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Outcome of Polish teenage patients with eating disorders

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Summary

Aim of the study. The aim of the study was to assess outcome of patients with eating disorders in a Polish socio-cultural context.

Material and methods. Re-assessed after 6.72 years (SD 0.99 years, min 4.58 years, max 8.81 years), 47 of 112 patients consulted initially in the outpatient clinic of the Child and Adolescent Psychiatry Unit between 2002/2004 in Krakow, Poland with one of the eating disorders.

Results. Complete remission (absence of symptoms for three months) took place in 55% of patients from the restrictive anorexia nervosa group and in 27.3% of patients from the bulimia nervosa group. A full range of symptoms was observed in 10% of patients from the restrictive anorexia nervosa group and in 36.4% of patients from the bulimia nervosa group. In both groups, the longer the follow-up study, the worse outcome observed.

Discussion. Small size of group in the follow-up study caused a significant limitation.

Conclusion. The remission rates indices for restrictive anorexia nervosa are similar to those presented in other follow-up studies. In the case of bulimia nervosa, they are lower than average. An analysis of diagnosis variability between the initial and the follow up assessment indicates low crossover rate from anorexia nervosa to the bulimia nervosa group.

anorexia / bulimia / follow-up study

INTRODUCTION

Eating disorders are a serious health and psychosocial problem among teenagers and young girls who are burdened with a significant risk of somatic complications and death [1]. Hence, the significance of the correlation between the clinical picture of these disorders and their outcome.

Traditionally, the view prevailed that anorexia nervosa (AN) is a chronic disease, burdened with a high risk of death [2–7] while bulimia nervosa (BN) was considered its sinister variation [8]. Countries of the Western cultural sphere underwent significant evolution in various approaches to the treatment of eating disorders during the twentieth century. First, ineffective treatment attempts were based solely on biological methods; this was later contrasted with individual psychotherapy, cognitive behavioural programmes and family therapy [9]. The last 12 years have brought a number of meta-analyses

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of outcomes in eating disorders, which changed their initial pessimistic image. The analyses were led in various time periods between 1980 and 2009, in different countries, covering various age ranges, diagnostic classification and criteria for recovery or symptomatic improvement. The analyses were conducted based on various statistical procedures. In AN, a lack of remission with full-symptoms was observed in 2% to 20% of patients, depending on the time of the follow up and the centre, where the study was conducted. Full recovery is reported for 20% to 60% of cases, with an average outcome from 30% to 50% of cases. More optimistic conclusions resulted from analyses of only symptomatic improvement of such factors as weight, reappearance of menstruation or a change in eating behaviours [9]. An important feature observed in AN is a decrease in the number of patients with full clinical symptoms over time, in particular between 5 and 10 years of follow-up, but also in the later period of illness [9–12].

The outcome in BN is only slightly better than in AN, although in BN the observed mortality rate is much lower. Similarly, in the case of shorter follow up of BN, lower remission rates from about 30% to 70% were observed. A chronic course of BN (lack of remission for five years) was observed in one out of 10 patients [10].

A small number of studies relates to the outcomes in a group of subclinical syndromes regarded as eating disorders not otherwise specified (EDNOS) according to DSM-IV [13]. Remission in the EDNOS group is higher than in the case of BN. However, the difference is clear in follow-up studies shorter than five years. The nature of the symptoms presented in the EDNOS group (restrictions versus binging/purging) is not significant in the context of outcomes [12].

