# ANNALES UNIVERSITATIS MARIAE CURIE-SKŁODOWSKA LUBLIN – POLONIA VOL. LIV, 54 SECTIO D 1999

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# Evaluation of physical health of 14-year-old students attending primary schools in Lublin

Ocena stanu zdrowia fizycznego uczniów w wieku 14 lat wybranych lubelskich szkół podstawowych

A child cannot be characterized without consideration for his growth and development. Children have smaller measurements and different proportions than adults, but one cannot say that they are a miniature of adults. Children differ not only in respect of morphology, but physiology, psychology as well. Children are governed by different biological laws. They react differently to stimuli than adults and experience different pathologies.

The current population of school age children in Poland is 8.5 million. This constitutes 22% of Poland's population. The school-age was called by J.H. de Haas "the golden age" because of its minimal mortality rates. However, the increasingly active lifestyles of children make greater demands on them. These factors along with a greater burden of responsibility placed on children during the learning process exposes them to more stress and dangers (3).

The scientific studies show that certain percent of apparently healthy children in the normal school population show a deviation from normal development and health parameters. Usually these deviations do not exclude pupils from classes, but they do have an influence on their biological potential, their capacity for adaptation, social behavior, and ultimately their success and efficiency in school.

A "healthy" child is considered the one that in somatic respect has reached the level of morphological and functional development corresponding with its abilities; in which you cannot detect any defects, complaints, irregularities of structure or function of all systems; is in psychological harmony; is socially well adjusted at school; holds attitudes, behaviours and habits which favour the maintenance and fortification of health; grows and develops in a healthy environment as regards both education and home (3).

## OBJECTIVE

The purpose of the study was to evaluate the physical health and certain selected health influencing behaviours of 14-year-old male and female students in Lublin schools.

#### MATERIAL AND METHODS

The test population consisted of 220 students (120 female and 100 male) from 3 selected Lublin schools. Student health chart analysis enabled obtaining data from the previously conducted balance of 14-year-olds. The data collected was regarding anthropometrical measurements (height, body weight), occurring abnormalities and diseases and their disability scale ranking. The second method used was inquiry questionnaires, based on selected healthy behaviors of the tested population.

#### **RESULTS AND DISCUSSION**

The evaluation of physical development is based on anthropometrical measurements. This was one of the basic criteria used to draw conclusions about the health status of the subjects. In our studies as a biological point of reference the pediatric growth chart, was the accepted indicator of somatic development; charts of height, weight, age proposed by Krawczynski et al. (1990/91). The distribution of body weight and height is shown in Figure 1. The study of height and body weight indicates that 78.3% of female and 80% have reached the body weight fitting the broad standard, and 81.7% of female and 80% of male – height fitting the broad standard. Among sampled population was 22% of females and 14% of males with too low or too high body weight, and 18.4% of females and 13% of males with height out of broad standard. The average body height of Lublin girls is 162.2 cm, average body height 162.8 cm, body weight 53.0 kg. The average body height of tested males is 167.7 cm, according to Krawczyński – 166.5 cm, the average body weight of Lublin boys is 58.5 kg, according to Krawczyński – 56.1 kg. One can conclude that Lublin 14–year–old teenagers are slightly taller and heavier then teenagers in another parts of Poland (1, 2).

The normally proceeding physical development of females is characterized not only by correct parameters of growth and body weight but also by proper age of menarche. In the tested group the average age of first menstruation was 12.9 years. According to literature analysis, the average age of menarche among Polish girls of big cities is 12.8 years (the maximum age of menarche being 13 years of age).

The process of classifying children into disability groups is used proactively to promote community health. It integrates prophylaxis, diagnostics, therapy, metaphylaxis. It allows early detection of disease or its potential in students. The qualification of tested population to disability groups is shown Figure 2. Analysis of data shows that 15.1 % of females and 24.7% of males are qualified to these groups. The non-qualified, but under observation students constituted 32.1% of females and 25.9% of males.

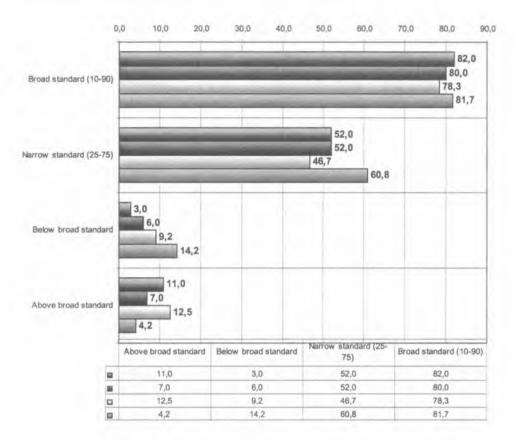


Fig. 1. The distribution of body weight and height

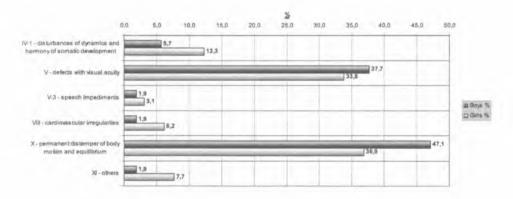


Fig. 2. The characteristics of disability groups

Among the tested population, the most common conditions requiring active guidance were problems concerned with the distemper of body motion and equilibrium – 36.9% of girls, 47.1% of boys and defects with visual acuity; 33.8% of girls, 37.7% of boys. The Report of the Government's Plenipotentiary Office on Women and Family Affairs states that almost every third 14-year-old child in Poland is qualified to a disability group. The most common health abnormalities are visual and orthopedic defects (5). Subsequently students are qualified on account of disturbances in somatic development (including obesity). Personal research indicates that 42.4% of girls are qualified into disability groups. 18.8% of these girls were classified into 2 or more disability groups.

