

## CHILDREN'S HEALTH

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**Annotation.** The objective of this research was to evaluate children's health at the age of 6 years and at the age of 17 years, analysing data of children annual medical check up. Evaluation of distribution of health groups, speech or language disorders, otolaryngological pathology, poor posture or spinal disorders, weight abnormalities and vision impairments revealed trends of children health before school period and health condition becoming adults. Children's health trends from 6 to 17 years show that numbers of II health group are almost the same, and majority of children had this group and were practically healthy, having mild health disorders. At the age of 17 years there are growing numbers of I health group, and 1/10 of children were entirely healthy. Numbers of scoliosis, overweight, poor posture and impaired vision are bigger. Almost half of children at the age of 17 years had impaired vision.

**Keywords:** Health groups; speech or language disorders; otolaryngological pathology; weight; poor posture or spinal disorders; vision impairments

### INTRODUCTION

In 2017, more than 95% of children in the European Union (EU) were considered to be in good or very good general health. This percentage changes only slightly by age group, from 96,5% for those aged under five, to 95,9% for those aged five to nine and 95,2% for those aged ten to fifteen. The percentage of children whose general health was considered to be bad or very bad was under 1% for all age groups. Lithuania presents average data (Eurostat, 2019). However children's health in Lithuania is worsening every year (Butkutė et al., 2017). Such health issues, as vision problems, poor posture, spinal deformities, overweight and obesity are more frequent (Institute of Hygiene, 2019). Figure 1. shows that main health problem for children up to 17 years in Lithuania is impaired vision having trends to increase in numbers every year:

