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Preclinical differential diagnostics of anorexia nervosa and dissociative food refusal: the rating scale

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Abstract

In order to develop the rating scale for preclinical differential diagnostics of anorexia nervosa and dissociative food refusal, a retrospective study of two groups of patients with established diagnoses of anorexia nervosa (21 patients) and «mixed (conversion) dissociative disorder» with refusal to eat (23 female patients) were examined. As a result, the express-test for the differential diagnosis of anorexia nervosa and dissociative disorders with the refusal of food was developed, it can be used in the first contact of the patient and the doctor.

Key words: anorexia nervosa, dissociative disorder, differential diagnosis, psychiatry.

Introduction. Eating disorders with refusal to eat in conditions of limited access to specialized medical care, are representing a potentially lethal threat [4, 7]. The main factor which determines the prognosis for the life of such patients is the timely diagnosis and congruence of therapeutic interventions, which directly depends on the accuracy of the psychiatric diagnosis [4, 6].

Along with the well-known psychopathological form of eating disorders − anorexia nervosa, there is a class of dissociative disorders accompanied by refusal to eat, which mimics anorexia nervosa by: genesis and trigger factors, background and main contingent characteristics [2, 5]. At the moment there are no reliable tests for distinguishing these forms of psychopathology, what requires the need for the initial involvement of qualified specialists and massive resources to clarify the diagnosis and to make a choice of a treatment protocol [1, 3]. Our task was to develop an express-test for the differential diagnosis of anorexia nervosa and dissociative disorders with refusal to eat, which is possibile to use it in the conditions of the first contact of the patient and physician.

The objective: to develop the rating scale for preclinical differential diagnostics of anorexia nervosa and dissociative food refusal.

Material and methods. A retrospective study of two groups of patients with established diagnoses of "anorexia nervosa" (21 female patients) and "mixed (conversion) dissociative disorder" with refusal to eat (23 female patients), according to both ICD-10 and DSM-5 diagnostic criteria. Using the χ^2 criterion and the method of sequential analysis, which

based on the assessment of diagnostic coefficient and measures of informativeness of the signs [3], anamnestic and clinical signs were analyzed in the groups of study.

Results and discussion. At the first stage of the study, a scale was created by systematizing the diagnostic criteria of anorexia nervosa and mixed dissociative (conversion) disorders, as well as analyzing their presence in comparison groups, reflecting the difference between anorexia nervosa and dissociative disorders. In addition to generally accepted diagnostic criteria, criteria have been identified that seemed to be of value in differentiating these two pathologies in clinical aspect.

At the II stage of the study a comparative analysis of the frequency of occurrence of signs of anorexia nervosa and dissociative disorders, as well as some specific phenomena in the study groups, was carried out. Some features were not included due to the lack of frequency differences or due to the low frequency of occurrence in groups.

Basing on the frequency ratio (FR) of signs in the groups of study, diagnostic coefficients (DC) and measures of informativeness (MI) were established for each sign (Table 1).

Table 1

Statistical characteristics of basic diagnostic signs is groups of study

Sign		**Frequency**				**p (χ^2)**	**DC**	**MI**
		N		**%**				
		G1	**G2**	**G1**	**G2**			
nosognosia	+	5	15	23,8	65,2	0,0059	4,38	0,91
	-	16	8	76,2	34,8	0,0059	-3,41	0,71
starvation	+	14	5	66,7	21,7	0,0026	-4,87	1,09
	-	7	16	33,3	78,3	0,0026	3,20	0,58
weight loss more than 10%	+	15	2	71,4	8,7	<0,0001	-9.15	2,87
	-	6	21	28,6	91,3	<0,0001	5,05	1,58
demonstrativeness	+	3	11	14,3	47,8	0,0170	5.25	0.88
	-	20	12	85,7	52,2	0,0170	-2,61	0,56
hypochondriac ideation	+	6	12	28,6	52,2	0,3488	1,37	0,10
	-	15	11	71,4	47,8	0,3488	-1,74	0,21
impulsivity	+	6	19	28,6	82,6	0,0003	4,61	1,25
	-	15	4	71,4	17,4	0,0003	-6,14	1,66
negativism	+	7	3	33,3	13,1	0,1086	-4,07	0,41
	-	14	20	66,7	86,9	0,1086	1,15	0,12
mannerisms	+	3	10	14,3	43,5	0,0340	4,83	0,71
	-	18	13	85,7	56,5	0,0340	-1,81	0,26
fear of eating	+	9	3	42,9	13,1	0,0265	-5,17	0,77
	-	12	20	57,1	86,9	0,0265	1,82	0,27
emotional lability	+	8	19	38,1	82,6	0,0024	3,66	0,75
	-	13	4	61,9	17,4	0,0024	-5,51	1,23
	-	18	15	85,7	65,2	0,1168	-3,03	0,80
treatment loyality	+	19	22	90,5	95,7	0,4962	0,24	0,01
	-	2	1	9,5	4,3	0,4962	-0,56	0,27
suicidal thoughts	+	7	3	13,1	10,14	0,1086	-4,07	0,41
	-	14	20	66,7	86,9	0,1086	-2,61	0,14
vegetative violations	+	5	15	23,8	65,2	0,0058	4,38	0,91
	-	16	8	76,2	24,8	0,0058	-3,41	0,71
presence of psychogenic trigger	+	11	20	55,0	86,9	0,0120	2,20	0,38
	-	12	3	45,0	13,1	0,0120	-6,42	1,41

