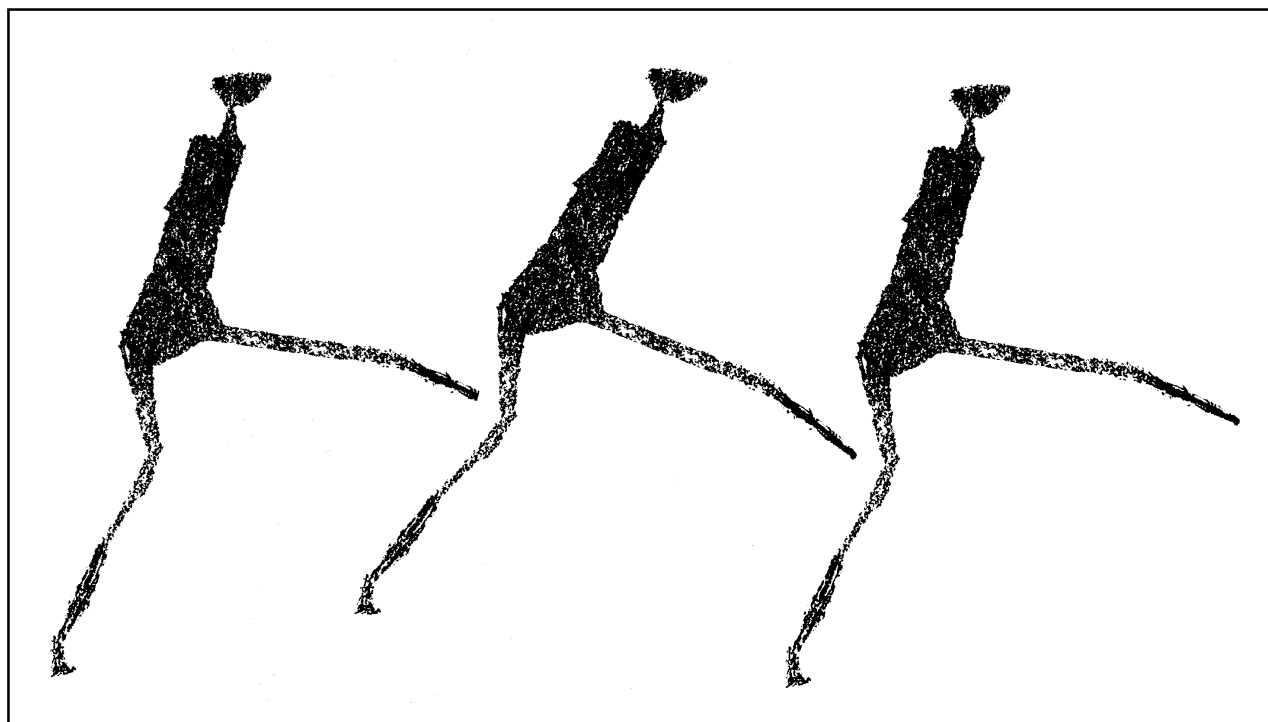


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Z VĚDECKÉ ČINNOSTI

**SOCIAL-ECONOMIC FACTORS
DETERMINING THE PHYSICAL
DEVELOPMENT AND AGE OF
MENARCHE IN FIRST-YEAR WOMEN
STUDENTS AT UNIwersYTET
ZIELONOGÓRSKI**

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Abstract

This paper shows the effects of a variety of social-economic factors (such as residence area's level of urbanisation, parents' education, parents' jobs, number of siblings, number of elder siblings, way of baby-feeding after birth) upon the age of puberty and physical development in first-year women students at Uniwersytet Zielonogórski.

Key words: *physical development, puberty, social-economic factors, women students.*

**SOMATIC FEATURES AND BODY
COMPONENTS AS RELATED TO
PHYSICAL FITNESS IN FIRST-YEAR MEN
STUDENTS AT UNIwersYTET
ZIELONOGÓRSKI**

**Ryszard Asienkiewicz, Józef Tatarczuk,
Andrzej Malinowski, Artur Wandycz**

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Abstract

The paper looks at the relationships between selected motor abilities and morphological features and selected body components.

The research was carried out over the academic year of 2005/2006 on a population of first-year 62 men students at Uniwersytet Zielonogórski.

A statistical analysis of the data showed a significant relationship between fitness tests' results and the level of development of somatic features and body components.

Key words: *men students, correlation, physical development, motor efficiency, body components.*

**VLIV ORTOPEDICKÝCH VÝPLNÍ NA
ROZLOŽENÍ NÁŠLAPNÝCH TLAKŮ
DYNAMICKÉHO ZATÍŽENÍ U PROBANDŮ
BEZ KLINICKÉHO NÁLEZU**

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Abstract

Many types of insole arch supports are established tools for treatment of different orthopaedic disorders. However, many of them are serially produced and freely available in dispensaries promising to bring relief from the fatigue and to eliminate gait overloading. Due to the frequent use and the popularity of insole arch supports, the study using plantar pressure measurement was established to evaluate how effective can be those non-individually molded orthotics.

Key words: *arch supports, Pedar, loading pattern.*

**TELESNÉ ZLOŽENIE 12 AŽ 15ROČNÝCH
CHLAPCOV V OBDOBÍ DOSPIEVANIA**

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Abstract

In this work we oriented on the evaluation of the body structure of boys at the age between 12–15 years. Boys at this age go through the period of adolescence which is full of big changes both physical and psychological. Physical movement, physical work and managed motional training have an important function in the regime of adolescents or develop all functions and in such a way influence positive functional development especially of the following systems: system of support, motion, circulation, expiratory system and nerve system. In this research 300 boys of elementary schools took part from several towns of Central Slovakia. The body structure was calculated according to a modified method of Drinkwater and Ross (Drinkwater, Ross, 1980). On the total body structure of our probands the skeleton weight took part between 8,75–11,46 kg (18,82–20,01 %). The weight of musculature was between 17,33–24,67 kg (39,22–40,42 %). Fat weight consisted of 6,74–6,85 kg (12,87–14,87 %). The rest weight took part on the total body structure 11,71–17,10 kg (26,15–27,89 %).

Key words: *body structure, puberty, boys, skeleton weight, weight of musculature, fat weight.*

SEBEHODNOCENÍ VE VZTAHU K TĚLESNÉ VÝŠCE A HMOTNOSTI

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Abstract

The issues of self-concept and self-evaluation from the point of view of the body image has been a current topic on a long term basis, in recent decades accentuated by the increasing occurrence of obesity on one side and eating disorders on the other. It is important in relation to choosing one's partner, the position of an individual in society, feelings of personal satisfaction and health risks. Criteria for body self-concept and self-evaluation change throughout history and are significantly conditioned by cultural circumstances. However for each individual the relation to his/her own body is of great importance. In our study we focused on the dependence of body height and weight on self-concept and self-evaluation of women and men. The researched group consisted of 161 people from Pilsen (93 women and 68 men). In questionnaires respondents gave their current opinions on their own body height and weight in the form of marking themselves and „ideals“ on a range scale; moreover they answered questions relating to their life activities and habits and finally from a set of drawn silhouettes they chose one which seemed to resemble them the most, one which they considered an „ideal“ and one which they thought was preferred by the opposite sex.