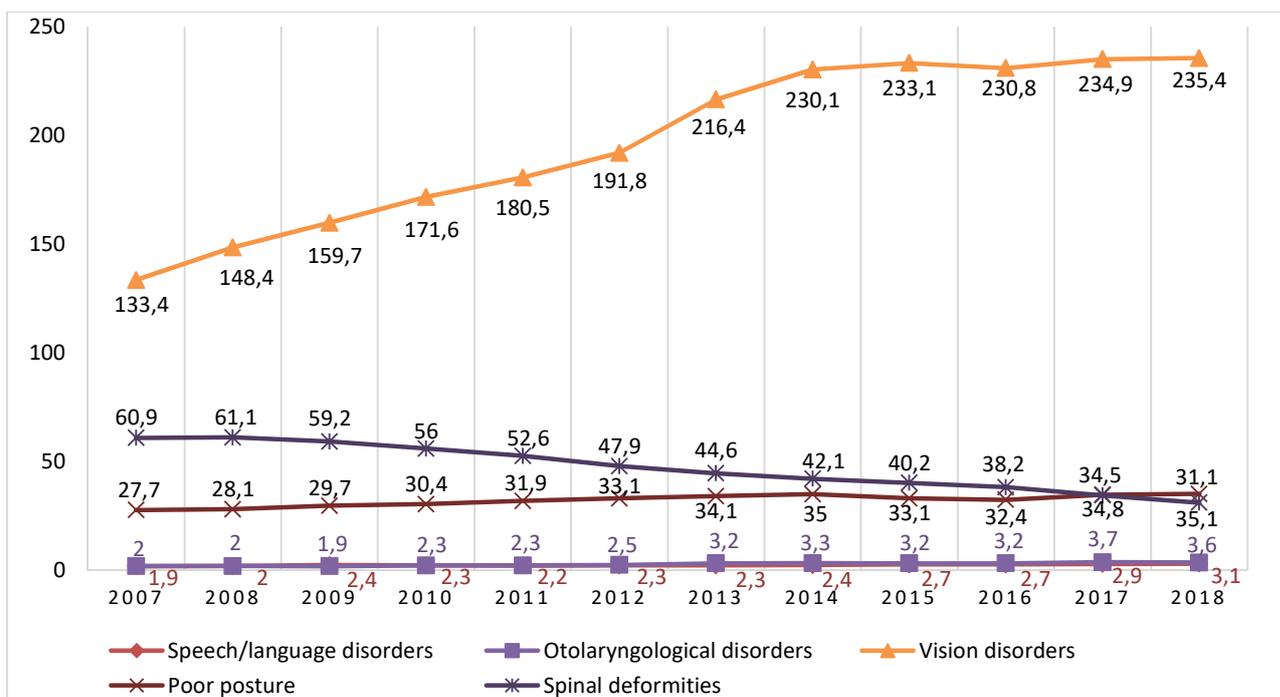


Figure 1. **Morbidity per 1000 children aged 0-17years** (Institute of Hygiene, 2019)

Children are future adults: future students, future parents, future employees. How healthy they'll be? According to statistical data of the Institute of Hygiene (2019), obesity and overweight are one of main health problems of school age children. Figure 2 shows that more than one fifth of Lithuanian children aged 7-17 years had overweight or obesity, numbers of Panevėžys children were even bigger:

