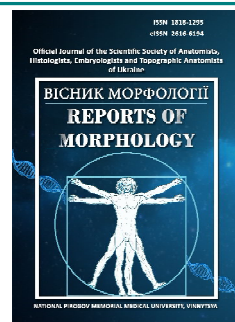




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Girth body dimensions in men and women with seborrheic dermatitis of varying severity

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Today in modern medicine the study of human health is reoriented to the individual principle, which is based on the identification and study of constitutionally determined patterns of manifestation of certain diseases. The purpose of the study is to establish and analyze the features of the girth body sizes in men and women with generalized fatty form of seborrheic dermatitis of varying severity. The comprehensive body size of 40 men and 40 young women (25-44 years) with generalized fatty seborrheic dermatitis (mild and severe) was determined. The control group consisted of the girth sizes of practically healthy men (n=82) and women (n=154) of the same age group, which were selected from the database of the research center National Pirogov Memorial Medical University. Statistical processing of body circumference was performed in the licensed package "Statistica 6.0" using non-parametric evaluation methods. As a result of studies in patients with seborrheic dermatitis of varying severity of men, compared with practically healthy men, found only greater values of the girth of the shoulder in a relaxed state and thighs, neck (only mild), shin in the upper part and waist (in both cases only with a severe degree), as well as smaller values of the girth of the shoulder in a tense state; and in patients of varying severity of women - greater values of the girth of the shoulder in a relaxed state, thighs, lower legs, neck, waist and all girths of the chest and both thighs (only severe), as well as smaller values of the girth of the hand (only with mild). In both men and women with seborrheic dermatitis, differences in girth body sizes are more pronounced in people with severe disease. Between men or women with seborrheic dermatitis of varying severity, there are no significant or trends in differences in girth body sizes. In the analysis of the manifestations of sexual dimorphism of the circumferential body size between men and women with seborrheic dermatitis found greater values in men with mild and severe disease of the upper extremities, hands, shin, feet and neck (in most cases more pronounced in representatives with mild severity), as well as only in men with mild severity - greater values of all chest girths. For a more correct understanding of changes in girth body sizes in Ukrainian men or women with seborrheic dermatitis of varying severity, it is necessary to analyze other constitutional parameters of the body.

Keywords: seborrheic dermatitis, Ukrainian men and women, girth body sizes, sex differences.

Introduction

The problem of diseases with a chronic long course is currently quite relevant in both theoretical and practical terms [2, 7].

Seborrheic dermatitis belongs to multifactorial diseases with complex and multifaceted pathogenesis. The work of recent years reflects the participation in the pathogenesis of dermatosis of almost all integrating systems of the body and the main parts of its basic functional systems. Both exogenous (physicochemical,

biological) and endogenous (nervous system, genetic predisposition and immune disorders) factors are involved in the phenotypic manifestation of this disease. The pathogenetic mechanisms of dermatitis are polymorphic and do not contradict, but complement each other [1, 4, 16].

Given the most common manifestation of seborrheic dermatitis in young working age and in a third of cases severe, continuously recurrent course, the presence of

many therapeutic approaches, none of which guarantees the effect of treatment and the absence of recurrence, there is a need to seek prognostic exacerbations [13, 19, 20].

Constitutional diagnosis is an important step in solving the problems of medical anthropology and in the clinic of dermatological diseases in particular. Today it is impossible to predict the possibility of development and features of the pathological processes in a particular patient without taking into account his body type and anthropometric indicators. After all, the somatotype is genetically determined and is characterized by a certain level and feature of metabolism, psychophysiological processes, the predominant development of muscle, bone or adipose tissue, susceptibility to certain diseases [11, 12].

In the literature there are works in which the predisposition to diseases of the skin and its appendages has been studied. The existence of dependence of predisposition to psoriasis, acne, atopic dermatitis on body size indicators has been proved [5, 10, 17]. It is noted that people with overweight are more likely to suffer from seborrheic dermatitis, and men with this pathology have less growth and more pronounced centralization of fat deposits compared to the control group [6].

In the studied literature we did not find the results of anthropological studies of comprehensive body size in men and women with seborrheic dermatitis of varying severity living in Ukraine, and data from other countries are few and often contradictory, indicating the need for research in this area.

