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| **Topic: Topical questions of hygiene of children and adolescents** |  |
| **Actuality of the topic:** the formation of theoretical knowledge about children's health and of its constituent factors. |  |
| **The main questions of the study:** |  |
| 1.The concept of science - Hygiene of children. |  |
| 2.The concept of health. Factors influencing health status |  |
| 3.Criteria of children's health |  |
| 4. Physical development as an indicator of children's health. Рhysical development. |  |
| 5. Methods of assessment of physical development. Generalizing method, Individualizing method, Complex assessment of physical development. |  |
| 6.The concept of acceleration. The main features of the acceleration. |  |
| 7.Вasic theory of acceleration. |  |
| 8.Hygienic basics of the day regime of the children |  |
| 9.Criteria prepare children for learning at school. Мedical criteria, psychophysiological criteria. |  |

**Read theoretical information on the topic!**

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| **1.The concept of science - Hygiene of children.**  Hygiene of children – is a branch of preventive medicine which examines the influence of environmental factors on the health of the growing body and developing activities aimed at preserving the health of children and disease prevention |  |
| **2.The concept of health. Factors influencing health status**  Нealth is not merely the absence of disease or corporal defects a state of complete physical, mental and social wellbeing (who definition)  **Factors influencing health status:**   * 50% - socio-economic conditions and lifestyle; * 20% - biology and genetics; * 10-20% of the external environment and environmental factors; * 10-15% - health organization |  |
| **3.Criteria of children's health**   * • the presence or absence of functional disorders or chronic diseases;   The presence or absence of functional disorders and chronic diseases is established when examination and history taking   * • the level of the functional state of main systems of organism;   The functional state of organs is measured by comparing the baseline with the rules (example: rules of a blood test, blood pressure, heart rate, respiration rate, standards of sexual development) • the degree of resistance of the organism to adverse external influences;   * • the degree of resistance of the organism to adverse external influences;   The level of resistance (resistance) is determined by the number of acute diseases per year   * • the level of physical and mental development   -Neuropsychic development of children, determine when talking with your child. Assess speech, skills, behaviors, emotions -Physical development is determined by comparing key indicators (height, weight) with the norms |  |
| **4. Physical development as an indicator of children's health. Рhysical development.**  Physical development is a set of morphological (usually height and weight) and functional properties of the body ( arm strength, lung capacity) at different ages that reflect the development of the organism  **Рhysical development:**   * Somatometric (can be measured): weight, body length, head circumference, chest circumference, shoulder, thighs, legs; * Somatoscopic (you can see): fat deposition, body type, the shape of the chest, spine, legs, feet, degree of puberty; * Physiometric (study functions): Vital capacity (VC), muscle strength of arms, strength of back muscles |  |
| 5.Methods of assessment of physical development. Generalizing method, Individualizing method, Complex assessment of physical development.   * Generalizing method of an estimation of physical development collective, which allows to determine the average physical development, to identify General patterns of physical development, the maximum and minimum indicators of physical development in the team * Individualizing method of an estimation of physical development of the individual   -Individualizing method is a comparison of the main parameters of physical development of the individual ( usually height and weight) with the average values of these characteristics for age and gender  -Complex assessment of physical development  Biological development of Morphological and functional state of the organism  -Biological development is determined by a set of genetically determined traits (the appearance of ossification of the skeleton, eruption and change of teeth, the appearance of secondary sexual characteristics)  - Morphofunctional state of the organism is determined by the indicators of body weight, height, chest circumference, muscular strength of the arms, lung capacity |  |
| **6.The concept of acceleration. The main features of the acceleration.**  ACCELERATION is the process of accelerating the growth and development of children, compared with the previous generation  **The main features of the acceleration**:   * increasing the length of the body and the weight of newborn and one-year-old children * an earlier eruption and the change of milk teeth * an earlier appearance of ossification and early completion of the ossification of the skeleton in General * earlier increasing the length and body weight in children after 1 year * earlier sexual development * final dimensions (length and mass) of the body in children more than their parents |  |
| 7.Вasic theory of acceleration.  **I. Physico-chemical:**   * - solar radiation (the influence of solar radiation, which activates all processes, including the formation of Vit. D, accelerating growth and development) * - radiowave, magnetic (influence of electromagnetic field on the somatotropic function of the pituitary gland) * - cosmic radiation (change of background cosmic radiation) * - increased concentration of carbon dioxide (stress activates the sympatho-adrenal system hormones of the adrenal cortex   **II. The effect of individual factors of living conditions:**  - nutritional (increasing protein intake, animal fat, vitamins)  - increased information (greater flow of information stimulates the cerebral cortex, increases the production of gonadotropic hormones of the pituitary and the adrenal androgens)  **III. Genetic:**  - heterosis (mixing of populations, the increase of marriages between different races)  - is a cyclic biological changes (depends on solar and geomagnetic activity)  **IV. The theory of complex factors of life:**  - urbanization (the accelerated pace of urban life, increased mental stress contributes to the excitation of the cerebral cortex, activates the somatotropic function of the pituitary gland)  - is a complex socio-biological factors (improvement of living conditions, nutrition, reduction in infectious diseases) |  |
| **8.Hygienic basics of the daily routine of the children**  **Рrinciples of regime of the day:**  -strict implementation of the regime, a gradual transition to the new regime  -activity does not exceed the limit of operability of the cells of the cerebral cortex, and the rest should provide functional recovery  -rational allocation of components mode during the day, their change and alternation  -the mode of the day should correspond to the age peculiarities and abilities of children  **Мain components day regimen**   * + Sleep   + Walking   + Training activities   + The rest   + Food   + Personal hygiene |  |
| **9.Criteria prepare children for learning at school. Мedical criteria, psychophysiological criteria.**  Before entering school a child must conform to the school maturity  criteria of school maturity:   * **medical criteria** * **-** the level of biological development * - health status for all criteria * acute morbidity in the preceding year * **psychophysiological criteria** * - the test of Kern -Ieraseka * - the quality of sound pronunciation   **Тest of Kern –Ieraseka:**   * **1**). To draw a person * 2). To copy a short sentence from the words ( He was eating soup ) * 3). To copy it in a specific order of group of points   **Evaluation of the quality of sound pronunciation:**  the Child names the pictures, the pronunciation of which are difficult to pronounce sounds  Not trained to teach are children having deviations in health status, lagging in biological development, without completing the test of Kern -Ieraseka , and also having defects of sound pronunciation To these children are doctors and teachers |  |