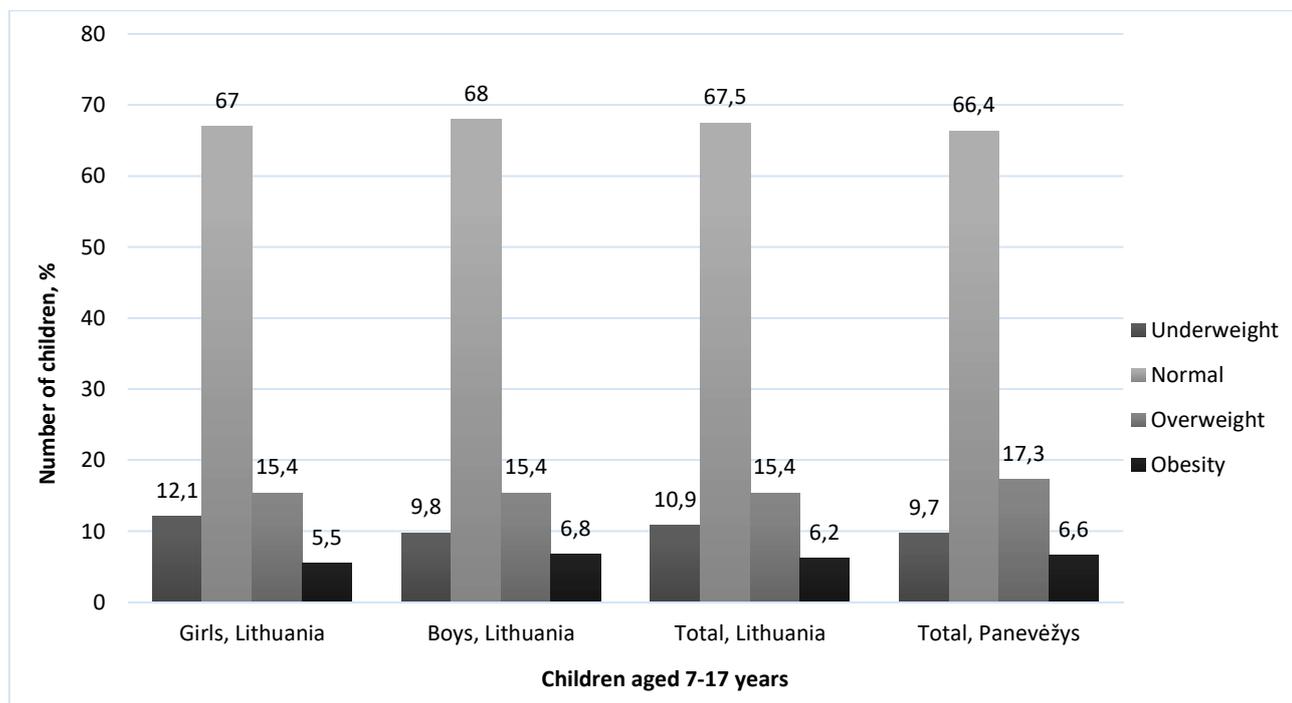


Figure 2. **The distribution of children weight**

Lithuanian Health Promotion Programme, adopted for 2014-2025 year period promotes healthy lifestyle, especially physical activity of school-age children. 2014 year was declared to be The Year of Children (Seimas of the Republic of Lithuania, 2019). However, there are very scarce statistical data of children's health before school and at the age of 17 years, before becoming adults. There is no data of such health issues, as myopia, posture and spinal deformities, weight abnormalities, speech/language impairments, otolaryngological problems separately at the age 6 and 17 years and trends of children's health while they are growing up to adulthood are unclear. This data is very important for the right direction in the educational and healthy lifestyle promotion process so that children become healthy adults.

**The object of the study:** Children's health.

**Objective of the study:** To evaluate children's health starting school and before adulthood.

**Tasks of the study:**

1. To analyse, based on scientific literature, main health issues in preschool period and at the end of school period.
2. To assess distribution of health groups at preschool period and at the end of school period.
3. To evaluate rates of children morbidity at the age of 6 and at the age of 17 years.
4. To compare morbidity of girls and boys.
5. To assess trends of health groups and morbidity of children.

## RESEARCH METHODOLOGY

Children of preschool age have to undergo medical check up, concerning health group, height, weight, vision, hearing and other otolaryngological peculiarities, posture examination. Second part of medical examination contains dental check up. Results of medical check up are recorded to statistical form ( Nr. 027-1/a). All data are saved in Child Health Monitoring System (Ministry of Health of The Republic of Lithuania, 2019). There are two parts of children's health certificates: I part „Evaluation of Physical Condition“ – is filled by pediatrician or family doctor, II part “Evaluation of Teeth and Jaw Condition“ – is filled by dentist and now is in electronic form (Ministry of Health of The Republic of Lithuania, 2018).

After analysing scientific literature and statistical data, small questionnaire for nurses of paediatric districts was prepared in order to select and record aforementioned statistical data. Survey was conducted at Panevėžys X Outpatient Department in summer of 2019. We collected statistical data of health checkup (vision, hearing, speech/language disorders, posture, weight/height, health group) for 2007, 2008, 2018, 2019 years. We took ambulatoric health cards of 100 children, 50 girls and 50 boys, born in 2001-2002 year period. Results of medical examination at the age of 6 and 17 years were collected. We used statistical data of 100 children of both genders who underwent medical check up in summer 2019, before going to school and were of the age 6 - up to 7 years. MS Excel programme for data analysis was used.

## RESULTS AND DISCUSSION

According to health condition, there are 5 children health groups (Švedas et al., 2003):

- I – entirely healthy, in good physical and mental development, without defects and medical conditions;
- II – children with small health problems or defects, having no impact on daily activities, ( often are ill with acute diseases, recovering after severe infectious diseases, having overweight, vision impairments, poor posture );
- III – Children having chronic disease and being constantly observed, having severe physical impairments, but adapting to school's environment;
- IV – having poor health condition, due to chronic diseases;
- V – children who are disabled and have home or bed regimen.

Health group distribution revealed that the majority of children at the age 6 and 17 years had II health group. At the age of 17 years 1/5 of boys had I health group and were entirely healthy. It should be noted that boys were healthier than girls (see Figure 3).