As to the actual body height, the relation to satisfaction or dissatisfaction with one's own body self-concept was not found. Subjectively, in answers more likely men displayed dissatisfaction with their own body height, while women did not. Higher body weight and BMI led in women to a feeling of dissatisfaction; in men a significant impact was not established. However, men and women of a higher weight and BMI realised these were higher than the optimum presumed by them. Moreover, the expectation that significantly more women than men wish to be slimmer was proven. Also, we discovered that the „ideal“ for one's own figure in half of the cases matched the idea of preference imagined from the opposite sex, some men gave a more stout-like figure as an „ideal“ for themselves and in women there was a „spread“ of different silhouettes towards a fuller as well as slimmer figure.

Key words: *self-evaluation, body image, body height, body weight.*

ODCHÝLKY V POČTE ZUBOV A VRODENÉ ZUBNÉ ANOMÁLIE U JEDINCŮ ZO STAROSLOVANSKÉHO POHREBISKA POHANSKO – „POHŘEBIŠTĚ OKOLO KOSTELA“, OKR. BŘECLAV, ČESKÁ REPUBLIKA

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Abstract

This study evaluated the variation of tooth number and developmental dental anomalies in individuals from the Old-Slavonic cemetery Pohansko, part „Cemetery around the Church.“ Even though 407 graves with 412 individuals were excavated, dentition state could be examined only in 320 ones. Retention of the third molars was evaluated in individuals from the age of Juvenis. In 217 adolescent and adult individuals were found 147 impacted M3 (19,9 %). At least one impacted M3 was found in 58 individuals (26,7 %). Besides the retention of M3, 9 other impacted and 2 supernumerary teeth were recorded. From developmental anomalies we found one case of *dentes geminati* and one case of dental enamel pearls.

Key words: *historical anthropology, odontology, hypodontia, hyperdontia, enamel pearls.*

Táto štúdia je súčasťou projektovej úlohy Grantovej agentúry VEGA SR č. 1/1288/4 „Ekologické aspekty zdravotného stavu chrupu historických populácií na území Slovenska.“

THE EFFECTIVENESS OF VISUALIZATION IN THE INITIAL TEACHING OF SWIMMING

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Abstract

The conducted experiment aimed at receiving an answer as for the degree of effectiveness of the visualization method combined with the traditional method of training applied whilst working with schoolchildren in the basic teaching of swimming. In other words, which method, the traditional (not employing visualization) or the one supported by visualization would turn out to be more effective, faster and more efficient. The research comprised the rudiments of swimming in a run of 20 lessons (one lesson weekly). During the twelfth lesson (1st trial) a one-distance backstroke progress test was administered. During the nineteenth lesson (2nd trial) a one-distance progress test was repeated with a view to comparing results. During the twentieth lesson a double-distance backstroke progress test was administered (3rd trial). We managed to compile the following results: firstly, the analysis of the tests administered during the nineteenth and the twentieth lesson denotes that visualization allows for a better performance in the initial teaching of swimming; secondly, the results of the teaching of swimming in the twelfth lesson, which is more or less halfway through the experiment, has brought to light the fact that the effects of visualization in the creation of new models of movement require a certain amount of time before an utter effectiveness has been attained; thirdly, visualization confirmed its effectiveness at most in the teaching results indicated in the twentieth lesson, or in the double-distance test, which bears out the instrumental influence of visualization also on the teaching of swimming techniques.

Key words: *visualization, visualization as a training tool, the initial teaching of swimming, sports results support, the model of movement.*

HODNOTOVÁ ORIENTACE U DOSPÍVAJÍCÍCH CHLAPCŮ V ČESKÉ REPUBLICE A V MAKEDONII

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Abstract

This article is focused on formation of the hierarchy of values which helps to reflect the main cultural differences between these two countries: Czech Republic and Macedonia. It analyses the pubescent attitudes aged from 11 to 15. A particular intention was paid on collecting socio-demographical data of the respondents which will help to analyse their social and cultural background. The selected part of the respondents was examined within the period March-June 2005. Measurements were performed in chosen elementary schools in the both countries.

Key words: cultural differences, socio-demographical differences, comparison, Czech Republic, Macedonia, pubescence, value orientation and determination.

MULTIKULTURNÍ VÝCHOVA V ANTROPOLOGII NÁRODNOSTNÍCH A ETNICKÝCH MENŠIN JAKO SOUČÁST KULTURNÍ A SOCIÁLNÍ ANTROPOLOGIE – INOVACE STUDIJNÍHO PROGRAMU

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Abstract

Author informs about the outcomes of the grant project FRVS in year 2005, i.e. about expansion of the current curriculum of cultural and social anthropology; about anthropology of national and ethnic minorities; and about production of factographic- didactical manuals dedicated to selected topics from cultural and social anthropology and selected national and ethnic minorities in the Czech Republic.

Key words: cultural and social anthropology, national and ethnic minorities, multicultural education.

FROM THE RESEARCH ON LIFE QUALITY OF WOMEN AFTER MASTECTOMY

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Abstract

In the age of rapidly changing civilization the problem of human life quality is extremely on time. Life quality is written

into its' value. The issue of life quality gains a specific importance in the case of threat from an illness.

The aim of the report is the estimation of life quality sensing of women after mastectomy surgery of breasts cancer.

Material of the research is the results of questionnaire research done among 104 women after mastectomy at the age from 35 to 72, from the area of Poland. The respondent after the end of treatment have undertaken different forms of physical activity.

The introduction analyze allowed to state, that most of women after mastectomy has a positive opinion about their life - personal and professional - and is happy with the social-economic status. Physical activity, which they undertake after the end of treatment with different frequency has a positive influence of their life quality.

Key words: life quality sensing, breast cancer, mastectomy.

SOMATIC DIFFERENTIATION OF BOYS PRACTICING FOOTBALL ON VARIOUS SPORT LEVEL

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Abstract

The aim of this work was to determine the type of body build of male football players at the age of 13–15 and to estimate the changes of their body build while they reach their biological maturity - particularly in the light of Sheldon's method.

The research material was the measurements of 10 selected somatic features, required for this type of body build according to Sheldon's method, made for boys playing football, united in Wielkopolska Football Association. The boys were partitioned according to register age criterion into the groups of 13-year old (group of 19 individuals), 14-year old (21 individuals) and 15-year old (20 individuals). We measured the body build of every competitor representing the particular group, generally estimating the changes of body proportions according to age. The results were presented in tables and somatograms.

The changes in the volume of somatic features occurring in human body at the earlier stage of ontogenesis are intensive enough to prevent specific description of the type of body build. The proportions of body build of boys playing football are continuously being formed probably due to puberty spurt taking place. Furthermore, one cannot claim that sports activity in this period of ontogenesis generates formation of a particular type of body build.

In the later period of ontogenesis, it is possible to determine the type of body build of young football players. It may be described as balanced with strong emphasis of massiveness factor (mesomorphy). Increase of significance of mesomorphy component in a body build is expected to occur at the later stage of ontogenesis, while indicated at such young age is very probably an effect of youth's sports activity.

Key words: body building, somatic, football.

THE EFFECT OF PHYSICAL EDUCATION STUDIES ON THE DISTRIBUTION OF FAT TISSUE

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Abstract

Material basis of this report are the anthropometric measurements of candidates applying to the University School of Physical Education in Poznań in 2003 as well as the measurements done in 2006 among the same persons – the students of 3rd year of physical education studies. Comparative characteristic of researched ones taken in the spectrum of longitudinal research allows to describe the direction and size of changes in the range of researched eco-sensitive characteristics.