With reference to the males in the study the results were as follows: 49% of the subjects tested belongs to at least one disability group. The most common complaints requiring active guidance in both sexes are the same as previously mentioned in the Report. In the questionnaire special attention was drawn to the contact of children with tobacco, alcohol and stupefacients. These contacts can cause dependence and have negative influence on physical and mental health. The earlier the age of substance abuse the greater the severity on mental and physical health.

The dissemination of cigarette smoking among tested population is shown in Fig. 3. The analysis of the results shows that only 58.3% of girls and 54% of boys have never used cigarettes. 10% of surveyed girls and 14% of boys identified themselves as regular smokers.

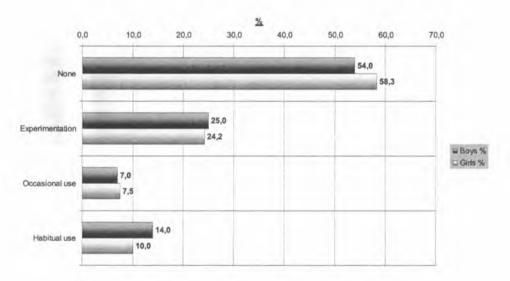
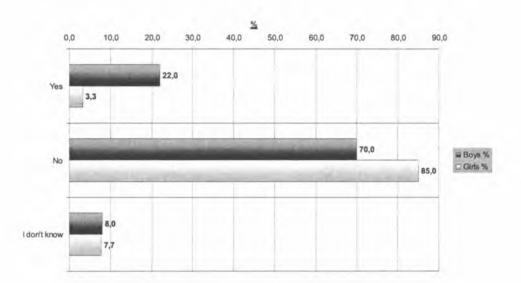


Fig. 3. Cigarette smoking

The analysis of conducted tests show that 43.3% of girls and 37% of boys abstain from alcohol. Those that indicated they consumed alcohol showed preferences for beer -5.3% of girls and 43.5% of boys, and wine -32.1% of the girls and 25.9% of boys. The percentage preferring stronger alcoholic drinks -15.1% of girls and 24.7% of boys. 3.3% of tested girls and 22% of boys admitted to experimentation with stupefacients. 14% of girls and 8% of boys were not certain about substances used in the past (Fig. 4). Students, who admitted contact with narcotics listed more than one kind of substance used. The most common were medications and cannabis products like marihuana, and also glues and





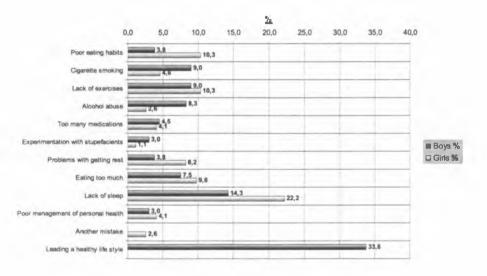


Fig. 5. The subjective estimation of life style

solvents. The research conducted in Poland estimated the percentage of teenagers using narcotics to be 2.3-8.3%. This divergence of results warrants further exploration and discussion (1, 4, 5).

The subjective survey results of students are shown in Fig. 5. Among the tested students, 20.1% of girls and 33.8% of boys claim that they lead a healthy lifestyle and that they do not indulge in behaviours that can endanger their health in the future. However, in the opinion of surveyed students,

the most common mistakes they make, are: lack of sleep: 22.2% of girls and 14.3% of boys, poor eating habits: 10.3% of girls, lack of exercises: 10.3% of girls and 9% of boys, cigarette smoking: 9% of boys, alcohol abuse: 8.3% of boys.

## CONCLUSIONS

1. Anthropometrical measurements (height and body weight) of the tested students do not stray from developmental norms. Average measurements are related to those given in the literature.

2. Average age of menarche was 12.9 in the tested population (coinciding with the Polish norm).

3. Most of boys and girls being under active guidance are qualified to group X – permanent distemper of body motion and equilibrium and group V – defects with visual acuity.

4. Alarming incidence of alcohol and tobacco use: every fifth girl and every fifth boy smoke cigarettes, every fourth school age child consumes alcohol, and every third school age boy has had contact with narcotics.

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Otrz.: 1999.11.30

#### STRESZCZENIE

Celem pracy było dokonanie oceny stanu zdrowia fizycznego dziewcząt i chłopców w wieku 14 lat, uczniów szkół lubelskich, oraz wybranych zachowań zdrowotnych i warunków higieniczno– -sanitarnych środowiska życia i pracy uczniów. Badaniami objęto 220 osób (120 dziewcząt i 100 chłopców) z wybranych 3 podstawowych szkół Lublina. Stan zdrowia badano na podstawie analizy dokumentacji medycznej (karta zdrowia ucznia), natomiast oceny zachowań zdrowotnych oraz warunków życia dokonano na podstawie kwestionariusza ankiety. Najbardziej niepokojącym wynikiem badań jest fakt sięgania przez dorastającą młodzież po używki. Obok alkoholu i papierosów znaczny odsetek badanych miał kontakt ze środkami odurzającymi. Analiza kart zdrowia ucznia wykazała, że niemal co drugi badany był zakwalifikowany do grup dyspanseryjnych. Najczęściej były to grupa X (trwałe zaburzenia ruchu i statyki ciała) lub V (wady i choroby narządu wzroku).