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Selected issues concerning oral health in female patients with eating disorders: a survey study

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ABSTRACT

The study aimed to evaluate behaviours relevant to oral health and the condition of the teeth and gums in women with eating disorders. A survey study covered a group of 30 patients aged 14-36 years suffering from diagnosed eating disorders and treated in closed psychiatric wards. The control group included 30 healthy women at the mean age corresponding to that of the patient group. The questions concerning oral health-relevant behaviours referred to the frequency of tooth brushing and the kind of toothbrush used, the frequency of dental visits, fear of dental visits, and self-evaluation of the selected items of oral health status. The survey results were analysed statistically. Behaviours relevant to oral health in women with eating disorders include increased oral hygiene and the attitude to dental visits that does not diverge from the customary one. The patients found the presence of enamel damage to be as frequent as in the healthy subjects. Eating disorders are, however, conducive to more frequent gum disorders and the feeling of dryness in the mouth.

INTRODUCTION

Basing on the criteria of the Classification of Mental and Behavioural Disorders in ICD-10 (ICD-10, 1998), eating disorders fall within the category of behavioural syndromes associated with physiological disturbances and physical factors. Such disorders include anorexia nervosa and bulimia nervosa.

The diagnostic criteria of anorexia nervosa (F50.0) are the following:

A. Body weight is maintained at least 15% below that normal or expected according to height and age; children may fail to make the expected weight gain.
B. The weight loss is self-induced by avoidance of "fattening foods".
C. Self-evaluation is as fat and a dread of fatness exists, leading the patient to imposing a low weight threshold on himself or herself.
D. Endocrine disorders of the pituary-gonadal axis involving numerous systems, are manifested in women as amenorrhoea, and in men, as a loss of sexual interest and potency.

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The criteria of bulimia nervosa (F50.2) according to ICD-10 (ICD-10, 1998) include:

A. Recurrent episodes of overeating (at least twice a week within 3 months) in which large amounts of food are consumed in short periods of time.
B. A persistent preoccupation with eating and a strong craving for food or a compulsion to eat (hunger).
C. The patient attempts to counteract the "fattening" effects of food by at least one of the following: 1) provoked vomiting; 2) purgative abuse; alternating periods of starvation; 4) use of drugs such as appetite suppressants, thyroid preparations or diuretics.
D. Self-evaluation as being fat and the dread of gaining weight exists (usually leading to underweight situations).

Beyond anorexia and bulimia nervosa, ICD-10 lists descriptions of other atypical eating disorders (that do not meet all the key criteria of anorexia and bulimia), overeating associated with other psychological disturbances (e.g. in affective disorders), vomiting associated with other psychological disturbances (in dissociative or hypochondriacal disorders), and other and unspecified eating disorders (ICD-10, 1998) [5].

AIM

The study aimed to evaluate behaviours relevant to oral health and the condition of the teeth and gums in women with eating disorders.

MATERIAL AND METHODS

The study material included 30 women suffering from eating disorders and treated in closed psychiatric wards. The patients were hospitalised in the Affective and Psychotic Disorders Clinic in Łódź, Poland, and the Clinical Ward at the Children's and Youth's Psychiatric Clinic in Cracow, Poland. The study was approved by the Bioethical Board at the Medical University of Lublin and by the boards of directors and department heads of the respective hospitals. The control group consisted of 30 healthy women, clients of the Dental Office at the KOL-MED Medical Center in Tarnów, Poland; the age of the controls corresponded to that of the patients.

The questions concerning oral health-relevant behaviours referred to the frequency of tooth brushing and the kind of toothbrush used, the frequency of dental visits, fear of dental visits, self-evaluation of the condition of the teeth and gums, and the feeling of dryness in the mouth. The survey results were analysed statistically. The values of measurable parameters were represented as mean, median and standard deviation, and those of immeasurable ones – as frequency and percentage. Chi-square test for independence was used to investigate the relationships between the tested attributes. STATISTICA 10.0 (StatSoft, Poland) software was used to prepare the database and perform statistical analyses.

RESULTS

The analysis of behaviours relevant to oral health shows that 40.00% of the patients brushed their teeth more often than twice a day, while in the control group, the respective percentage was 17.24%. The observed differences were statistically significant (p=0.01) (Table 1).

Table 1. Frequency of tooth brushing in the studied groups

Tooth brushing frequency	Patients		Controls	
	n	%	n	%
> twice a day	12	40.00	5	17.24
twice a day	14	46.67	24	82.76
once a day	4	13.33	0	0.00
Statistical analysis: $Chi^2=9.50$; p=0.01				

The patients used soft-bristled toothbrushes slightly more often (30.00%) than the controls (20.00%). However, the controls used electric toothbrushes more often (13.34%) than the patients (3.33%). The frequency of using medium-bristled toothbrushes was the similar in both groups. Statistical analysis did not show significant differences between the types of toothbrushes used by both examined groups (p=0.412) (Table 2).