Another important issue is mortality in eating disorders. Until the 1990's, literature on the subject pointed out high mortality rates ranging in anorexia nervosa from 2% up to even more than 23%, depending on the study. An important negative predictor in this case was follow-up duration [8]. In a meta-analysis based on English-language publications covering the period between 1966 and the end of September 2010, Arcelus et al. [14] demonstrated an increased mortality rate for patients diagnosed with eating disorders, particularly high in the case of AN. Weighted annual mortality rate for AN was 5 per 1000 people per year. It proved to be slightly higher in the case of studies involving only women. The mortality rates in the case of BN and EDNOS are lower and similar to each other (EDNOS: 3/1000 people per year, BN: 1.7/1000 persons per year). The Standardised Mortality Ratios for BN and EDNOS are lower than in the case of AN. In AN, it is 5.86, in EDNOS 1.92, and in BN 1.93. A decrease in mortality rates in the AN group is an encouraging phenomenon. Crude mortality rates calculated based on data analysis from 2004 to 2009 is now from 0% to 8% in AN with a cumulative mortality rate of 2.8%. This may indicate improving care for patients with this disorder [12]. In the BN group, the cumulative mortality rate is estimated at 0.4% [12].

The phenomenon of "crossover" between diagnoses is also worth mentioning. It makes it difficult to assess clearly the correlations between the diagnosis type and outcomes in eating disorders. In the case of those diagnosed with AN, up to 50% will develop bulimia in the future. In the case of BN, "crossover" is much less common and ranges from 10% to about 15% [10, 12, 14]). Some patients are also sometimes diagnosed with disorders of the EDNOS type. However, the change in symptoms especially from AN to EDNOS may mean not so much a change in symptomatology type but rather partial remission [12]. Despite these changes, eating disorders remain a serious clinical problem.

The problem of eating disorders outcomes in Poland is poorly understood. In this regard, we have individual case studies rather than results or prospective research projects. The difference in outcomes compared to other countries is possible due to the different socio-cultural context and organisation of health care.

MATERIALS AND METHODS

All the girls diagnosed with any of the eating disorders according to DSM-IV (DGN 1) at the outpatient clinic of the Child and Adolescent Psychiatry Unit, University Hospital in Krakow in the 2002–2004 (DGN1) qualified for the follow-up study. 47 patients were diagnosed with restrictive anorexia (ANR), 16 with binge-

purge anorexia (ANBP), 34 with bulimia nervosa (BUL), 15 patients were eligible for the EDNOS category, 7 of whom had signs of subclinical restrictive anorexia (ANRS), 6 with subclinical binge-purge anorexia (ANBPS), and 2 with bulimia with subclinical characteristics (BULS). The DGN1 study results formed the basis for a number of publications describing the interactions between the occurrence of eating disorders and several psychosocial variables [15–21].

The entire follow up study was conducted between 2009 and 2011 (DGN2). The contact with the female patients was established based on intake registration records. The first telephone call (in 2009) was performed by the physician who had investigated most of the patients between 2002 and 2004. After obtaining verbal consent from the patients, the phone numbers were given to two psychologists who were doing the follow-up study. The psychologists arranged a meeting with the patient in a place most convenient for her. These locations included the clinic, a café (3 cases) and home of the respondents. Most of the meetings took place in Krakow. Ten patients refused to participate in the study, 5 directly during the call, and 5 did not turn up for the study. Phone contact could not be made with 48 female patients due to outdated or incorrect information from intake registration records. There was no response to a letter sent to the address of the family home of these patients with information about the study and a request for a call back or an e-mail. Eventually, the study included 47 patients.

The study consisted of a questionnaire and an interview. A structured interview of the follow-up type included current symptoms, treatment history and current living situation of the study subjects. Following the interview, the study subject filled in most of the questionnaires used also in DGN1. It all lasted between 45–60 minutes.

The patients were assigned to 4 outcome categories (CAT), based on the interview:

Remission (REM) (very good outcome) — in which the patient did not report any symptoms of eating disorders within the last three months succeeding the follow-up study, according to DSM-IV [13].

Disordered attitudes towards eating (DISEAT) (good outcome) – the investigated girls exhibited discomfort associated with eating, but have not had symptoms of eating disorders (according to DSM IV) in the past three months before the study, according to DSM-IV [13].

Eating disorders not otherwise specified (EDNOS) (average outcome) — the investigated girls exhibited not full symptomatic eating disorders within the last three months before the follow-up study, according to DSM-IV [13].