For the estimation of differences were chosen the relative body mass measured by a BMI index, percentage amount of fat calculated by Wielński formula, index describing the relative fat mass called FMI – fat mass related to body height and the index of fat distribution WHR.

Key words: physical education, body mass, fat tissue.

RITUÁLNÍ STRÁNKA ŽENSKÉ OBŘÍZKY

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Abstract

The author of the article focuses on problems of woman circumcision. The main attention is paid on the african women circumcisions and on their ritual meaning.

Key words: women, circumcision, Africa, rituals.

MORFOLOGICKÉ PARAMETRY A TĚLESNÁ KONSTITUCE OLOMOUCKÝCH DÍVEK VE VĚKU INFANS II

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Abstract

The research study parties concerned in 63 young girls at the age of Infans II. Somatometric parameters were compared with the reference values of the Czech republic (Bláha et al., 1986), to determine the body constitution of the measured girls according Heath-Carter (1967) and divide the somatotypes into the categories according the domination of the individual components (Carter, Heath, 1990) and to the categories predicting the motoric performance (Chytráčeková, 1990). The group of girls from Olomouc at the age of Infans II was smaller and had lower body weight comparing to the population of Czech girls. In

measured somatic parameters the girls reached lower values comparing to Czech population with the exception of all measured skin fold. With regard to relatively healthy population of the girls in the Czech republic, the mezomorphic component indicates little accentuated muscular component. The average somatotype 3,5-3,4-3,4 was situated in the middle of spherical triangle. Somatotypes of the girls occurred especially in A category.

Key words: body constitution, somatotype, girls, older school age.

CHANGES OF THE LEVEL OF PHYSICAL AND MOTORIC EVOLUTION OF POLISH YOUTH IN THE PERIOD OF 40 YEARS

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Abstract

The aim of this work is a test of estimation of somatic characteristics and physical fitness changes during 1964 – 2004. Under research were 1301 men and 736 women aged between 18 and 19 with aspiration for studies at the University School of Physical Education in Poznań. In the somatic characteristic were considered body height and mass, on basis of which was calculated the Rohrer index and body build type by E. Kretschmer was described. Among motoric characteristics were analyzed: jump ability (attainable jump height) and flexibility (the depth of trunk bend forward from standing position). Gathered material was statistically analyzed. The tendencies of physical evolution and physical fitness of youth were described, the direction and value researched characteristic changes during analyzed 40 years was also estimated. It was stated, that during the period between 1964 and 2004 body height has grown more dynamically than body mass. In the range of motoric characteristics different results were presented; in the case of flexibility the tendency to worsen results was observed and improve in the test of jump ability. Observed tendencies are similar in both groups (male and female).

Key words: secular trend, youth, body height, body mass, jump ability, flexibility.

VYUŽITÍ TERMORIZNÍ KAMERY KE SLEDOVÁNÍ TEPLOTNÍCH ZMĚN U ZATĚŽOVANÝCH SVALOVÝCH SKUPIN V KONDIČNÍM POSILOVÁNÍ

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Abstract

The paper brings a breakthrough noncontact investigation of temperature profile of the gymnast body surface and a monitoring of temperature differences between different parts of charged muscle groups. First results obtained with thermovision camera allow evaluate whether gymnasts charge their

muscle groups in coincidence with a kinetic content of the given exercise and its technical execution. Afterward a consequent study of recorded series of thermographs can help gymnasts to discover their mistakes in execution, rectify them and adjust the attitude during the exercise.

Klíčová slova: *thermovision camera, thermovision image recording, pectoralis, exercise, muscular contraction.*

Tato práce vznikla za částečné podpory grantu GAČR 101/05/H018.

VPLYV DOJČENIA NA TELESNÝ RAST A VÝVIN DETÍ DO JEDNÉHO ROKU ŽIVOTA

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Abstract

The aim of this study was to evaluate somatic parameters and indices of breast-fed (BF) and formula-fed (FF) children in some age categories to one year of age, as well as to state the percentage of BF- and FF-children. There were monitored 650 children (268 BF- and 58 FF-boys, 255 BF- and 69 FF-girls) from 3rd to 12th month of age. Body parameters were measured at the age of 3, 6, 9, and 12 months. Some measured or calculated values were compared with the expected values of the healthy population using the standard scores (z-scores). In statistical analysis, the bootstrap Yuen-Welch test and 95%-bootstrap-percentile Yuen-Welch t-confidence intervals were used. The highest percentage is shown by BF-children at 3 months of age (89.92 % of boys and 86.34 % of girls). The percentage of BF-children had descendent tendency with increasing age but at 12 months was still high (67.31 % of boys and 63.83 % of girls). BF- and FF-children had similar weight and length from 3rd to 12th month of age, however; only at 12th months of age the BF-boys were lighter than FF-boys. The differences in nearly all circumference parameters are insignificant, just in arm, thorax and calf circumference they were significant. The last mentioned parameters were lower in BF-children.

Key words: *anthropometry, lactation, artificial feeding.*

Práca bola realizovaná s podporou grantov VEGA 1/3412/06 a 1/3023/06.

VI. CELOSTÁTNÝ ANTROPOLOGICKÝ VÝZKUM DĚTÍ A MLÁDEŽE 2001 – PARAMETRICKÉ A NEPARAMETRICKÉ STATISTICKÉ METODY U ROZMĚRŮ A INDEXŮ S PODEZŘENÍM NA NENORMÁLNÍ ROZDĚLENÍ HODNOT U DĚTÍ OD NAROZENÍ DO DOSAŽENÍ ŠESTI LET

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Abstract

The 6th Nationwide Anthropological Survey of children and adolescents was carried out in the Czech Republic in 2001 to continue the series of studies repeated at 10-year intervals since 1951. In this paper we would like to find out whether a phenomenon of non-Gauss spreading data of body weight, circumferences and selected indices influenced accuracy of results of the 6th Nationwide Anthropological Survey of children 0-6 years of age and whether these dimensions and indices are representative. Parametric and non-parametric statistical methods were used for the comparison of dimensions and indices suspected of non-Gauss spreading data (body weight, head circumference, circumference of the relaxed left arm, abdominal circumference, gluteal circumference and selected indices – Body Mass Index, Rohrer's index and Index of abdominal and gluteal circumference).. Results showed that the differences of mean values of body weight, all circumferences and indices calculated by parametric and non-parametric statistical values are very small in children 0-6 years of age, results could be declared as representative.

Key words: *body composition, anthropological research, children, youth.*

HODNOCENÍ ROZLOŽENÍ TLAKŮ PŘI CHŮZI S TRANSTIBIÁLNÍ PROTÉZOU

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Abstract

In case of a temporary or permanent impairment of the motoric patterns (brain lesion, amputation, etc.), it is necessary to remove the "obstacle" or a new pattern must be created. The application of the prosthesis should follow the presumption that the properties of the prosthetic components have identified comfort and mobility as the two most important characteristics. A proper socket fit is a basic condition for achieving comfort and proper function of the prosthesis. The aim of the study is to assess the possibility of measuring pressure distribution inside the socket of the trans-tibial prosthesis during selective motor activities. The tested person was a male at the age of 34 yrs. The length of using the prosthesis at the moment of measurement was 22 months and the prosthesis was attached 1.5 months after the amputation. To consider the effect of the load, the frontal part of the contact area between the stump

and the socket is dominant in the area of the socket of the trans-tibial prosthesis. On the lateral side it is necessary to focus particularly on the head and the distal end of the fibula. When using the sensor strips on the lateral side of the socket, the pressure levels are remarkably lower than at the frontal side of the stump. The COP* trajectory remains stable during repeated tests; it does not reach the edges of the measured area. Pressure distribution between the distal and proximal ends is synchronized.

