Coll. Antropol. **27** (2003) 2: 581–586
UDC 572.512-055.2:616.895.1
Original scientific paper

Contribution to the Physique of Women with Manic-Depressive Disorder in Hungary

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A B S T R A C T

The purpose of this study was to get new data about the physique (somatotype) of manic-depressive patients. The somatotypes of manic-depressive females (n=31, mean age: 30 year) investigated show a balanced mesomorphic-endomorphic predominance. The mean somatotype was 6.34, 5.27, 1.39. Previous Hungarian studies showed a meso-endomorphic somatotype in manic-depressive females. The physique of these patients determined by Kretschmer as pycnic did not show significant alteration due to environmental changes. Thus, according to the recent study, Kretschmer's statements (1921) are still valid in manic-depressive females. They are invariably characterized by a pycnic physique.

***Key words**: manic-depressive patients, physique, somatotype, Hungary*

Introduction

The topic of clinical somatometry is double: on one hand, to study the physique as a morphological constitution which may predispose to certain illnesses, and, on the other hand, to follow the changes of the physique and the body status caused by those illnesses. It seems to be worthy to add to these the point of secular trend, which is a human biological phenomenon: long-term, systematic changes of a wide variety of human biological traits in successive generations living in the same territory[1]. It can influence not only stature but also the whole physique. Going out from a definition, the physique, i.e. the morphological constitution of adult humans, develops as the result of both the manifestation of genetic endowments and the adaptation to environmental influences[2]. Consequently, changes in

Received for publication September 1, 2002

physique can be followed by means of the methods of human biology. Somatotype characterizes the physique quite well.

The formulation of these topics and problems issues dates from the applied research done around the middle of the 20th century[3–5]. Since Kretschmer's investigations in the 1920s[3], somatometric examination of psychiatric patients has been a highly important research topic of clinical practice.

The knowledge of the relationship between certain somatic and psychological types was also deemed important in the Hungarian psychiatric practice in the 1960s. Neither the gradual transition between endogenous diseases and personality types determined by the physique, nor the genetically determined fatality of endogenous diseases was unanimously accepted[6], all the same, the connection between the physique and certain mental illnesses, according to physicians' opinion, could be statistically verified by means of Kretschmer's somatoscopic method[7]. Studies concerning the body measurements and physique of mentally ill people were performed by Kelemen et al.[8], Eiben et al.[9], Kelemen[10] and Tóth[11–15]. Kelemen[16] studied people suffering from psychic disorders from a genetic aspect. His results were considered as novelty in the field of the clinical somatometry in Hungary. One earlier study of Tóth[11] provided some data partially differing from those published by Kretschmer. It did not seemingly verify such a significant relationship between certain diseases and the type of the physique as described by Kretschmer[3].

Manic-depressive disorder, otherwise known as circular psychosis, is characterized by alternating, biphasic occurrence of manic and depressive periods. Positive or negative extremes of mood are characteristic. There is no gender difference in prevalence, but it is more frequent among people living in towns and cities and among those belonging to the high society. Its beginning may be generally put around the age of 21. Predisposing factors are mainly genetic and psychosocial. Initially, the patient usually has somatic complaints without organic findings behind them[17,18].

The relation between manic-depressive psychosis and pycnic physique seems to be verified by Kretschmer's studies[3]. Eiben et al. found that somatotypes of females with depressive disorder were in the meso-endomorphic category[9]. Tóth backed up these results in a study dealing with males and females with manic-depressive disorder[11]. The fact whether the manic or depressive phase is dominant resulted in no difference concerning the physique or body proportions between these patients. The somatometric examinations of Tóth performed in 15 males and 51 females[11] showed increased body measurements compared to those measured by Kretschmer[3]. The most considerable increase could be observed in body mass data. Body mass, chest circumference and the suprailiac skinfold value showed a marked proportional positivity. The female somatotypes were in the meso-endomorphic category. These somatotype data match those published by Eiben et al.[9].