Clinical group (CLIN) (bad outcome) — the investigated girls exhibited fully symptomatic eating disorders within the last three months before the follow-up study, according to DSM-IV [13].

The outcome category for each patient was determined independently by two psychologists involved in the study and the physician, who had no direct contact with the investigated girls and had established his diagnosis on a basis of analysis of interview data. Later, doubtful cases were discussed by the investigators and the final outcome category was determined based on the consensus reached. None of the doubtful cases concerned the clinical group. Two doubts related to decisions concerning patient assignment to the EDNOS group or the DISEAT group and one to REM or the DISEAT groups. One patient, despite low BMI amounting to 17.58, was assigned to the REM group because she was menstruating properly, maintained weight over a longer period, and declared a lack of eating disorders symptoms.

RESULTS

The group of 47 girls examined in the follow-up study (EDALL) included 20 patients from the ANR group, 9 patients from the ANBP group, 11 patients from the BUL group, and 7 patients from EDNOS from DGN I. Based on the DGN2, patients were included in CAT groups as follow: REM - 20, DISEAT - 5, EDNOS - 11 and CLIN 11. All the relations between diagnoses from the DGN1 study and CAT categories from the DGN2 study are presented in Tables 1 and 2. The description of symptoms in groups at the time of DGN1 are included in Table 3.

Table 1. Outcomes in groups

DGN2 / DGN1		REM		DISEAT		EDNOS		CLIN	
		N	% DGN1	n	% DGN1	n	% DGN1	n	% DGN1
CLIN	ANR	11	55.0%	1	5.0%	6	30%	2	10%
	ANBP	4	44.4%	1	11.1%	2	22.2%	2	22%
	BUL	3	27.3%	1	9.1%	3	27.3%	4	36.4%
EDNOS	ANRs	1	50.0%	1	50.0%	0	0.0%	0	0.0%
	ANBPs	1	33.3%	1	33.3%	0	0.0%	1	33.3%
	BULs	0	0.0%	0	0.0%	0	0.0%	2	100%
	Total	20	42.6%	5	10.6%	11	23%	11	23%

Table 2. Outcomes in relation to diagnosis type

DGN2 / DGN1		REM	DIS-EAT	EDNOS				CLIN		
				ANRS	ANBPS	BULS	BED	ANR	ANBP	BUL
CLIN	ANR	11	1	2	2	1	1	1	0	1
	ANBP	4	1	0	2	0	0	0	0	2
	BUL	3	1	0	2	1	0	1	0	3
EDNOS	ANRs	1	1	0	0	0	0	0	0	0
	ANBPs	1	1	0	0	0	0	0	0	1
	BULs	0	0	0	0	0	0	0	1	1

Table 3. Descriptive statistics of symptoms at the time of DGN1

DGN1 Variables	ANR	ANBP	BUL	EDNOS
Age at the time of DGN1	16.35 (1.53) 13.00/19.00	16.67 (1.41) 15.00/18.00	17.55 (1.44) 15.00/20.00	16.71 (1.50) 15.00/19.00
Current BMI	14.6008 (1.38) 11.64/ 17.01	15.7135 (1.00) 13.76/16.86	19.6540 (1.97) 16.85/24.22	18.6843 (0.63) 18.07/19.72
Depressive disorders	4 (20.0%)	3 (33.3%)	7 (63.6%)	3 (42.9%)
DW1(weight at the time of the study - the starting weight)	-11.41 (5.16) -21.00/ .20	-11.61 (5.54) -21.00/ -4.00	-10.03 (10.54) -30.00/ .00	-16.50 (9.35) -32.00/ -8.00
DW2 (weight at the time of the study - the lowest weight)	1.27 (1.77) 0.00/ 6.00	2.33 (2.33) 0.00/ 7.00	4.62 (4.85) -0.50/ 15.00	4.00 (6.96) 0.00/ 17.00

