.1) years, and the average work experience was 11.5 (range, 1-36) years.

More than 90% of the participants defined eating disorders only as bulimia and anorexia. Of the dentists, 77.3% (116) correctly identified Western populations as the most affected, while 52.7% identified only whites as the most affected people. In total, 80% of the dentists recognised dental erosion and abrasion as typical oral manifestations. Only 62% affirmed that the salivary pH decreases in these conditions and 63% did not recognise parotid gland tumefaction as a clinical sign.

In terms of operator experience, 60.7% (91 dentists) had clinical experience of patients with eating disorders: 43.9% of them had made diagnoses from oral manifestations, 51.3% (77) were not able to treat these patients, and 69.3% (104) would refer patients to specialized centres for treatment. Moreover, 119 (79.3%) considered that a dental hygienist was a valid collaborator for the treatment of oral cavity manifestations.

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DISCUSSION

In this study, we aimed to highlight the growing interest in eating disorders. The incidence of these diseases is rising, especially in Western countries. For this reason, there is real interest among medical doctors and dentists in making an early diagnosis and referring patients for treatment. Most clinicians showed some knowledge of bulimia and anorexia, while few knew about other eating disorders, such as uncontrolled hunger, allotriofagia and orthorexia. Moreover, some clinicians appeared confused, misunderstanding symptoms of other diseases and conflating them with mental eating disorders.

Analysis of the questionnaire data showed a lack of knowledge among clinicians about the oral manifestations, incidence, and medical implications of eating disorders, while most clinicians recognised that white/Western people were the most common subjects.

Regarding some of the specific questions and answers, most of the dentists questioned did not know the meaning of Rovsing's sign (acute abdominal pain) as a typical manifestation of eating disorders; indeed, most of them, 73.3%, thought it was a sign of pancreas pathology. Moreover most of dentists confused erosion of the lingual surfaces (typical of eating disorders) with erosion of the vestibular surfaces showing a lack of knowledge in term of oral manifestations of eating disorders. Only few clinicians confirmed not being able to treat such patients with these disorders and most were not able to refer to a specialist.

Of the dentists, 26.7% had made diagnoses of eating disorders after oral inspections and detection of oral signs, confirming the importance of an accurate intra-oral examination. Almost all of the dentists (94.75%) wanted to improve their clinical knowledge in the area.

The question focused on preventative therapy was of particular interest because it identified the important role played by dentists. Very few responded to this question and only a few of them correctly identified the importance of fluoride prophylactic therapy in cases of dental erosion and of regular oral hygiene interventions and instructions. Only two professionals specified the need to use alkaline substances (bicarbonate) to neutralize the pH. Most participants (119, 79.3%)

recognised the importance of collaborating with professional dental hygienists.

Most of the dentists recognised the need to explain the causes and treatment of these disorders, in the first place, and only then to treat the intra-oral manifestation, mostly with prophylaxis and sometimes with teeth therapies, such as fillings or crowns.

Generally, from these findings, it is clear that there is a lack of knowledge regarding the problem and there would seem to be an urgent need to provide more training programs and to establish guidelines for the diagnosis and treatment of eating disorders among dentists. In our opinion, the acquisition of such knowledge would improve the approach to these pathologies, improving clinical skills, and, subsequently, their diagnosis and treatment.

The English in this document has been checked by at least two professional editors, both native speakers of English. For a certificate, please see:

http://www.textcheck.com/certificate/dcfBtT

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