The purpose of the study is to establish and analyze the features of the girth body sizes in men and women with generalized fatty form of seborrheic dermatitis of varying severity.

Materials and methods

On the basis of the Department of Dermatology and Venereal Diseases with a postgraduate course in National Pirogov Memorial Medical University and the Military Medical Clinical Center of Central conducted a survey of 40 men and 40 young women (25-44 years according to WHO age periodization, 2015) patients with generalized fatty seborrheic dermatitis (mild and severe).

Committee on Bioethics of National Pirogov Memorial

Medical University, Vinnytsya (protocol № 10 From 26.11.2020) found that the studies do not contradict the basic bioethical standards of the Declaration of Helsinki, the Council of Europe Convention on Human Rights and Biomedicine (1977), the relevant WHO regulations and laws Of Ukraine.

Diagnosis of diabetes was established on the basis of complaints of the subject, life history and illness, examination of the face, scalp, torso and extremities with the assessment of subjective and objective signs of the disease.

Anthropometric survey was conducted according to the scheme of Bunak V. V. [3]. Measurements of the girth dimensions of the body were performed using a centimeter tape with an accuracy of 0.5 cm (after every 100 measurements, the centimeter tape was changed to a new one). Measured: tensile shoulder girth (OBPL1), unstressed shoulder girth (OBPL2), upper forearm girth (OBPR1), lower forearm girth (OBPR2), hand girth (OBK), thigh girth (OBB), both thigh girth (OBBS), shin girth at the top (OBG1), shin girth at the bottom (OBG2), foot girth (OBS), neck girth (OBSh), waist girth (OBT), chest girth on breath (OBGK1), exhalation chest girth (OBGK2), and resting chest girth (OBGK3). During the procedure, certain requirements were observed: control of posture, breathing, muscle relaxation, measurement by the largest or smallest circumference.

The control group consisted of anthropometric data of practically healthy men (n=82) and women (n=154) of the same age group, which were selected from the database of the research center National Pirogov Memorial Medical University.

Statistical processing of body circumference was performed in the licensed package "Statistica 6.0" using non-parametric evaluation methods. The reliability of the difference between the values between the independent quantitative values was determined using the Mann-Whitney U-test.

Results

Table 1 presents the results of a comparison of the girth body size between healthy and patients with mild and severe seborrheic dermatitis of men and/or women.

Table 1. Comparison of girth body sizes between healthy and patients with seborrheic dermatitis of varying severity in men and/or women ($M \pm \sigma$).

Indicators	Healthy men (n=82)	Men suffer from seborrheic dermatitis		P_{h-md}	P_{h-sd}	P_{md-sd}
		MD (n=20)	SD (n=20)			
OBPL1	33.23±2.84***	31.40±2.76†	32.48±4.45*	<0.05	=0.082	>0.05
OBPL2	30.17±2.94***	33.68±2.51**	34.35±4.67*	<0.001	<0.001	>0.05
OBPR1	27.33±2.01***	26.78±1.74***	27.45±2.32***	>0.05	>0.05	>0.05
OBPR2	17.44±1.24***	17.40±0.94***	17.15±1.26**	>0.05	>0.05	>0.05
OBK	21.39±1.22***	21.50±1.49***	21.40±1.19***	>0.05	>0.05	>0.05
OBB	53.25±4.49	56.00±3.87	56.25±6.69	<0.05	=0.081	>0.05

Continuation of table 1.