DC and IM were calculated by the formulas (E.V. Gubler, 1978):

$$DC = 10\lg\frac{A_1}{A_2}; \qquad (1)$$

$$IM = 10\lg\frac{A_1}{A_2} \bullet 0,5[A_1 - A_2] \qquad (2)$$

Where: DC – diagnostic coefficient; IM – Cul'backs informativeness measure; A_1 – sign frequency in comparison group 1; A_2 – sign frequency in comparison group 2.

Some signs were excluded as not having a sufficient level of confidence differences ($p(\chi^2)>0,05$): dissimulation ($p(\chi^2)=0,1087$), hypochondria ($p(\chi^2)=0,3488$), negativism ($p(\chi^2)=0,1086$), treatment adherence ($p(\chi^2)=0,4962$), suicidal attempts ($p(\chi^2)=0,1086$). As a result of statistical analysis, a pool of signs with a sufficient level of significance ($p(\chi^2)\leq 0,05$) of differences was formed: the presence of critics of the disease (FR=2,74, DC_{pres} =+4,38, DC_{abs}=-3,41, $\sum_{MI}$=1,62), complete refuse to eat (starvation) (FR=0,33, DC_{pres}=-4,87, DC_{abs}=+3,20, $\sum_{MI}$=1,67), weight loss more than 10% (FR=0,12, DC_{pres}=-9,15, DC_{abs}=+5,05, $\sum_{MI}$=4,45), demands of heightened attention (demonstrativeness) (FR=3,35, DC_{pres}=+5,25, DC_{abs}=-2,61, $\sum_{MI}$=1,44), impulsiveness (FR=2,89, DC_{pres}=+4,61, DC_{abs}=-6,14, $\sum_{MI}$=2,91), mannerism (FR=3,04, DC_{pres}=+1,82, DC_{abs}=+1,81, $\sum_{MI}$ =0,97), fear of eating (FR=0,30, DC_{pres}=-5,17, DC_{abs}=1,82, $\sum_{MI}$=1,04), emotional lability (FR=2,17, DC_{pres}=+3,66, DC_{abs}=-5,51, $\sum_{MI}$=1,98), vegetative instability (FR=2,74, DC_{pres}=+4,38, DC_{abs}=-3,41, $\sum_{MI}$=1,62), presence of a psychogenic trigger at the disease onset (FR=1,66, DC_{pres}=+2,20, DC_{abs}=-6,42, $\sum_{MI}$=1,79).

Basing on the obtained data, by the method of sequential analysis, a rating scale (express-test) which allows to determine diagnosis of "anorexia nervosa" (criterion $\sum_{DC}\leq$-13) or "mixed dissociative disorder" with refusal to eat (criterion $\sum_{DC}\geq$13), by summing up DC of signs in order from highest to lowest $\sum_{MI}$, with a level of predictive confidence of 95% (p=0,05), had been developed (table 2).

Table 2

The rating scale for preclinical differential diagnostics of anorexia nervosa and dissociative food refusal

Ознака (маркер)	present	absent	$\sum_{DC}$
weight loss more than 10%	-9.15	5,05	
impulsiveness	4,61	-6,14	
emotional lability	3,66	-5,51	
presence of psychogenic trigger	2,20	-6,42	
starvation	-4,87	3,20	
nosognosia	4,38	-3,41	
vegetative violations	4,38	-3,41	
demonstrativeness	5,25	-2,61	
fear of eating	-5,17	1,82	
mannerisms	1,82	-1,81	

Filling scale is based on registering objective data and patterns of behavior. "Yes" mark should be put in case of the phenomena presence, "No" mark should be put in case of phenomena absence. On filling each line, DC value that correspondents to presence of absence of a sign should be summed up to the value of $\sum_{DC}$ = + 13 or -13, that is a cut point to diagnostic conclusion of belonging psychopathological disorders to dissociative food refusal (if $\sum_{DC}$ = + 13), or to anorexia nervosa (if $\sum_{DC}$ = - 13), with confidence level = 95% (p=0,05).

Conclusion

As a result of the study, a rating scale was developed, which, with further validation, could be used to distinguish "anorexia nervosa" and "mixed dissociative (conversion) disorder" with refusal to eat in conditions of the first contact of the patient and physician.

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