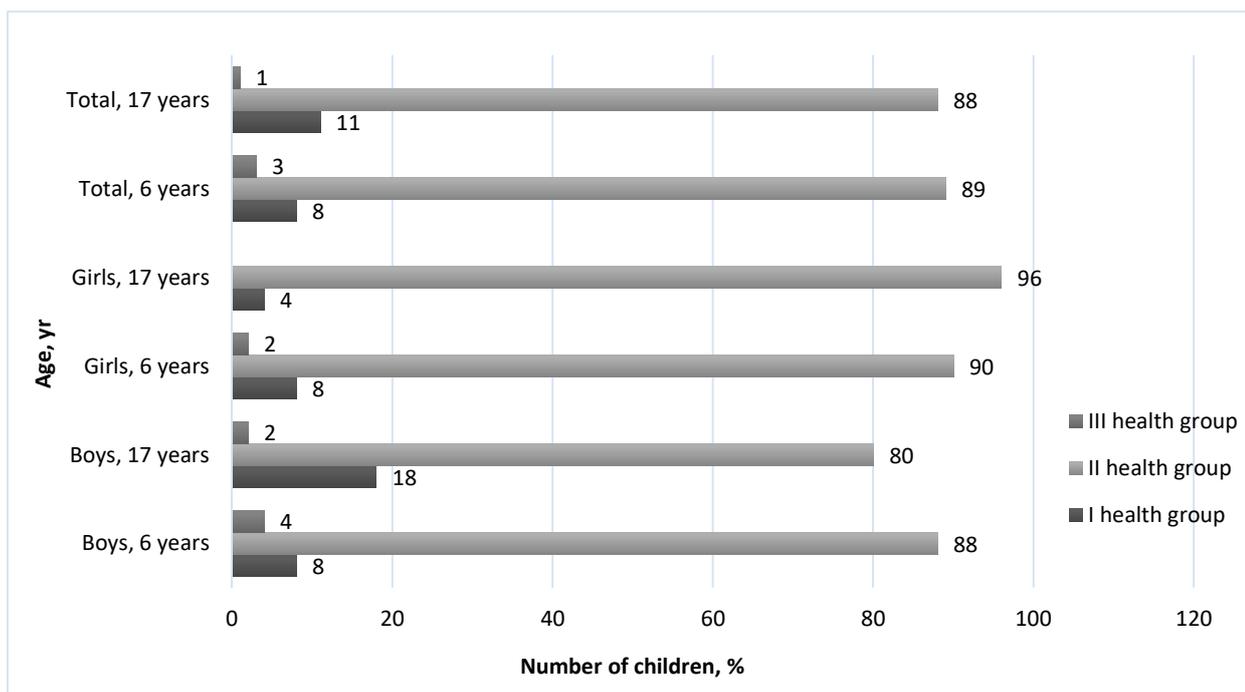


Figure 3. The health groups of children

The results of research revealed that none of children had hearing problems. Otolaryngological problems, such as nasal septal deviation, adenoides, tonsil hypertrophy, which had preschool age children, were cured successfully and there were no such health problems at the age of 17 years (see Figure 4).