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| **Антропометрические признаки** | | **Рост (см)** | **Масса (кг)** | **Окружность грудной клетки (см)** | **Спирометрия** | **Динамометрия** | |
| **Правая кисть** | **Становая** |
| **Ростовые группы**  **Общие Средние** | **М**  **Б** | **171,7**  **±6,2** | **69,8**  **±6,2** | **96,1**  **±4,0** | **4600**  **±550** | **56,3**  **±7,3** | **172,2**  **±22,6** |
| **158-163** | **М**  **Б**  **М**  **Б**  **М**  **Б**  **М**  **Б**  **М**  **Б** |  | **61,7**  **±5,1** | **91,4**  **±3,3** | **4080**  **±410** | **48,4**  **±6,4** | **161**  **±16** |
| **164-169** |  | **65,2**  **±4,7** | **93,2**  **±3,2** | **4440**  **±390** | **53,6**  **±6,6** | **164**  **±21** |
| **170-175** |  | **68,5**  **±5,8** | **95,2**  **±3,2** | **4720**  **±520** | **55,4**  **±6,6** | **171**  **±23** |
| **176-180** |  | **73,5**  **±6,4** | **97,4**  **±4,0** | **4960**  **±520** | **56,0**  **±6,8** | **173**  **±21** |
| **181-189** |  | **77,3**  **±6,4** | **98,6**  **±4,2** | **5270**  **±565** | **58,4**  **±6,8** | **175**  **±25** |

**Each student writes a conclusion for task in his notebook takes a photo and sends it for check!**

МУЖЧИНЫ



**The TASK is to determine your physical development.**

Measure your height, weight, and chest circumference.

**An example of estimation of physical development:**

The woman has a height of = 165cm, weight -=60 kg, chest circumference=90cm.

To determine physical development

**1) the Height of a woman is compared with normal growth (** see table 160.9+4.5):

165-160.9-=4.1

**4.1:4.5=0.9**

**2) Look at which group growth belongs to. A group of 161 to 165.**

Opposite the Group 161-165 are written norms for weight and breast circumference.

The weight norm for a woman is 61.8+ 4.7

The 60-61.8=-1,8

**-1.8:4.7=-0.3**

**3) the Norm of breast circumference for women is 85.8+3.3**

90-85.8=4.2

**4.2:3.4=1.2**

**Obtained result:**

the growth of =0.9

weight =-0.3

the circumference of the chest=1.2

**PHYSICAL DEVELOPMENT OPTIONS:**

- 1 +1 - physical development is normal

-1-2 - physical development below normal

-2 and below-physical development is low

+1+2 - physical development is above normal

+2 and higher-physical development is high

**LET'S EVALUATE THE RESULT:**

Growth 0.9 **GROWTH NORM**

weight -0.3 **weight NORM**

the circumference of the chest 1,2 **CIRCUMFERENCE of the CHEST above the norm**

**RECOMMENDATIONS: athletics**