The main purpose of our study was to get some new data to the issue of physique in the manic-depressive patients. It seemed to be worthy to analyze whether statements of Kretschmer (1929)[3] who found some interrelationship between pyknic body build and manic-depression are still valid.

Since we could not find any data on somatotype of such patients in the literature, with exception of some Hungarian papers, we cite these Hungarian investigations and use them for comparison.

Material and Methods

Only patients with exactly diagnosed disorder were involved in our study.

Somatometric examinations on 31 female with a diagnosis manic-depressive disorder beyond doubt were performed in two different institutes of County Vas (Western Hungary) in 1995. Their mean age was 47.96 years (range 30.0 to 75.2 years). A detailed anthropometric program was carried out (19 body measurements, see Table 1).

Somatometric examinations were performed using internationally standardized measuring tools and by Martin's measuring technique[19], but measurements were taken on the left side of the body, considering the recommendations of IBP/HA[20].

Somatotype was estimated by the anthropometric somatotyping method of Heath and Carter[21,22].

Results and Discussion

The results of the anthropometric examination are shown in Table 1. The present study shows a mean stature of 159.44 cm in manic-depressive females, which is in accordance with the results of the previous Hungarian study[11], and higher than that found by Kretschmer in his similar patients, 156.5 cm[3]. This difference can be ascribed to the secular trend. Body weight was found 67.71 kg in the present study and 56.3 kg in Kretschmer's. The former is less than the result of the mentioned previous Hungarian study, 71.47 kg[11]. The mean chest circumference was found 93.67 cm in our

TABLE 1
MEAN, STANDARD DEVIATION (SD), AND STANDARD ERROR (S_X) OF THE BODY MEASUREMENTS IN MANIC-DEPRESSIVE FEMALE PATIENTS

Body measurements	X	SD	S_x
Weight (kg)	67.71	12.47	2.24
Sitting height (cm)	85.12	2.51	0.45
Height (cm)	159.44	4.55	0.82
Upper extremity length (cm)	69.99	5.18	0.93
Height of iliospinale (cm)	90.18	4.33	0.78
Neck circumference (cm)	34.63	2.17	0.39
Chest circumference (cm)	93.67	9.12	1.64
Upper arm circ. (in extension) (cm)	27,67	3.49	0.63
Upper arm circ. (in flexion) (cm)	28.37	3.45	0.62
Thigh circumference (cm)	46.42	5.12	0.92
Calf circumference (cm)	35.70	3.33	0.60
Bicondylar width of humerus (mm)	66.19	4.71	0.85
Bicondylar width of femur (mm)	95.81	7.96	1.43
Medial calf skinfold (mm)	20.74	7.74	1.34
Triceps skinfold (mm)	20.23	7.39	1.33
Biceps skinfold (mm)	13.45	5.24	0.94
Subscapular skinfold (mm)	19.71	8.72	1.57
Abdominal skinfold (mm)	24.55	6.36	1.14
Suprailiac skinfold (mm)	25.48	10.54	1.89

TABLE 2
INDIVIDUAL SOMATOTYPES OF MANIC-DEPRESSIVE FEMALE PATIENTS

Serial number of individual	Endo-morphy	Meso-morphy	Ecto-morphy
1.	8	5.5	0.5
2.	7	6.5	0.5
3.	7.5	6	0.5
4.	7	5.5	0.5
5.	7	5.5	0.5
6.	4.5	3.5	2
7.	7	7	0.5
8.	7.5	7	0.5
9.	4	4.5	1
10.	4	4	1
11.	6.5	7	0.5
12.	1.5	2.5	5
13.	7	6	0.5
14.	2.5	2.5	4
15.	6.5	4	0.5
16.	5	4	2
17.	4	5	1.5
18.	9	7.5	1.5
19.	6.5	6	0.5
20.	6	4	2
21.	9.5	7.5	0.5
22.	5	4	2.5
23.	6	2.5	3
24.	5.5	3.5	3
25.	6.5	3.5	1.5
26.	9.5	7.5	1.5
27.	8.5	8	0.5
28.	8	6.5	1.5
29.	5.5	4.5	2
30.	8.5	7	0.5
31.	6	5.5	1
Mean	6.34	5.27	1.39

present study and 86.0 cm in Kretschmer's. The former is almost the same as found in the above-mentioned previous Hungarian study (95.16 cm). The BMI in our sample is 26.66, which, according to Garrow's scale[23], can be considered as a sign of moderate obesity.