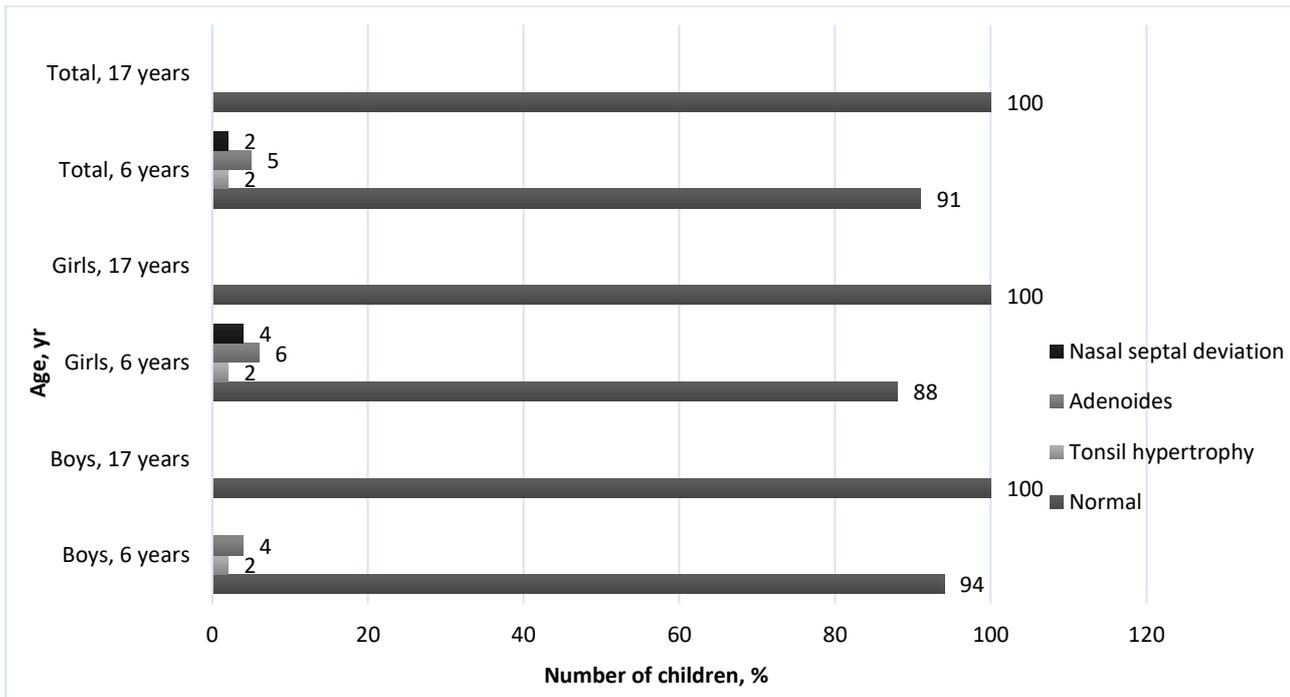


Figure 4. The distribution of children otolaryngological pathology

Though at the age of 6 years 1/3 of children had such disorders, as developmental language delay, dislalia, speech articulation disorder, speech phonemic disorder, stuttering, there were no children with speech and language disorders at the age of 17 years (see Figure 5).