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DW3 (the starting weight – the lowest weight)	12.68 (4.66) 5.80/23.00	13.94 (4.80) 8.00/21.00	14.65 (7.75) 4.00/30.00	20.50 (12.87) 8.00/36.00
Duration of illness in months until DGN1	11.80 (10.39534) 3.00/48.00	16.44 (17.55072) 3.00/60.00	17.18 (10.33265) 6.00/36.00	12.86 (6.41427) 6.00/24.00
No menstruation	19 (95.0%)	8 (100.0%)	0 (33.3%)	4 (57.1%)
Irregular menstruation	1 (5.0%)	0 (0.0%)	5 (22.2%)	1 (14.3%)
Regular menstruation	0 (0.0%)	0 (0.0%)	4 (44.4%)	2 (28.6%)
Objective binging	---	27.14 (35.38) .00/90.00	53.46 (41.00) 12.00/150.00	27.86 (35.10) .00/90.00
Subjective binging	---	23.75 (33.89) .00/90.00	25.91 (36.80) .00/90.00	30.00 (42.43) .00/90.00
Self-induced vomiting	---	35.4286 (35.30) .00/90.00	69.2727 (45.01) 12.00/150.00	25.2857 (35.58) .00/90.00
Laxatives abuse	1 (5.0%)	1 (14.3%)	3 (30.0%)	1 (14.3%)
Driven exercises	3 (15.0%)	4 (57.1%)	0 (0.0%)	4 (57.1%)
Fasting	18 (90.0%)	6 (85.7%)	5 (45.5%)	4 (57,1%)
BDI	15.65 (9.49) .00/34.00	26.13 (14.43) 5.00/46.00	27.73 (5.16) 22.00/37.00	30.33 (19.24) 6.00/56.00
BDI>=10	14 (65.0%)	7 (75.0%)	11 (100.0%)	(5) 83.3%
EAT26	26.3158 (15.92) 3.00/60.00	31.8750 (16.69) 13.00/63.00	32.0909 (16.09) 5.00/58.00	35.4286 (18.17 10.00/64.00
EAT26>19	(12)63.2%	(6) 75.0%	(9) 81.8%	(5) 71.4%

The table includes a mean (standard deviation), the lowest / highest score, or number of cases (percentage).

The differences between DGN1 diagnoses in the context of the variables included in Table 3 were analysed. Only in the case of BDI were statistically significant differences between groups $\chi 2 = 7.198$; $p = 0.027$) were observed (Tab. 4 - *next page)*.

The mean time between DGN1 and DGN2 diagnoses was 6.72 years (SD 0.99 years, min 4.58 years, max 8.81 years). The mean time from the onset of symptoms to DGN2 was 7.90 years (SD 1.40, min 5.08, max. 10.92). Table 5 - *next page* - shows descriptive statistics of the major somatic symptoms from DGN2.

5 girls from the REM group described themselves as having mental problems, including 3 who reported eating problems — displaying fear of re-occurrence of symptoms or of losing control in the future. However, in none of the assessed categories did they display symptoms allowing a diagnosis of an eating disorder. The distribution of responses in the other groups is resented in Tables 6 and 7.

13 girls from the REM group reported the presence of somatic and psychological problems other than those associated with eating disorders.

Table 4. BDI from DGN1 descriptive statistics in groups

BDI / DGN1	N	Median	Percentiles		
			25	50	75
ANR	20	16.50	7.75	16.50	24.50
ANBP	8	29.50	12.00	29.50	37.75
BUL	11	26.00	24.00	26.00	34.00
EDNOS	6	29.00	12.00	29.00	50.00