Indicators	Healthy men (n=82)	Men suffer from seborrheic dermatitis		P_{h-md}	P_{h-sd}	P_{md-sd}
		MD (n=20)	SD (n=20)			
OBBB	95.04±6.39	96.00±5.79	96.80±8.31	>0.05	>0.05	>0.05
OBG1	36.43±2.91***	36.33±3.71	36.63±4.76	>0.05	>0.05	>0.05
OBG2	23.41±1.87***	24.13±2.21*	24.43±2.42*	>0.05	<0.05	>0.05
OBS	24.96±1.46***	24.78±1.04***	24.45±1.34*	>0.05	>0.05	>0.05
OBSH	37.67±1.92***	38.63±1.96***	38.18±2.96***	=0.055	>0.05	>0.05
OBT	79.48±7.32***	80.10±20.14	86.18±14.69	>0.05	=0.093	>0.05
OBGK1	100.0±6.0***	100.3±7.5*	100.8±11.0	>0.05	>0.05	>0.05
OBGK2	93.18±6.39***	93.80±9.26*	94.70±10.62	>0.05	>0.05	>0.05
OBGK3	95.20±6.57***	96.25±8.72*	97.35±11.02	>0.05	>0.05	>0.05
Indicators	Healthy women (n=154)	Women suffer from seborrheic dermatitis		P_{h-md}	P_{h-sd}	P_{md-sd}
		MD (n=20)	SD (n=20)			
OBPL1	27.97±2.82	29.18±4.67	28.98±4.01	>0.05	>0.05	>0.05
OBPL2	26.43±2.80	29.75±4.52	30.63±4.66	<0.01	<0.001	>0.05
OBPR1	23.56±1.88	23.30±2.59	23.88±2.46	>0.05	>0.05	>0.05
OBPR2	15.65±1.58	15.30±1.29	15.78±1.13	>0.05	>0.05	>0.05
OBK	18.68±1.15	18.20±1.03	18.80±1.47	<0.05	>0.05	>0.05
OBB	52.91±4.46	58.20±9.00	58.83±8.02	<0.01	<0.001	>0.05
OBBB	95.40±6.73	97.90±11.18	101.0±12.2	>0.05	=0.080	>0.05
OBG1	34.89±2.83	36.10±4.15	36.65±3.89	>0.05	>0.05	>0.05
OBG2	22.20±1.67	22.85±1.69	23.55±1.32	=0.083	<0.001	>0.05
OBS	22.84±1.51	22.48±1.61	23.23±2.05	>0.05	>0.05	>0.05
OBSH	31.92±1.43	33.55±3.00	34.28±2.81	<0.01	<0.001	>0.05
OBT	68.74±6.18	77.05±11.54	78.00±12.93	<0.001	<0.01	>0.05
OBGK1	89.20±6.08	95.00±9.03	97.30±10.11	<0.01	<0.001	>0.05
OBGK2	82.24±6.31	87.00±7.91	89.15±8.95	<0.05	<0.01	>0.05
OBGK3	84.58±6.34	90.65±8.05	92.95±9.90	<0.001	<0.001	>0.05

Notes: MD - mild severity; SD - severe severity; p_{h-md} - the significance of the difference between the values of indicators between healthy and patients with mild seborrheic dermatitis; p_{h-sd} - reliability of the difference between the values of indicators between healthy and patients with severe seborrheic dermatitis; p_{md-sd} - the reliability of the difference between the values of indicators between patients with seborrheic dermatitis of mild and severe severity; * - the reliability of the difference in the values of the relevant indicators between men and women at the level $p<0,05$; ** - the reliability of the difference in the values of the relevant indicators between men and women at the level $p<0,01$; *** - the reliability of the difference in the values of the relevant indicators between men and women at the level $p<0,001$; t - trends in the difference between the values of the respective indicators between men and women.

Discussion

The main purpose of screening research is not to detect the disease at an early stage, as is commonly thought, but to prevent unwanted outcomes of the disease. A mass examination of people who do not consider themselves ill is carried out, and the latent course of diseases or other conditions (risk factors for future disease) is revealed. Screening does not diagnose the disease, but identifies people with an increased likelihood of certain conditions. If necessary, these individuals can further undergo an in-depth examination to determine the diagnosis of the disease [8, 15].

In recent decades, increasing attention has been paid to the study of constitutional features and adaptive capabilities of healthy and sick people with various congenital and acquired pathologies. In terms of this, it is advisable to comprehensively assess the morpho-functional systems within the constitutional integrity of the organism, which provides the individual nature of the adaptation process and reveals a range of prenosological states - from adaptive response to critical stress [14].

Determination of body girth is carried out in the daily practice of various branches of medicine and is of particular interest to physicians of many specialties. The

Table 2. Differences in girth body sizes between healthy and patients with seborrheic dermatitis of varying severity in men and/or women.