Keywords: *trans-tibial prosthesis, socket, pressure distribution.*

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THE LEVEL OF CHOSEN MOTOR CO-ORDINATION ABILITIES IN OLDER SCHOOLGIRLS DEPENDING ON THE LEVEL OF ENVIRONMENT URBANIZATION

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Abstract

The material for the study has been created by the research results of the group of more than 200 girls, aged 11–13, from the municipal population of Krakow and from villages. The aim of the study was to determine the level of chosen coordinating motricity abilities of the checked girls in relation to the level of environmental urbanization. In the analysis, 7 chosen coordinating motricity abilities, researched with the use of population tests, have been taken into account. In the light of used statistic tests, significant differences between the arithmetic means of both groups of girls have been noticed only for ability of movements' adaptation, in the whole researched period of ontogenesis.

In other cases such consistent differences have not been observed. In most cases the observed diversity between arithmetic means are not statistically meaningful. The biggest sizes of the index of normalized intragroup differences have been observed for ability of adaptation and movement frequency. By analysis of the normalized sizes' pattern we learn that, in 4 out of 7 of the analyzed CMA, better results have been reached by the girls from villages in comparison to their city peers. These results may prove that the environmental distances in the contemporary Polis population are evened out. Further research is necessary, which would enclose the areas of various urbanization level (city-town-village).

Key words: *environmental diversity, urbanizing gradients, motricity fitness, coordinating motricity abilities.*

SAMOOOCENA ZDROWIA, SPRAWNOŚCI FIZYCZNEJ I ZADOWOLENIA Z ŻYCIA MŁODZIEŻY STUDENCKIEJ

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Abstract

The way one estimates their health often influences their mood and life satisfaction. This is so called „subjective health.“ It is affected, among others, by the perception of one's body – its build, look and fitness. The aim of the research conducted in 2000 among the first year students of Akademia Świętokrzyska was to evaluate their self-assessment of health, fitness and life satisfaction. In the course of the research 1554 students (1192 females and 362 males) filled in an anonymous questionnaire.

The results showed relatively high level of self-assessment of health. However, definitely more males considered themselves to be very healthy. Generally, the students were satisfied with their life, which is apparently the sign of youth optimism.

To sum up, the researchers concluded that the students positively assessed the quality of their life, which often referred to as the notion of well-being, happiness or general health.

Key words: *fitness, health, self-assessment.*

VPLYV ODLIŠNÝCH POHYBOVÝCH PROGRAMOV NA ZMENY SOMATICKÝCH A MOTORICKÝCH PARAMETROV U ŽIEN VO VEKU 20–50 ROKOV

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Abstract

The purpose of the article was, to show the effects of two different types of training programmes in two women groups in fitness club. In our experiment were participated women from the age of 20–50. It has been in aerobic and personal training programme. The length of the programme was about three months with two training a weeks.

We have recognised changes in both groups with reducing of under skin fat, increasing the strength and increasing of the aerob staying power. There has been only significant change in strength in a group of the personal training programme because they have been taken more exercises with power.

Key words: *physical development, motor performance, fitness, women.*

HODNOCENÍ TVARU, PÁTEŘE A STABILITY MĚŘENÍ DIAGNOSTICKÝM SYSTÉMEM DTP-2 V RŮZNÝCH VARIANTÁCH STOJE

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Abstract

Diagnostic system DTP-1,2 was developed at the Faculty of Physical Culture of the Palacký University in Olomouc. The authors duly verified reliability of measuring with the DTP-2 system with 5 repeated measurements under three various standing positions.

The DTP 2 diagnostic system works on the principle of pantographic scanning at selected body points (skin projection of spinous protuberance of individual vertebrae, the acromions, posterior superior spinous protuberances) and displays the scanned body points on a fully dimensional system of Cartesian coordinates X, Y, Z with respect to zero vertical axis (zero vertical axis is considered as a perpendicular erected in standing position from the centre of a line between the heels of a tested person). The used software enables graphical and numerical analysis of the displayed points, including the possibility of establishing the angular parameter of the spinal incurve in lateral and sagittal projections, examination of statics of the axial system and further, it provides the option of a three-dimensional display of the scanned points.

Results of measurements at different variants in standing position show high stability of repetitive measurements in standing position with the trunk supported by a wall (analogy of standing position during x-ray examinations). Higher dispersion values between individual measurements in habitual standing position without fixation coheres with the quality of postural kinetics, or more precisely with the stability of standing position.

The DTP-2 diagnostic system enables, under field conditions, sufficiently stable and reliable examination of the spinal shape, statics of the axial system and examination of changes in the stability in standing position at random time intervals as well as for various options in the standing position.

Key words: DTP2 diagnostic system, examination of spinal shape and statics, stability and reliability of measurement, postural kinetics.

POROVNÁNÍ SYMETRIE OBVODOVÝCH ROZMĚRŮ NA HORNÍCH A DOLNÍCH KONČETINÁCH U DÍVEK VE VĚKU 7 AŽ 18 LET

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Abstrakt

The main aim of this work is to compare the symmetry of circumference admeasurements (the circumference of the relaxed and contracted arm, antebrachial circumference, wrist circumference, the gluteal and the middle circumference of the thigh, and the maximum and minimum circumference of the calf) on the right and left side of the upper and lower limbs of non-sports girls (n=791) aged 7 to 18. Simultaneously, the correlation analysis was undertaken between the above named circumference admeasurements and the indexes BMI and WHR. The comparison of the symmetry of the right and left upper and lower limbs of 7 to 18 year old non-sports girls showed, that there is no factual significant difference in the above named limb circumference parameters. The results lead to the practical conclusion that during the taking of anthropometrical measurements in special cases (e.g. fixation of an injured limb), we can measure relevant circumferences on the other arm without fear of measurement error, as well as without breaking the anthropometric rules. BMI and the limb circumference parameters are demonstrably better indicators of the nutritional state than the WHR index, which characterise the fat distribution in central and peripheral area.

Key words: non-sports girls aged 7 to 18, symmetry of circumference admeasurements, upper and lower limbs.

SOMATIC CHARACTERISTICS AND THE AGE OF MENARCHE – AS AFFECTED BY URBANISATION OF RESIDENCE AREA

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Abstract

This paper's goal is to show the influence of urban/rural environment on fifteen-year-old girls' morphological development and age of menarche. The research, done over the school year of 2004/2005, involved 73 schoolgirls from Zielona Góra (town) and Małomice (village).

A statistical analysis of the collected data found the town girls to be physically more developed than their country counterparts, the differences being statistically insignificant. The age of menarche in Zielona Góra's girls was found to occur significantly earlier than in Małomice's girls.

Key words: girls, physical development, age of menarche, environment.