Table 5. Description of symptoms in CAT categories at the time of DGN2

Variables / DGN2		REM					
		REM	DISEAT	EDNOS	CLIN		
					ANBP	ANR	BUL
BMI	Mean	20.24	20.74	20.32	16.07	14.90	19.92
	SD	1.57	2.27	2.64	.	1.79	2.56
	Min	17.58	18.42	17.93	16.07	13.63	16.53
	Max	24.80	24.45	27.04	16.07	16.16	25.06
Objective binging – number of days	N present	0	0	1	1	0	5
	Mean	0.00	0.00	1.89	2.00	0.00	14.17
	SD	0.00	0.00	5.67		0.00	10.34
	Min	0.00	0.00	00.00	2.00	0.00	0.00
	Max	0.00	0.00	17.00	2.00	0.00	30.00
Objective binging – number of episodes	Mean	0.00	0.00	0.44	7.00	0.00	36.83
	SD	0.00	0.00	1.33	.	0.00	56.34
	Min	0.00	0.00	0.00	7.00	0.00	0.00
	Max	0.00	0.00	4.00	7.00	0.00	150.00
Self-induced vomiting – number of days	N	0	0	1	1	0	5
	Mean	0.00	0.00	0.40	30.00	0.00	136.43
	SD	0.00	0.00	1.27	.	0.00	336.78
	Min	0.00	0.00	0.00	30.00	0.00	0.00
	Max	0.00	0.00	4.00	30.00	0.00	900.00
Self-induced vomiting – number of episodes	Mean	0.00	0.00	0.40	300.00	0.00	31.57
	SD	0.00	0.00	1.26	.	0.00	53.28
	Min	0.00	0.00	0.00	300.00	0.00	0.00
	Max	0.00	0.00	4.00	300.00	0.00	150.00
Laxatives – number of days	N	0	0	4	0	0	0
	Mean	0.00	0.00	6.89	0.00	0.00	0.00
	SD	0.00	0.00	10.95	.	0.00	0.00
	Min	0.00	0.00	0.00	0.00	0.00	0.00
	Max	0.00	0.00	31.00	0.00	0.00	0.00

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Laxatives – number of episodes	Mean	0.00	0.00	8.33	0.00	0.00	0.00
	SD	0.00	0.00	12.69	.	0.00	0.00
	Min	0.00	0.00	0.00	0.00	0.00	0.00
	Max	0.00	0.00	30.00	0.00	0.00	0.00
Exercise – number of days	N	2	1	1	0	0	2
	Mean	0.88	5.00	2.00	0.00	0.00	3.17
	SD	2.64	8.66	5.66	.	0.00	6.01
	Min	0.00	0.00	0.00	0.00	0.00	0.00
	Max	10.00	15.00	16.00	0.00	0.00	15.00
Exercise – number of episodes	Mean	0.07	5.00	2.29	0.00	0.00	0.00
	SD	0.26	7.07	6.05	.	0.00	0.00
	Min	0.00	0.00	0.00	0.00	0.00	0.00
	Max	1.00	10.00	16.00	0.00	0.00	0.00
Fasting	N present	1	0	3	1	1	5

Table 6. Subjective assessment of health condtion

Condition / DGN2	Does the examined girl consider herself healthy?		
	Yes	No	Some health problems
REM	15	3	2
DISEAT	2	1	2
EDNOS	5	5	1
CLIN	0	11	0

Table 7. The disease time since onset of illness to DGN 2

Condition / DGN2	Does the examined girl think she has no eating problems?			
	Yes	No	Some crises/Minds what she eats/ Fear of symptom recurrence	Difficult to say
REM	17	3	0	0
DISEAT	1	2	1	1
EDNOS	4	5	1	1
CLIN	0	11	0	0

The most commonly reported problems were related to the gastrointestinal tract such as pain after eating, irritable bowel syndrome, gastroesophageal reflux disease, peptic ulcer and gall bladder stones. Others included migraines, epilepsy, heart arrhythmia, hyperprolactinemia, Cushing's syndrome, inflammation of the kidneys, sinuses and immune disorders. In two cases, growing sight defects were reported.

43 patients included in the study experienced symptomatic remission in the course of the illness, according to their own assessment.