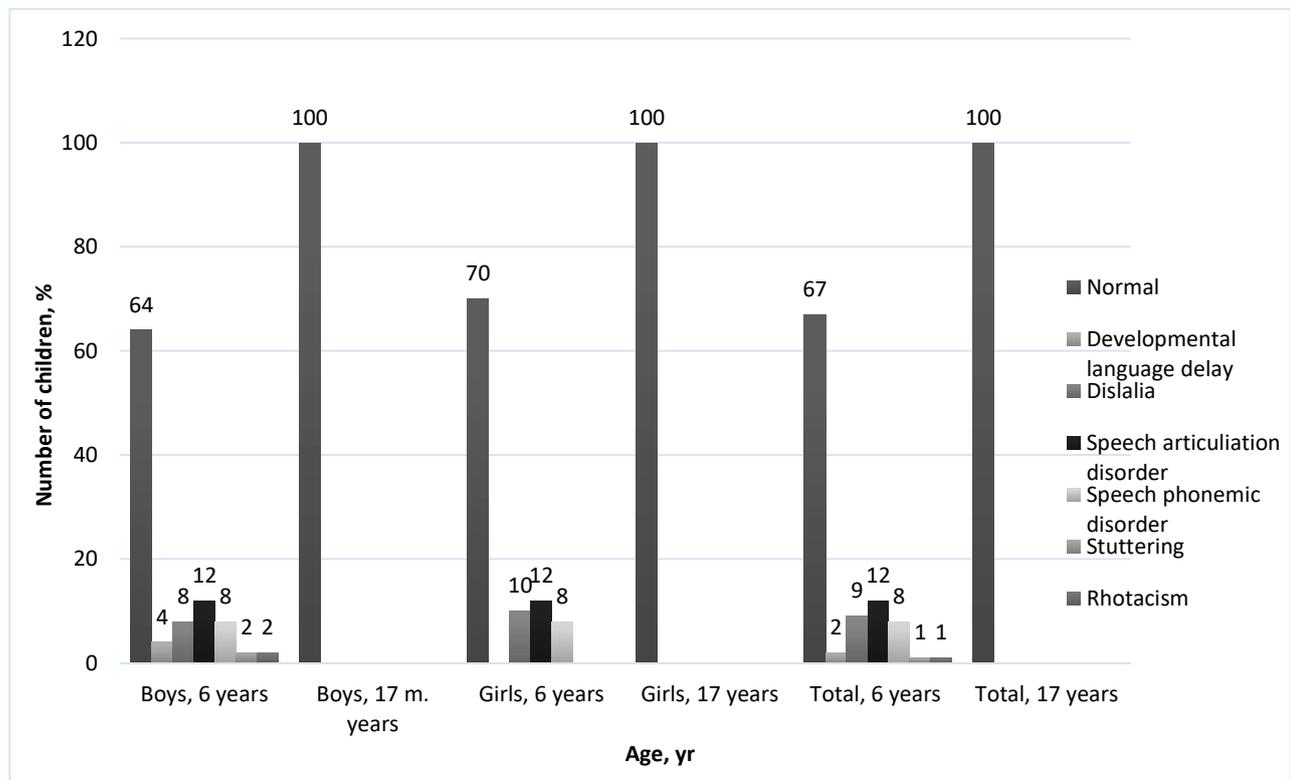


Figure 5. The distribution of children speech and language disorders

Hypermetropia for children of preschool age is physiologic, only for children of adolescent age and adults it is considered to be patologic. Results of research show that numbers of children having vision problems, especially myopia, are growing and at the age of 17 years almost half of children had vision

problems, 1/3 of all children had myopia; this vision impairment was diagnosed for almost half of girls (see Figure 6).