VZŤAH SOMATICKÝCH UKAZOVATEĽOV A VÝKONNOSTI V TESTOCH KOORDINAČNÝCH SCHOPNOSTÍ U 12–15ROČNÝCH ŠPORTOVCOV

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Abstract

Pointed development coordination skills at young athletes, especially in sensitive period (from 5 to 16–17 years) create

preconditions for effective mastering and improving technique and that also growth sport performance. We monitored athletes (athletes specialist and football players) batteries, young (12–13 years old, $n = 42$, and 14–15 years old, $n = 39$). In both batteries we discovered indicators of physical development (body height and weight, BMI) and performances in battery tests of 7-items general coordination performance. Gained empiric data we expose fundamental statistic characteristic. Connections between indicators clarify with matched correlation analysis. Between results of correlation analysis both sets were not significant differences. We confirmed high reciprocal interdependence observed indicators physical development. We fought out significant, in real evidence negative, connection between body weights (old battery also body height) and performance in balance test. All others connection physical development with coordination performance were not significant. Only sporadic were connections between proband performances in tests of coordination skills. Result research confirms relative independence particular demonstration of coordination skills at physical development young athletes.

Key words: *young athletes – athletes and football players, physical development, coordination skills, measurement and test, correlation analyses.*

POSOUZENÍ SPECIFIK VYBRANÝCH FIXAČNÍCH POLOH PŘI DIAGNOSTICE DRŽENÍ TĚLA

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Abstract

The goal of this study is quantifying the reliability of the posture diagnostics using three chosen fixation positions: A – the loose position, B – the position with partial fixation by means of the upper extremities, C – the position with the trunk fixation by means of a wall. This research study included 60 students without a vertebrogen disorder. The diagnostics system DTP-2 was used for posture measurement. Five measurements were performed in each fixation position and the average spine shape and standard deviation of each point were calculated. The standard deviation quantifies a random error caused by proband titubation. The statistical analysis shows that increasing degree of fixation $A \rightarrow B \rightarrow C$ decreases the value of standard deviations in the lateral direction and in the ventral direction. The fixation does not affect the values in the cranial direction.

Key words: *posture, fixation position, titubation, noninvasive diagnostics.*

CHANGEABILITY OF ECOSENSITIVE FEATURES OF MATURING FOOTBALL PLAYERS

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Abstract

The estimation of environmental factors influence on the level of morphologic characteristics insists constant control. Sectional research does not allow to determinate, which elements of morphologic buildup are being formed during training, and which ones are under selection. Much more information in this field we may gain on the basis of longitudinal research. Under such research were young football representatives of Wielkopolska region, born on 1987 and 1988. Material chosen for the analyze was gathered during two measurement sessions – in 2002 and 2003 in Błażejewko.

Anthropometric measurements were taken from competitors. For the analyze were chosen highly eco-sensitive ones: body mass, skin-fat layers and circumferences. Comparative analyze of the level of above mentioned characteristics will allow to gain valuable information concerning organism individual reaction of growing up boys for the environmental factors, in this case enlarged physical loads which are the result of training.

Key words: *ecosensitive features, football players.*

THE LOWERING OF PRISONERS' PSYCHOTISM RESULTING FROM PARTICIPATION IN A FOOTBALL TOURNAMENT

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Abstract

In this body of work we aimed at revealing how by means of co-participation in a football tournament on the premises of prison, i.e. sports activity, one may lower the most pathological and structurally renewable trait of character in penitentiary facilities referred to as psychotism. For it is the very factor which is inducing and significantly influencing prisoners' aggressiveness and self-aggressiveness. Commenting on the occurring changes standing out in the Personality Inventory research it is worthwhile underscoring a substantial decrease of psychotism and neurotism, an increase in extrovert attitudes with concurrently unchanged lie-syndrome intensification. A decrease in psychotism, which is statistically significant.

cant, is of particular appeal. For it is widely known that people attaining high results in the scale of psychotism are: reserved, impersonal, unsympathizing, unfriendly, distrustful, weird, unaffectionate, miserable, anti-social, lacking inward perspective, with persecution-related delusions. They may be cruel and inhuman, devoid of any empathic feelings whatsoever, entirely insensible. Such in any case are individuals flaunting high-scale psychotism. As our research indicates these tendencies which are inevitably related to prison may be reversed.

Key words: *psychotism, resocialization, physical activity, Eysenck's Personality Questionnaire.*

KVALITA HYBNÝCH FUNKCÍ U HRÁČŮ KOPANÉ VE VZTAHU K JEJICH VÝKONNOSTI

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Abstract

The article deals with the status of muscular system of football players at a different performance level. 72 football players divided into 3 categories according to their performance were subjected to the measurement. (Group 1 – ČPP league and Bohemian-Moravian junior league, Group 2 – Moravian-Silesian Division and Regional Championship, Group 3 – Municipal Championship and City Competition). The analysis of muscular system has been carried out with the use of the Functional Muscle Test (Janda, 1996). The results analysis has shown that the best results relating to postural and phasic muscles as well as motion stereotypes are achieved by top performance level players while the worst results are observed at the lower levels of performance.

We assume that the results have proved the impact of the quality of training process on players' muscle function condition where the quality of the training process is obviously dependant on the higher expertise of trainers. Trainings of Group no 1 are conducted by staff with a professional licence. However, with respect to the frequency of muscle system disorders occurring even in Group no 1, we would like to draw the attention to substantial reserves of incorporating compensation activities into the players' training process.

Key words: *Motional functions, postural muscles, physical muscles, motoric stereotypes, football players.*

SENIOR FITNESS TEST – NÁSTROJ K POSOUZENÍ FUNKČNÍHO STAVU POHYBOVÉHO SYSTÉMU PACIENTŮ S CHRONICKÝM SELHÁNÍM LEDVIN

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Abstract

Chronic renal failure (CRF) is one from progressive and incurable diseases, whereat rising a number of complex metabolic and endocrinal changes, which in consequence lead to an inception of associate complications and in principle change an activity of all organ systems. Patients with CRF, treated with haemodialysis, are often polymorbid. In consequence of own disease and different complications they are characterised by sever functional limitations. Their functional capacity is limited, muscle strength is decreased, joint mobility is limited and we often find the muscular imbalance. According to the literature, an acceptable choice of exercise activity could contribute to prevention of disturbances and lead to improve of the whole patient's status. An essential part of an each exercise program for this patients is an acceptable fitness test battery, which should target such components of motor performance, whose certain rate is necessary for self-sufficiency keeping and for independent daily living. We observed mixed group of 23 patients (15 males and 8 females; mean age = 60,9 ± 14,7 years). For evaluation of the functional condition we used the „Senior Fitness Test Manual“. The input results of the Senior Fitness Tests (SFT) we compared with population standard specification. The input results of the SFT showed that the group of patients in comparison with the population standard specification have reached subnormal and risk performances, especially in tests that requiring for its implementation muscular strength of lower extremities and physical efficiency. Normal and above normal performances we noted in patients that were physical active before and as well during regular dialysis treatment. We noted that the joint moving limitation of the upper and lower body was not such wide, how we could suppose in chronic ill. Following the result valuation, we consider select SFT as an acceptable choice for motor skills testing in renal dialysed patients.

Key words: *Chronic Renal Failure, Senior Fitness Test, functional status of the moving system, self-sufficiency.*

TYOLOGY OF WOMEN STUDENTS AT UNIVERSYTET ZIELONOGÓRSKI BY MEANS OF HEATH-CARTER METHOD

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Abstract

This paper presents a typology of a population of 94 first- and second-year women students at Uniwersytet Zielonogórski, based on the Heath-Carter modification of Sheldon's method. Generally, the body build of the women students in question can be described as endo-mesomorphic. The results of the authors' research were compared with the results of other authors' studies: of women students at Politechnika Warszawska and of women candidates for students of physical education in Katowice.