Given the importance of the follow-up duration, as it was described in Introduction, further analyses of the correlation between the outcomes and variables associated with time were conducted. Due to the heterogeneity of the group, analyses in the EDNOS group were not performed.

The increasing disease time since onset of illness to DGN2 turned out to correlate with worsening of outcome in ANR group ((\rho(18) = 0.506; p = 0.027, power = 0,656, minN = 25) and BUL group (\rho(9) = 0.602; p = 0.050; power = 0.602, minN = 17) (Fig 1 – *next page*).

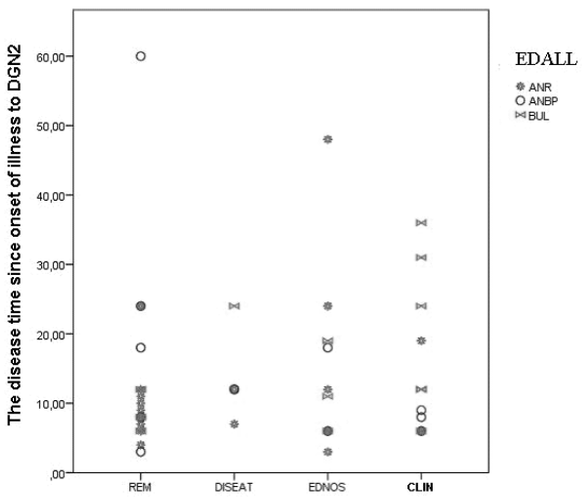

Figure 1. The disease time since onset of illness to DGN2

DISCUSSION

The aim of this project was to assess the outcomes of eating disorders in the Polish cultural context. It is one of the first follow up studies of Polish patients diagnosed with eating disorders.

The results obtained in the context of the rate of remission in the restrictive anorexia group are rather optimistic (55% complete remissions in the present study in relation to 20% to 60% in reviews of the literature) The same applies to the presence of full clinical symptoms (10% complete remission versus 2% to 20% in reviews of the literature). In the case of bulimia, it proved less frequent than expected based on literature reviews. Only 27% of the investigated girls had full remission not subject to any doubts (30% to 70% in the reviews of the literature). It is worrying that, as in the case of bulimia, lack of remission for at least five years may indicate its chronic course [12]).

Most of the investigated patients were treated at the centre where the study was conduced. The influence of treatment on outcome will be analysed in subsequent communications. One should note, however, that this data has prompted us to reflect on the offered methods of treating patients with bulimic symptoms.

The results obtained in the EDNOS group confirm its heterogeneous nature. This corresponds to the direction of proposed changes in the DSM classification, in which the EDNOS category was significantly limited in 5th edition by expanding the diagnostic criteria for both clinical anorexia and bulimia [22]. An analysis of changes between DGN1 and DGN2 shows a consistent image of bulimic symptom stability, compliant with literature data regardless of the patient's weight. 50% of girls in DGN2 displayed binge or purge symptoms among the girls who did not have remission from the ANR group. Binge-purge symptoms were displayed by 92.86% of patients with bulimic symptoms regardless of weight in DGN1 (BUL and ANBP groups).

The shortest follow-up period was 4.58 years, the longest 8.81 years. The disease time since onset of illness to DGN2 proved to be significantly correlated with worsening outcome in eating disorders in the ANR and BUL group. This observation is consistent with literature data where the time of illness is treated as a negative predictor of outcome. Symptomatic remission can be achieved, however, after many years of illness, especially in anorexia [23]. In the case of eating disorders, follow-up of least 10 years seems to be the most reliable concerning the assessment of lasting remission [24].

During the project, we did not receive any information about the death of any of our patients. However, the significant number of patients whom we were unable to reach does not allow for a definitive conclusion on this issue. The lack of information about deaths may be associated with the relatively short duration of the follow-up study.