Indicators	Men			Women		
	H	MD	SD	H	MD	SD
OBPL1						
OBPL2						
OBPR1						
OBPR2						
OBK						
OBBS						
OBBSB						
OBG1						
OBG2						
OBBS						
OBBSH						
OBBS						
OBGK1						
OBGK2						
OBGK3						

Notes: H - healthy; MD - seborrheic dermatitis of mild severity; SD - severe seborrheic dermatitis; Δ or ∇ - significant differences between healthy and sick men; $\uparrow$ or $\downarrow$ - trends in differences between healthy and sick men; Δ or ∇ - significant differences in indicators between sick women; $\uparrow$ or $\downarrow$ - tendencies of differences of indicators between sick women; significantly higher indicators are highlighted in green when comparing the respective groups between men and women; tendencies to higher values of indicators are compared in yellow when comparing the respective groups between men and women.

We did not find any significant or tendencies of differences in body size *between patients with seborrheic dermatitis of varying severity* in Ukrainian men or women (see Tables 1, 2).

In the analysis of sex differences in girth body sizes *between patients with seborrheic dermatitis of varying severity*, Ukrainian men and women found significantly higher or greater tendencies in men compared to women, shoulder girth in a tense state (respectively 7.1 % and 10.8 %), shoulder unstressed (by 11.7 % and 10.8 %, respectively), forearms in the upper part (by 13.0% and 13.0%, respectively), forearms in the lower part (by 12.1 % and 8.0 %, respectively), hands (by 15.3 % and 12.1 %, respectively), shin (5.3 % and 3.6 %, respectively), feet (9.3 % and 5.0 %, respectively), neck (13.2 % and 10.2 %, respectively), and inhalation thorax (only compared to mild 5.3 %), chest on exhalation (only compared to mild severity by 7.2 %), and chest at rest (only compared to mild severity by 5.8 %) (see Tables 1, 2).

A comparative study of body and limb girth between healthy and patients with seborrheic dermatitis is important for assessing the condition and predicting the risk of developing the disease, as well as for developing or adjusting treatments.

- *between healthy and patients of mild and severe severity of the disease in men* - in practically healthy men significantly lower or a tendency to lower values of the girth of the shoulder in a relaxed state (10.4 % and 12.2 %, respectively), thighs (4.9 % and 5.3 %, respectively), shins

Thus, the comparison of the results of the anthropometric study with the clinical manifestations of seborrheic dermatitis between patients and healthy subjects, as well as between patients of different sexes allowed to formulate some criteria for unfavorable prognosis of seborrheic process.

Conclusion

1. Patients with seborrheic dermatitis of varying severity of men, compared with practically healthy men, found greater values of the girth of the shoulder in a relaxed state and thighs (more pronounced in representatives with severe severity), neck (only mild), shin in the upper parts and waist (in both cases only severe), as well as smaller values of the shoulder girth in a tense state. Patients of varying severity of women (more pronounced in severe),

compared with practically healthy women, found greater values of the girth of the shoulder in a relaxed state, thighs, shin, neck, waist and all girths of the chest and both thighs (only with a severe degree), as well as smaller values of the girth of the hand (only with a mild degree).

2. There are no significant or trends in differences in body size between men or women with seborrheic dermatitis of varying severity.

3. Among patients with seborrheic dermatitis of varying severity, Ukrainian men and women found pronounced manifestations of sexual dimorphism of the girth sizes of the body - greater values in men (regardless of the severity of the disease) of the upper limb, hand, shin, foot and neck (mostly cases are more pronounced in representatives with mild severity), as well as only in men with mild seborrheic dermatitis greater values of all girths of the chest.