Key words: *women students, body build typology.*

POROVNÁNÍ VYBRANÝCH SOMATICKÝCH CHARAKTERISTIK U DOSPÍVAJÍCÍCH DÍVEK V OLOMOUCKÉM REGIONU (ČESKÁ REPUBLIKA) A BITOLI (REPUBLIKA MAKEDONIE)

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Abstract

The article is focused on international comparative analysis of selected somatic characteristics of adolescent girls from the Olomouc region (Czech Republic) and Bitola (Republic of Macedonia). The comparison is also made with the reference standards from the 6th Nation-wide Anthropometrical survey of Children and Adolescents 2001 Czech Republic (CAV 2001). Results show that macedonian girls achieve lower average values in all observed parameters (body height, body weight, abdomen circumference and hip circumference) in comparison with the Olomouc region data and the CAV 2001 Czech Republic reference standards.

Key words: girls 14–18 years, body height, body weight, abdomen circumference, hip circumference, Olomouc region, CAV 2001, Republic of Macedonia.

FLEKČNÁ MOBILITA KRČNO-HRUDNEJ CHRBTICE U 14–15ROČNEJ SLOVENSKEJ MLÁDEŽE

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Abstract

The aim of this study is to concentrate on the flexion mobility in the cervico-thoracic part of the spine of the examined 14 to 15-year-old individuals, to assess the spine condition, and to make the chart and graphic flexion mobility standard based on the CTR technique, which could be helpful for physicians as a valuable complement to the methods usually used for the assessing of the spinal mobility.

The measurement methodology of the segmental spinal mobility was created by Swedish authors with S. Norlander's leadership in 1995.

Segmental spinal mobility is valued indirectly by measuring skin distraction between the 3 cm skin markings in the C-T spinal part between C7 and T5. The distance of 3 cm is used as the length of one mobility segment (the height of thoracic vertebra and disc).

Comparison of healthy individuals and those with spinal mobility problems: We compared 14-year-old girls and boys to those probed ones with spinal mobility problems in Barni-

ak's study (1998). Results of comparison: Boys and girls with spinal mobility problems have lower AFM values in all segments in comparison with healthy individuals. RFM (PM) values of boys are significantly lower in C1-T1, T2-T3 segments and significantly higher in T1-T2, T4-T5 segments in comparison with healthy boys. RFM (PM) values of girls are lower in C7-T1 till T2-T3 segments and significantly higher in T3-T4, T4-T5 segments in comparison with healthy girls. Differences have been found out even in the process of Mobility Profile curves: the common sign of girls and boys was evidently lower mobility in C7-T1 segment and vice versa there was evidently higher mobility in T4-T5 segment, even the highest of all segments, what is the sign of scoliotic curve. Evident differences have been found out in the curves of Classification model.

Key words: segmental spinal mobility, cervico-thoracic spine, 14–15 years old youth.

SOMATOMETRICKÉ ZHODNOCENÍ ZNAMKŮ NA UŠNÍM BOLTCE U DĚTÍ VE VĚKU OD 1 DO 6 MĚSÍCŮ

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Abstract

Somatometric features on earlobes were examined in 90 probands aged from 1 to 6 months. Examinations were carried out in three stages from September 2004 to April 2005 in the Institute for Infants with Children's Home at the Thomayer Teaching Hospital in Krč.

Key words: somatometry, landmarks, index, coefficient of correlation.

ODONTOLOGICAL ANALYSIS OF THE WIELBARK CULTURE POPULATION FROM ROGOWO CEMETERY, POLAND

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Abstract

The odontological study encompassed 82 individuals from Rogowo cemetery (the Wielbark Culture, 2nd c. AD, Roman period) in North Poland. Eighteen odontological traits (non-metrical dental traits according to Zubov's classification) of Rogowo skeletons were registered. A comparative analysis was carried out on the basis of 10 populations (3 additional Wielbark Culture, and 7 Chernyakhov Culture groups, respectively). The frequency of odontological traits in all the populations was analysed using the principal component analysis method. The frequency of the studied odontological traits in the

skeletons from the Rogowo cemetery is very similar to the frequency of these traits observed in skeletons from other Wielbark culture cemeteries.

Key words: *odontology, Rogowo cemetery, odontological traits, skeleton, comparative analysis.*

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VÝŠKA DĚTÍ VELMI VYSOKÝCH RODIČŮ

Miroslav Prokopec

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Abstract

Recorded heights of extremely tall Czech parents (ETP, father over 190 cm and mother over 176 cm) and of their children, investigated in 1991 ($n = 2\,413$), were analysed with the following results:

Children of one ETP (either mother or father) exceed significantly their peers in the mean height between 1.5 and 17.5 years of age by 0.7 to 1.0 SD. If both parents are extremely tall, they exceed the standard by 1 to over 1.5 SD.

Eight of every ten children of the ETP from 1.5 to 17.5 years of age exceed the Czech standard by their height. Only two of ten are in their height below the standard. In girls between 16 and 18 years of age this ratio makes 9 to 1. About 8 per cent of children of the ETP (about 16 per cent of girls between 15 and 18) exceed the Czech standard in height by more than 2 SD.

The mean heights of daughters of extremely tall fathers do not differ substantially from the mean heights of daughters of extremely tall mothers. The same is true for sons of extremely tall fathers and mothers.

The majority of children of ETP are at risk that they become tall or even extremely tall as adults, though about one fifth of them have a chance of being of average or below average height when they grow up.

Klíčová slova: *dědičnost výšky těla, velmi vysocí rodiče, růst dětí od narození do 18 let.*

STANOVENÍ TĚLESNÉHO SLOŽENÍ POMOCÍ ANTROPOMETRIE A BIOIMPEDANCE A VÝPOČET REGRESNÍCH ROVNIC PRO ODHAD TĚLESNÉHO TUKU U OBÉZNÍCH DĚTÍ PODSTUPUJÍCÍCH LÁZEŇSKOU LÉČBU

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Abstract

Obesity belongs to significant health problems not only in adult population but also in children, juvenile and adolescent population. Contemporary man has food intake adaptations embodied in his genome; nevertheless he does not manage to cope without „punishment“ with chronic excess of metabolic energy caused by immoderate food intake without appropriate

physical activity. Obesity manifested in child age passes almost regularly to adulthood (constitutional predisposition) and the involved individuals are endangered by a range of health complications. They are metabolic disorders as well as excessive load on locomotive apparatus since childhood. Thus obesity becomes a highly consequential stressor.

Key words: *child obesity, anthropometry, bioimpedance, regressive formulas.*

VLIV REDUKČNÍ DIETY A CVIČENÍ NA ZMĚNY KLIDOVÉHO ENERGETICKÉHO VÝDEJE U OBÉZNÍCH ŽEN

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Abstract

Introduction: the incidence of obesity is increasing rapidly. Research efforts for effective treatment strategies still focus on diet and exercise programmes, the individual components of which have been investigated in intervention trials in order to determine the most effective recommendations for sustained changes in bodyweight. A lot of studies have examined the combined effects of diet and exercise on body composition and resting metabolic rate. The optimal combination of diet and exercise, however, remains elusive.