The study has several limitations, with results in the lower reliability of the results. The main limitation of the study is the relatively small number of patients we were able to include. Most of the patients with whom we were able to establish personal contact decided to participate. It may be assumed that the 10 girls who did not agree to take part in GDN2 could have had clinical symptoms, about which they did not want to talk. It is not known whether the others received our letter and did not to take part in the project for the same reasons.

One of the main issues influencing the obtained results is how remission in eating disorders is assessed. In the literature, there are no universally accepted criteria for assessing outcomes in eating disorders. The most popular criteria by Morgan and Russell [25, 26] which proposes point value of the remission assessment are useful in assessing the outcome only in anorexia nervosa. They relate to five areas and 14 dimensions regarding eating, menstruation, mental condition, psychosexual and socioeconomic functioning. In this study, although all of the above dimensions were taken into account, the outcomes were measured in a way to permit comparisons of assessment in all eating disorders.

The literature indicates the validity of remission descriptions covering not only the behavioural but also the cognitive dimension in relation to eating. The results of those with remission of only somatic symptoms with still present disordered eating and body dissatisfaction differ from those achieving recovery in both somatic and cognitive dimensions. This last group is much smaller than the group of people achieving only satisfactory weight ratios [27]. In the current analysis, we adopted three dimensions of negative outcome severity: remission of objective signs with severe subjective ones (DISEAT), partial remission of objective symptoms (EDNOS), and full remission of subjective and objective symptoms (REM). The proposed manner of splitting up the results of the follow-up study is not the only way possible. Other outcome categories and outcome measures will be subject to further analysis. In this communication, we focused on cross-sectional assessment of patients, taking into account the last three months prior to the study (assessment, assessment session, follow-up session). Taking into account the course of disorders may lead to different observations.

ICD and DSM diagnostic criteria are less useful in the diagnosis of eating disorders in children and adolescents. The age range covered by the study confronts us with proportions of individual diagnoses and treatment effect on the obtained results. Individual eating disorders have a different age of onset and interquartile ranges [28]. Differences in diagnoses may therefore not result from severity of the illness, but rather from imperfections of the applied diagnostic criteria. A greater severity of symptom denial than in adults may be significant here [29].

Clinical centres, such as ours, offering inpatient treatment may be expected to have a greater proportion of patients with fully symptomatic syndromes [22]. This means that initially we were dealing with a particular population. This aspect may be less important, however, in the investigated material under Polish conditions, where at that time there were no other centres apart from ours specialising in the treatment of anorexia and bulimia nervosa in the Małopolska region (3,260.2 thousand population in 2004, including 731.3 thousand in the age of up to 171). Those hiding their symptoms and denying their existence (denial of illness) were not taken into account. They may constitute a significant number of patients diagnosed with eating disorders [30]. Not without significance may be family variables determining the time of reporting to the doctor, duration waiting for a visit, etc. [31].

In this study, we relied on follow-up assessment DGN2 data obtained from patients which means that the assessment of their clinical status may be strongly affected by their own personality traits, conscious or unconscious denial of the clinical condition. In designing the study, we decided that meetings with our former patients would take place in places that they themselves had chosen. We wanted to ensure a good atmosphere at the meetings. Hence the decision not to weigh the patients. Moreover, it would be impossible if the meeting took place in a café. This dilemma is known to other researchers of the issue. Literature data provide evidence that people suffering from anorexia and those who are underweight are remarkably reliable when they report their weight [27]. In our study, the presence or absence of menstruation was applied as an important criterion for assignment to outcome groups, especially CLIN.

CONCLUSIONS

In the investigated material, remission rates in anorexia nervosa are similar to those found in

[1] Population, birth/death ratio and migrations in Małopolska region in 2004. USTAT 2005. http://krakow.stat.gov.pl

other follow-up studies. In the case of bulimia nervosa they are lower than average.

Analysis of variability diagnosis between the first and the second study indicates stability of bulimic symptoms regardless of patient weight.

The duration of illness from the onset of symptoms until the follow-up study was negatively correlated with the outcome in anorexia nervosa restrictive type and bulimia nervosa.

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