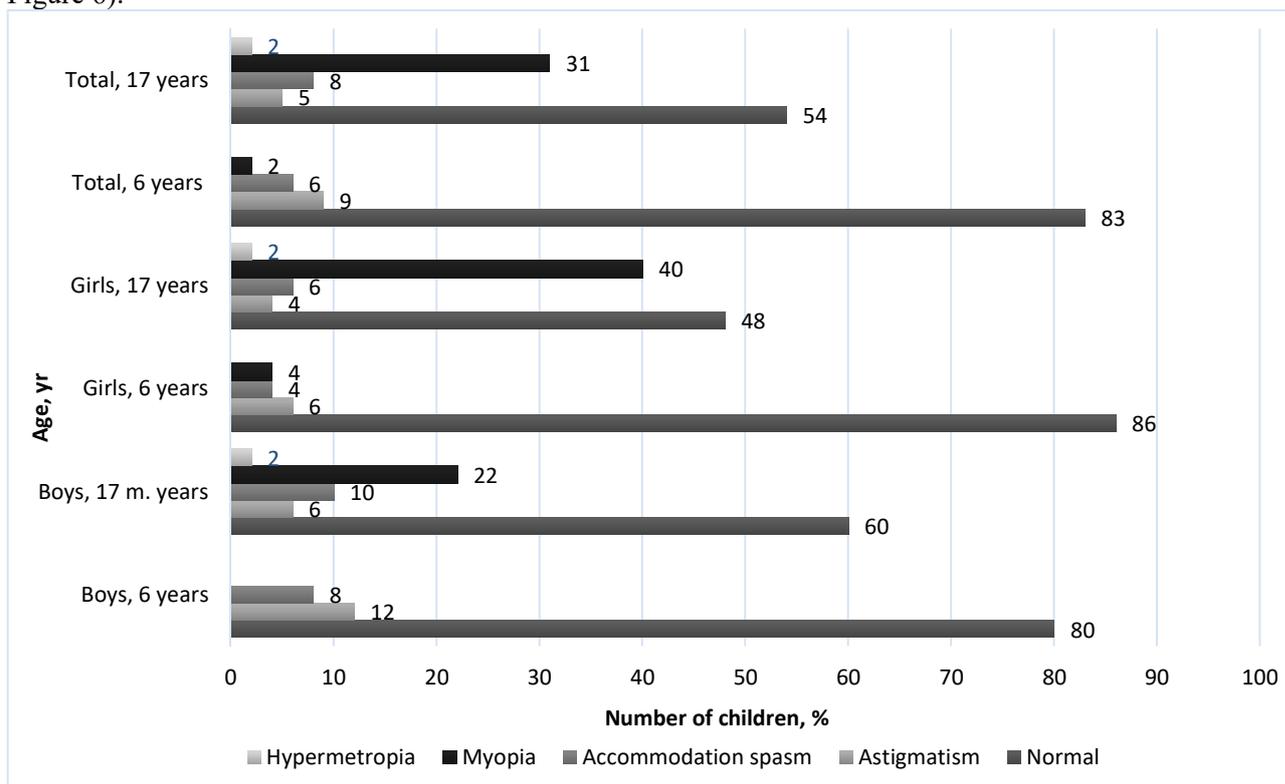


Figure 6. The distribution of children vision problems

At the age of 6 years almost ¼ of children had poor posture or spinal deformities. Reaching age of 17 years, numbers of poor posture and spinal deformities increased twice and were more frequent among girls. Almost half of girls at the age of 17 years had poor posture or spinal deformities (see Figure 7).