Table 2. Toothbrush type used by the respondents in the studied groups

Toothbrush type	Patients		Controls	
	n	%	n	%
Medium	19	63.33	20	66.67
Soft	9	30.00	6	20.00
Hard	1	3.33	0	0.00
Electric	1	3.33	4	13.34
Statistical analysis: $Chi^2=3.96$; p=0.412				

When asked about their oral hygiene care after falling ill, 56.67% of the patients answered that they took greater care of oral hygiene, while 40% declared their oral hygiene care was not changed.

An analysis of the frequency of dental visits showed that 33.33% of the controls and 23.33% of the patients consulted the dentist more often than twice a year, but the differences were not statistically significant (p=0.116) (Table 3).

Table 3. Frequency of dental visits in the studied groups

Frequency of dental visits	Patients		Controls	
	n	%	n	%
> twice a year	7	23.33	10	33.33
twice a year	12	40.00	6	20.00
once a year	4	13.34	10	33.33
< once a year	7	23.33	4	13.34
Statistical analysis: $Chi^2=5.92$; p=0.116				

The study showed that the controls experienced dental anxiety (43.33%) more often than did the patients (26.67%); the differences, however, were not statistically significant (p=0.176) (Table 4).

Table 4. Dental anxiety in the studied groups

Dental anxiety	Patients		Controls	
	n	%	n	%
Yes	22	73.33	17	56.67
No	8	26.67	13	43.33
Statistical analysis: $Chi^2=1.83$; p=0.176				

Self-evaluation of the oral health status by the respondents showed that 26.67% of the patients observed damaged dental enamel, while in the control group, the respective percentage was slightly lower (20.00%). The observed differences were not statistically significant (p=0.542) (Table 5).

Table 5. Dental enamel damage in the studied groups (according to the respondents' self-evaluation).

Enamel damage	Patients		Controls	
	n	%	n	%
Yes	8	26.67	6	20.00
No	22	73.33	24	80.00
Statistical analysis: Chi2=0.37; p=0.542				

A positive answer to the question "Have you had any problems with your gums?" was given significantly more often by the patients, while the controls answered in the

negative. The observed differences were statistically significant (p=0.002) (Table 6).

Table 6. Problems with the gums in the studied groups (according to the answers to the questionnaire)

Problems with the gums	Patients		Controls	
	n	%	n	%
Yes	8	26,67	0	0,00
No	22	73,33	30	100
Statistical analysis: Chi^2=9.23; p=0.002				

The obtained answers indicate that the sensation of dry mouth was experienced significantly more often by the patients (56.57%) than by the controls (20.00%) (p=0.003) (Table 7).

Table 7. Dry mouth sensation in the studied groups

Dry mouth	Patients		Controls	
	n	%	n	%
Yes	17	56.67	6	20.00
No	13	43.33	24	80.00
Statistical analysis: Chi^2=8.53; p=0.003				

DISCUSSION

In the literature, researchers call attention to a steadily increasing number of patients with eating disorders, their decreasing age, and the fact that while cases of restrictive type anorexia are becoming less frequent, the number of patients with bulimic-type anorexia is growing, this tendency being to socio-cultural changes [2,6]. Pawłowska *et al*., in examining 131 female patients diagnosed with anorexia and hospitalized at the Psychiatry Clinic of the Medical School in Lublin in 1993-2003, found that the mean age of the patients with restrictive anorexia was 20.8 years, while that of the patients with bulimic anorexia was 21.8 years, the mean age of the group being 21.3 years [7]. In our study, the mean age of the patients was 20.47 years, which suggests that eating disorders affect an increasingly younger population.

An analysis of daily oral hygiene procedures in the patients treated at closed psychiatric wards for eating disorders, revealed more frequent tooth brushing than customary (in the morning and in the evening). Similarly, Daszkowska *et al*. found that 44.5% of the studied patients treated for eating disorders brushed their teeth more often than twice a day [3]. It seems that more frequent hygienic procedures are related to the need of concealing provoked vomiting.

Under the influence of the low pH gastric contents, tooth enamel demineralises and becomes sensitive to mechanical factors. According to Rytomaa *et al*., the possibility of erosion, i.e. the loss of tooth hard tissues due to exposure to acids, in patients with bulimia is increased 1.5-6 times [9]. In their study, Roberts and Lee showed that erosion occurred in 35% of the patients with anorexia and 33% of the patients with diagnosed bulimia [8]. In our study, 26.67% of the patients reported damaged enamel.

Our study did not analyze a connection between "problems with the gums" reported by the patients and provoking vomiting. According to the authors' own research, "problems with the gums" described by the patients are related to deficiencies in basic nutritive components, microelements and vitamins, as well as hormonal disorders concurrent with eating disorders [1].

The sensation of dry mouth in the patient group was observed over 2.5 times more frequently than in healthy subjects, as it was found in our study. In the research of Johansson *et al*. [4], among others, dryness of the mucosa and fissures in the lip mucosa were observed decidedly more often in patients with eating disorders than in healthy subjects.

CONCLUSIONS

1. Behaviours relevant to oral health in women with eating disorders include increased oral hygiene and the attitude to dental visits that does not diverge from the customary one.
2. The patients self-diagnosed enamel damage as frequently as did the healthy subjects.
3. Eating disorders are conducive to more frequent gum disorders and the feeling of dryness in the mouth.

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