Objective: to compare the effects of energy-restricted diet (D) and energy-restricted diet combined with exercise programme (DE) on weight loss, body composition, and resting energy expenditure (REE) in overweight/obese women.

Design: two types of six-week reducing programmes: energy-restricted diet (approximately 2000 kJ/day) with and without physical activity (slow strength training 2 times/week and aerobics exercise 1 times/week).

Subjects: 22 healthy, overweight/obese females with a mean (\pm SD) body mass index (in kg/m^2) of 29.2 ± 4.3 , weight of 81.8 ± 13.2 kg, and age of 45.8 ± 7.4 years.

Measurements: weight loss, circumferential parameters (waist, hip, and thigh circumferences), body fat, and resting energy expenditure (measured by indirect calorimetry based on oxygen consumption) were determined at baseline and after each six-week intervention.

Results: the final achieved weight difference over the 6-week was 3.2 % of their initial weight in the D diet group and 4.4 % in the DE group. Participants in both diet groups achieved statistically significant weight loss. Similar changes occurred in BMI, circumferential parameters (waist, hip, and thigh circumferences), and percentage of body fat. The difference in these measured anthropometric indices between the two groups was not significant.

Absolute REE (kcal/day) was decreased with both programmes as expected (12.1% of the initial level in D group vs 4.4 % in DE group), but REE expressed relative to body mass (kcal/kg), was better maintained in the DE group (increase in 0.8 % of the initial level) than in D group (decrease in 7%). These described changes (REE and REE/kg) in both groups (D and DE) were not statistically significant. Likewise differences between groups D and DE in REE and REE/kg were not statistically significant.

Conclusion: this study indicates that combining the diet and the exercise can accelerate weight loss, preserve fat-free weight and prevent or decelerate the decline in resting metabolic rate more effectively than with the diet restriction alone. These findings may cause to re-examine the quantity of exercise and diet needs to achieve optimal fat loss and preservation of resting metabolic rate.

Key words: obesity, resting energetic expenditure, diet, exercise, weight loss.

MOŽNOSTI KONSTRUKCE RYCHLOSTNÍCH KŘIVEK SOMATICKÝCH PARAMETRŮ ZE SEMILONGITUDINÁLNÍCH DAT

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Abstract

The possibility of realizing longitudinal researches is very limited, because it is necessary to monitor probands for a long time period. Also losing recency of the data when results are presented and low frequency of final sample can be a problem. A semilongitudinal research can be a solution. This research is draw up as short longitudinal monitoring of probands in several age groups, which are realized at the same time and which concur in exactly defined age. We acquire data of repeatedly examined probands of wide age range in a short time period. By using proper mathematic models can be in this way obtained data used for constructing growth velocity curves of body parameters.

Key words: semilongitudinal research, growth velocity curves, mathematical growth models.

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METODY URČENÍ ROZVOJE SVALSTVA DOLNÍCH KONČETIN

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Abstract

The objective of this project was to estimate possibilities of using of segmental bioelectrical impedance to lower extremities muscle development diagnostic. We estimate the lower extremities muscle development using two methods: Atohs (Riegrová and Ulbrichová, 1998) and segmental bioelectrical impedance analysis InBody 3.0. We compared the results of both methods.

The results of muscle mass distribution show significant differences between both methods. The data of segmental bioelectrical impedance method were lower than the data of Atohs method in this group of athletes.

The final results of muscle mass distribution are related to percentage of body fat on the segment. The results of segmental bioelectrical impedance analysis indicate higher values of body fat than the skinfold thickness measurement method.

The next application of the segmental bioelectrical impedance method for muscle development assessment requires the comparison with a reference method.

Key words: Atohs, bioelectrical impedance, muscle development.

THE LEVEL OF PHYSICAL FITNESS OF CADETS OF THE LAND FORCES IN A 4-YEAR COURSE OF OBSERVATION

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Abstract

Physical fitness is the very foundation on which combat training is based. Nowadays soldiers are facing higher demands in terms of their basic training as well as mental and physical health and fitness.

The latest events on the international arena and the engagement of the Polish military in the peacekeeping and the fight against terrorism prove that the issue of soldiers' health and fitness must be treated seriously. (Marcinkowski, Sokołowski 2004).

The aim of this research is to assess the performance of cadets (candidates for professional military service) from The Land Forces Military Academy in Poznań, Poland who took a physical fitness test based on a standardized physical fitness test used at the United States Military Academy (USMA) at West Point. The results have been gathered throughout a 4-year research.

Key words: physical fitness, cadets, mental and physical health, professional military service.

DIAGNOSTIKA POSTURY A TVARU PÁTEŘE POLOHOVÝM SNÍMAČEM DTP-2 U SENIOREK – STUDENTEK U3V PŘED A PO INTERVENČNÍM ZÁSAHU CÍLENÝM CVIČEBNÍM PROGRAMEM

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Abstract

Upright posture can be considered to be an individual postural programme which came into existence in the course of human evolution. "Bad" posture can usually be seen in individuals lacking the disposition towards a variability of postural and motor variations. We can also find it in probands who are

forced to assume long-term unchanging or repeatedly identical positions in their occupations. Bad posture is usually a source of various functional disorders of the postural system, which, in the case of frequent occurrence, may even lead to structural changes (by Véle 1999). Clinical pictures of poor bodily posture in the elderly are very diverse. They usually involve disorders of the postural arrangement of the spinal elements with sagittal or lateral axial deviation, displacements of the spinal sectors as compared to the head and support base, kyphotic posture, or disorders associated with rotation (Riegerová, 2004). This study is focused on establishing changes in the shape of the spine and in bodily posture before and after the application of therapeutic exercises attended by women aged sixty years on average, for a period of three months. We chose a Chinese therapeutic exercise (Hui Chun Gong) to correct posture and flexibility. It involves precisely targeted, slowly led movements which are designed to affect the whole body. The exercise is also termed "the rejuvenation exercise of the Chinese emperors" and it is claimed to have therapeutic effects by the non-professional public.

Key words: posture and spinal shape, DTP2 device, Hui Chun Gong exercise, senior women.

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PARAMETRE BEŽECKÉHO KROKU ŠPORTUJÚCEJ MLÁDEŽE V ZÁVISLOSTI OD VEKU

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Abstract

The purpose of the work was to ascertain the level of relations between the maximum running speed, physical parameters and basic running stride parameters. The selection of tested athletes was focused on Slovak competitors in speed track and field events (sprint and jumps).

The research sample included 37 boys and girls aged 12 to 16. Their bone age ranged from 12.5 to 16.5 years. A standardised somatometric methodology was used and the bone age was determined on the basis of RUS-score (TW3) ascertainment on the lines of Tanner et al. (2001). Kinematic data were achieved by measuring the time and length parameters of running stride's support and flight phases in 20-m run at maximum speed.

The research showed that the size of dependence between the bone age and the maximum running speed is more significant than that between the chronological age and the running speed.

Key word: chronological age, bone age, running speed, kinematic parameters, youth.

ÚROVEŇ KOSTNEJ ZRELOSTI ŠPORTOVCOV V PUBERTE

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Abstract

The purpose of the research was to determine the degree of bone maturity of athletes at the ontogenetic stage before and in the age of puberty. The analysis was focused on relations between the chronological and biological bone age in groups of beginning ice-hockey players (aged 6 to 10) and young athletes (aged 14 to 16). The bone age was assessed in 27 ice-hockey players and 49 athletes (25 boys and 24 girls) by means of TW3 (RUS) methodology of Tanner et al. (2001).