The somatotypes of the manic-depressive females investigated are presented

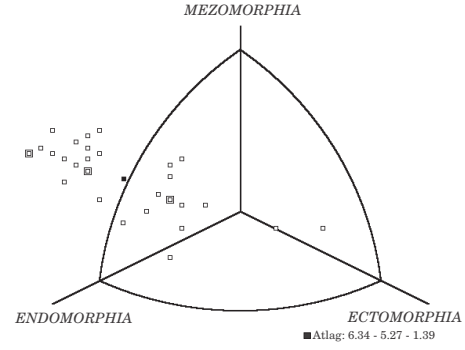

Fig. 1. Somatotypes of manic-depressive female patients. Mean somatotype: 6.34–5.27–1.39.

in Table 2 and in Figure 1. Table 2 shows the individual somatotypes. The range is quite large for all three components, in endomorphy: 1.5–9.5, in mesomorphy: 2.5 –7.5, and also in ectomorphy: 0.5–5.0. Characterising physique as a whole, a balanced mesomorphic-endomorphic *predominance* was found. The average somatotype is 6.34–5.27–1.39. These data slightly differ from those published by Eiben et al.[9], and from those previously determined by Tóth[11], but there is no significant difference between somatotype components of previous studies and the present one. Previous studies showed a meso-endomorphic predominance among manic-depressive females. Our new values indicate a shift towards mesomorphy as compared with the data of our previous studies. This shift may be due to the changes of environmental influence.

The numeric values of the body measurements in our study show an increment compared to Kretschmer's results. This positive shift can only partially be explained by the influence of secular trend existing in Hungary[1]. The joint influence of the changes in environmental factors, regular and sufficient nutrition in the institutes and effects or side effects of drugs could result in the somatometric

features determined in the early 1990's[11]. The present study resulted in almost the same characteristics as the previous one, only the results of the somatotype showed a shift towards mesomorphy in females. Despite of the unfavourable changes of social and living conditions in the past few years (c.f. Eiben 1998[24]), the biological characteristics proved to be almost the same as in Kretschmer's study or in our own previous studies. These results indicate that the physique of manic-depressive people is genetically strongly determined. Not even the environmental changes could cause marked difference in comparison with the results measured in the 1920s and in the early 1990s. Decreased obesity in females could be considered as the only difference. Kretschmer's statements concerning people with manic-depressive disorder seem to be still valid[3]: the pycnic habitus remains to be considered as dominant.

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DOPRINOS TJELESNE GRAĐE MANIČNO-DEPRESIVNOM POREMEĆAJU ŽENA U MAĐARSKOJ

S A Ž E T A K

Cilj ove studije bio je ponovno prikupiti i analizirati podatke o tjelesnoj građi (somatotipu) manično-depresivnih bolesnika. Somatotip većine ispitivanih manično-depresivnih žena (n=31, dob: 30 godina) bio je uravnoteženog mezomorfno-endomorfnog tipa. Srednje vrijednosti somatotipa bile su: 6.34–5.27–1.39. Prethodna istraživanja provedena u Mađarskoj pokazala su mezo-endomorfni somatotip u manično-depresivnih žena. Tjelesna građa ovih bolesnika definirana po Kretschmeru kao piknička, nije se uslijed promjena okoliša značajno izmijenila. Stoga, prema rezultatima ove studije, Kretschmerova tvrdnja iz 1921. godine je još uvijek održiva: Manično-depresivne žene karakterizirane su s pikničkom tjelesnom građom.