References

- [1] Bas, Y., Seckin, H. Y., Kalkan, G., Takci, Z., Citil, R., Onder, Y. ... Demir, A. K. (2016). Prevalence and related factors of psoriasis and seborrheic dermatitis: a community-based study. *Turkish Journal of Medical Sciences*, 46(2), 303-309. doi: 10.3906/sag-1406-51
- [2] Bircher, J., & Kuruvilla, S. (2014). Defining health by addressing individual, social, and environmental determinants: new opportunities for health care and public health. *Journal of Public Health Policy*, 35(3), 363-386. doi: 10.1057/jphp.2014.19
- [3] Bunak, V.V. (1941). *Антропометрия [Anthropometry]*. М.: Наркомпрос РСФСР - М.: People's Commissariat of the RSFSR.
- [4] Dai, R.Y., & Gu, X.H. (2017). Study on health related quality of life and influencing factors in seborrheic dermatitis patients. *Chin. J. Gen. Pract.*, 15(02), 292-294.
- [5] Gara, A. V. (2014). Особливості соматотипологічних параметрів у хлопчиків і дівчаток Поділля хворих на atopічний дерматит [Features of somatotypological parameters in boys and girls of Podillia patients with atopic dermatitis]. *Український морфологічний альманах - Ukrainian Morphological Almanac*, 12(2), 95-98.
- [6] Gupta, A. K., & Bluhm, R. (2004). Seborrheic dermatitis. *Journal of the European Academy of Dermatology and Venerology*, 18(1), 13-26. doi: 10.1111/j.1468-3083.2004.00693.x
- [7] Hanson, M. A., & Gluckman, P. D. (2015). Developmental origins of health and disease-global public health implications. *Best Practice & Research Clinical Obstetrics & Gynaecology*, 29(1), 24-31. doi: 10.1016/j.bpobgyn.2014.06.007
- [8] Iragorri, N., & Spackman, E. (2018). Assessing the value of screening tools: reviewing the challenges and opportunities of cost-effectiveness analysis. *Public Health Reviews*, 39(1), 1-27. doi: 10.1186/s40985-018-0093-8
- [9] Lee, J., Lee, J., Shin, H., Kim, K.S., Lee, E., Koh, B., & Jang, H.J. (2012). Suggestion of new possibilities in approaching individual variability in appetite through constitutional typology: a pilot study. *BMC Complementary and Alternative Medicine*, 12(1), 1-8. doi: 10.1186/1472-6882-12-122
- [10] Makarchuk, I. M. (2014). Порівняння поперечних розмірів тіла між здоровими та хворими на вугрову хворобу юнаками та дівчатами Поділля з урахуванням і без урахування соматотипу [Comparison of transverse body sizes between healthy and acne boys and girls of Podillia with and without somatotype]. *Вісник морфології - Reports of Morphology*, 20(2), 482-488.
- [11] Murzina, E.O. (2020). Конституційні особливості дітей хворих на псоріаз [Constitutional features of children with psoriasis]. *Журнал дерматовенерології та косметології імені М.О.Торсуєва - Journal of Dermatovenereology and Cosmetology named after M.O.Torsuev*, 1, 53.
- [12] Nebert, D.W., & Zhang, G. (2012). Personalized medicine: temper expectations. *Science*, 337(6097), 910-910. doi: 10.1126/science.337.6097.910-a
- [13] Polonskaya, A.S., Shatokhina, E.A., & Kruglova, L.S. (2020). Себорейний дерматит: сучасні представлення об етіології, патогенезі і підходах до лікування [Seborrheic dermatitis: modern ideas about the etiology, pathogenesis and approaches to treatment]. *Клінічна Дерматологія і Венерологія - Clinical Dermatology and Venereology*, 19(4), 451-458. doi: 10.17116/klinderma202019041451
- [14] Raffle, A.E., & Gray, J.M. (2019). *Screening: Evidence and Practice*. Oxford University Press, USA.
- [15] Sagan, A., McDaid, D., Rajan, S., Farrington, J., McKee, M., & World Health Organization. (2020). Screening: when is it appropriate and how can we get it right?. *World Health Organization. Regional Office for Europe*. <https://apps.who.int/iris/handle/10665/330810>
- [16] Sanders, M.G.H., Pardo, L.M., Franco, O.H., Ginger, R.S., & Nijsten, T. (2018). Prevalence and determinants of seborrheic dermatitis in a middle aged and elderly population: the Rotterdam Study. *British Journal of Dermatology*, 178(1), 148-153. doi: 10.1111/bjd.15908
- [17] Sanders, M.G., Pardo, L.M., Ginger, R.S., Kieffe-de Jong, J.C., & Nijsten, T. (2019). Association between diet and seborrheic dermatitis: A cross-sectional study. *Journal of Investigative Dermatology*, 139(1), 108-114. doi: 10.1016/j.jid.2018.07.027
- [18] Scafogliari, A., Clarys, J.P., Catrysse, E., & Bautmans, I. (2014). Use of anthropometry for the prediction of regional body tissue distribution in adults: benefits and limitations in clinical practice. *Aging and Disease*, 5(6), 373-393. doi: 10.14366/AD.2014.0500373
- [19] Wikramanayake, T.C., Borda, L.J., Miteva, M., & Paus, R. (2019). Seborrheic dermatitis-looking beyond Malassezia. *Experimental Dermatology*, 28(9), 991-1001. doi: 10.1111/exd.14006
- [20] Xuan, M., Lu, C., & He, Z. (2020). Clinical characteristics and quality of life in seborrheic dermatitis patients: a cross-sectional study in China. *Health and Quality of Life Outcomes*, 18(1), 1-8. doi: 10.1186/s12955-020-01558-y