It was ascertained that the bone development of young ice-hockey players fell behind their chronological age. However, their physique was more developed than that of ordinary population. They were taller and their width parameters were bigger. Therefore, taking into account their prospective assertion in ice hockey, boys of good somatotype but younger bone age are favoured.

53.1% of athletes were biologically accelerated (acceleration >0.5 year) regardless of their age. The maximum score (RUS maturity score =1000) was reached by some girls (n = 14). It means that their bone ossification was finished, their growth stopped and the girls reached the stage of adolescence.

Key words: chronological age, bone age, athletes, puberty.

POHYB JAKO PROJEV ŽIVOTA

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Abstract

The author, from the view of the sociocultural anthropology, is writing in his paper that everything in the whole creation is formed and maintained by more or less strong movement. The human mind researched movement and is regarding it as the highest thing within creation. The human mind found in movement also a boundary that human being is unable to cross since human being himself is a result of a movement. Therefore he entitled movement as the peak of his cognition, merely as a strength or life. But it is neither a strength nor life. It is merely a natural and verifying expression of life. Everything what human being regards as life is a purely propelled movement. Genuine life is something perfectly free and independent. Otherwise it should not be labelled as life. Life is in God alone!

Movement is the fundamental principle within the whole creation as well as here on Earth. However, it means movement in a good manner. Movement, a constant movement is

therefore maintaining and strengthening everything being in the creation. Therefore, human being cannot be an exception and cannot stay calmly as one and only amongst all creatures in the midst of reactivating movement or go his own way without any harm.

It is essential for human being to explore everything that serves him for his advancement and thus to the support of the whole creation. Human being should ask by everything he is doing what benefit it will bring to himself and to other people. He should know and also fulfil a mission that he as human being assumed.

Key words: movement, strength, life.

ŠKOLNÍ ZRALOST ŠESTILETÝCH A SEDMILETÝCH DÍVEK V OKRESU PŘÍBRAM

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Abstract

The aim of this study has been to find reasons preparation of children on school by helping of 3 tests. The study includes 120 girls (87 six years old and 33 seven years old). The inquiry was done at nursery schools and at first classes of basic schools. Every girl got one graphic test - Orientation test of school mature by Jirásek - and two verbal tests - The examination of knowledge of pre-school children and The test of verbal thought. Results from this study were compared with studies by other authors.

Key words: school mature, graphic and verbal tests, age and intersexual differences.

POHYBOVÁ AKTIVITA – NEDÍLNÁ SOUČÁST KOMPLEXNÍ LÉČBY BRONCHIÁLNÍHO ASTMATU U DĚTÍ A MLÁDEŽE

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Abstract

Material and methods: The first group consisted of 60 asthmatic boys aged 10-18 years (13 years on average). They performed regular fitness exercise (fast walk) 3x30 minutes per week on the level of 50-60 % of heart rate maximum (according to the age). They were tested by the 2-km walking test (2KWT) and the 6-minutes walking test (6MWT) at the start and at the end of the 6-week spa treatment, Polar A5 personal heart rate monitors were used. Sign-test and Wilcoxon test were used for the complete data of boys aged 10-15.

The second group consisted of 14 asthmatic boys aged 11-18 (14 years on average). They performed various types of physical exercise (floorball, soccer, nordic walking, water polo, basketball, motion games) in 6-week trial during spa treatment (B group). The subjects performed their controlled physical activity 3-4 times a week. The aim was to keep the maximal subjectively accepted loading for 30-60 minutes. The heart rate was checked by personal monitor (Polar S610) every 5 seconds, only the "error-clear" records from the period between 6th and 25th minute of loading were compared with the help of ANOVA (Shaffe) test ($p < 0.05$).

Results and discussion: there were significant improvements in the first group in the 2KWT performance index (WI) and in the time of the 2KWT. No improvement was detected in 6MWT. Almost all of the 60 subjects (including the unclaimed in the statistical testing) withstood the exercise very well, Berodual p.o. was used only twice. The 2KWT seems to be more sensitive than the widely used 6MWT, probably because the 2KWT has more endurance character and because the heart rate is taken into the account.

All subjects of the second group withstood the exercise very well (despite to the hot summer time). Although they had motivation (it was the game) to reach the best results, they controlled the intensity according to their feelings. They were able to keep a relatively high heart rate (183 bpm) for dozens of minutes. Higher heart rate was typical for activities demanding less special capabilities (e.g. soccer, nordic walking) in contrast to more technical ones (basketball, water polo), subjectively children preferred soccer and motion games in particular.

Conclusion: there is the conclusion here that spa treatment can improve asthmatic children fitness and that in the case of stable health condition and good medication it is possible to use the common physical exercise according to the age.

Key words: asthma bronchiale, children, physical activity.

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SPECTROPHOTOMETRY – WHAT DO WE KNOW TODAY ON SKIN PIGMENTATION RESEARCH

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Abstract

In years 1993–1996 the Department of Anthropology and Biometry of University School of Physical Education in Poznań initiated the research of human skin pigmentation and their correlation with physical strain. Research was conducted as a part of research project under supervision of PhD. A. Michałowska. The research was abandoned at the stage of problem recognition due to the fact of job migration to USA by the project supervisor. At present moment, while searching for the results of physical strain on human body we return to undertaken quest.

The use of Spectrophotometry in research of human skin pigmentation is not a new problem. It should be dated up to 1929, when it was for the first time used by Brunstig and Sheard. In anthropometric research they function since 1951 (Weiner, 1951).

Up to this time to estimate the degree of pigmentation were only used anthroposcopic methods, such as Luschans' color scale.

In anthropology the research of skin pigmentation degree is used for human inner species differentiation (Lasker, 1954; Spurgeon, 1984), genetic analyze (Livingstone, 1969), in medicine sciences as the estimation of some illness symptoms.

In sport, as well as physical culture sciences in general, such research, besides pilot ones were not done on a larger scale.

In the presentation we intend to show the rules of using the reflection spectrophotometer „Phantom“ made in Poland, as well as the forms of possible research results which consist the description of relative intensity of pigmentation and it's structure.

Key words: *spectrophotometry, skin pigmentation, anthropology, sport.*

VZŤAH MEDZI GENOTYPOM A ANTROPOLOGICKÝMI PARAMETRAMI U SLOVENSKÝCH PACIENTOV S CYSTICKOU FIBRÓZOU

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Abstract

The aim of this study was to demonstrate the existing relationship between the mutation type of a patient with cystic fibrosis and his/her anthropometry, compare the body measurements of patients with particular mutation types with the slovak anthropological norms and based on the anthropological parameters group yet unidentified mutation type into a relevant class (severe, mild). At the beginning of the study the slovak CF database was completed. From the group of 322 live patients 188 /108 men, 80 women/, which had the classical form of CF, were monitored. 20 anthropological parameters /included indexes/ were measured. The number of repeated measurements ranges from 1 to 12, only first ones were used in this study. The anthropological parameters were divided in 3 groups /circumference measures (CM), other than circumference measures (OCM) and index measures (IM)/ to comply the statistical analysis, which was performed in S-PLUS. We used MANOVA model and subsequently 95% post-hoc Šidák simultaneous confidence intervals.

Key words: *cystic fibrosis, anthropometry, mutation types, Slovakia.*

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