ОСОБЛИВОСТІ ОБХВАТНИХ РОЗМІРІВ ТІЛА У ЧОЛОВІКІВ І ЖІНОК ХВОРИХ НА СЕБОРЕЙНИЙ ДЕРМАТИТ РІЗНОГО СТУПЕНЯ ВАЖКОСТІ

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На сьогоднішній день в сучасній медицині вивчення стану здоров'я людини переорієнтовано на індивідуальний принцип, в основу якого покладено виявлення і вивчення конституціонально-детермінованих закономірностей прояву певних хвороб. Мета дослідження - встановити та провести аналіз особливостей обхватних розмірів тіла у чоловіків і жінок, хворих на генералізовану жирну форму себорейного дерматиту різного ступеня важкості. Проведено визначення обхватних розмірів тіла у 40 чоловіків і 40 жінок молодого віку (25-44 роки) хворих на генералізовану жирну форму себорейного дерматиту (легкого та тяжкого ступеня важкості). Контрольну групу складала обхватні розміри практично здорових чоловіків (n=82) і жінок (n=154) аналогічної вікової групи, що були відібрані з банку даних науково-дослідного центру Вінницького національного медичного університету ім. М.І. Пирогова. Статистична обробка обхватних розмірів тіла проведена в ліцензійному пакеті "Statistica 6.0" із використанням непараметричних методів оцінки. В результаті проведених досліджень у хворих на себорейний дерматит різного ступеня важкості чоловіків, порівняно з практично здоровими чоловіками, встановлені лише більші значення обхватів плеча у ненапруженому стані та стегна, шиї (лише з легким ступенем), гомілки у верхній частині та талії (в обох випадках лише з тяжким ступенем), а також менші значення обхвату плеча у напруженому стані; а у хворих різного ступеня важкості жінок - більші значення обхватів плеча у ненапруженому стані, стегна, гомілки у нижній частині, шиї, талії і усіх обхватів грудної клітки та обох стегон (лише з тяжким ступенем), а також менші значення обхвату кисті (лише з легким ступенем). Як у хворих на себорейний дерматит чоловіків, так і у жінок, відмінності обхватних розмірів тіла більш виражені у представників із тяжким ступенем важкості захворювання. Між чоловіками або жінками, хворими на себорейний дерматит різного ступеня важкості не встановлено достовірних або тенденцій розбіжностей обхватних розмірів тіла. При аналізі проявів статевого диморфізму обхватних розмірів тіла між хворими на себорейний дерматит чоловіками та жінками встановлені більші значення у чоловіків із легким і тяжким ступенем важкості захворювання обхватів верхньої кінцівки, кисті, гомілки у нижній частині, стопи та шиї (у більшості випадків більш виражено у представників із легким ступенем важкості), а також лише у чоловіків із легким ступенем важкості - більші значення усіх обхватів грудної клітки. Для більш коректного розуміння змін обхватних розмірів тіла в українських чоловіків або жінок, хворих на себорейний дерматит різного ступеня важкості необхідно провести аналіз інших конституціональних параметрів тіла.

Ключові слова: себорейний дерматит, українські чоловіки та жінки, обхватні розміри тіла, статеві розбіжності.