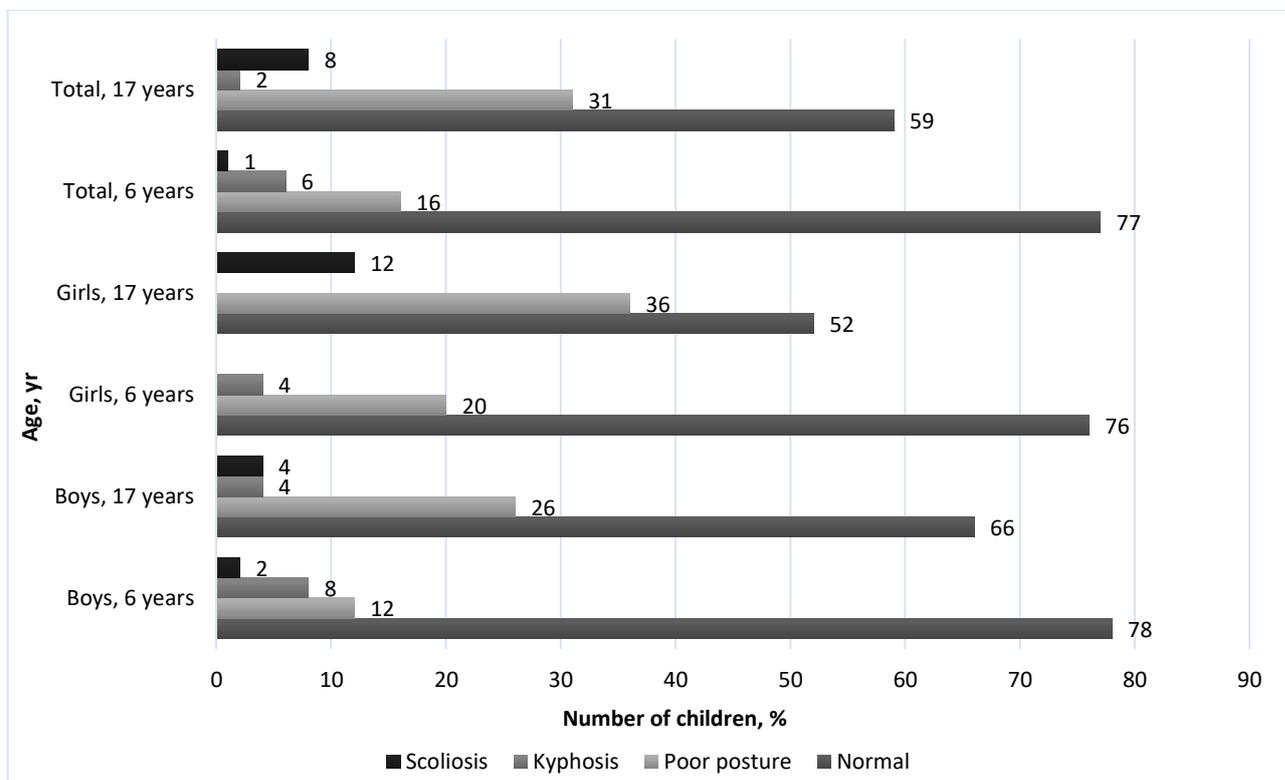


Figure 7. The distribution of children poor posture and spinal deformities

Investigation revealed that almost all children had normal weight at the age of 6 years. At the age of 17 years 1/10 of children had overweight, more cases were in girl's group (see Figure 8).

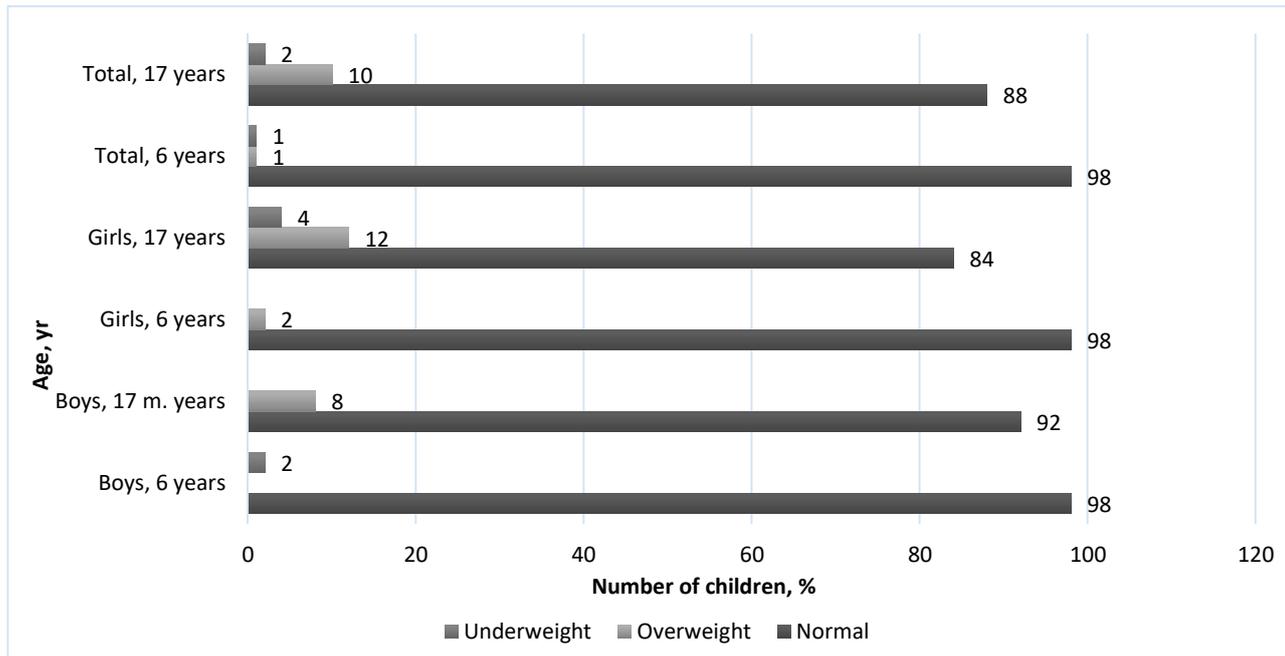


Figure 8. The distribution of children weight by year groups

Children's health trends from 6 to 17 years show that numbers of II health group are almost the same, and majority of children had this health group. At the age of 17 years there are growing numbers of I health group, and 1/10 of children were entirely healthy. Numbers of scoliosis, overweight, poor posture and impaired vision are bigger. Almost half of children at the age of 17 years had impaired vision (see Figure 9).

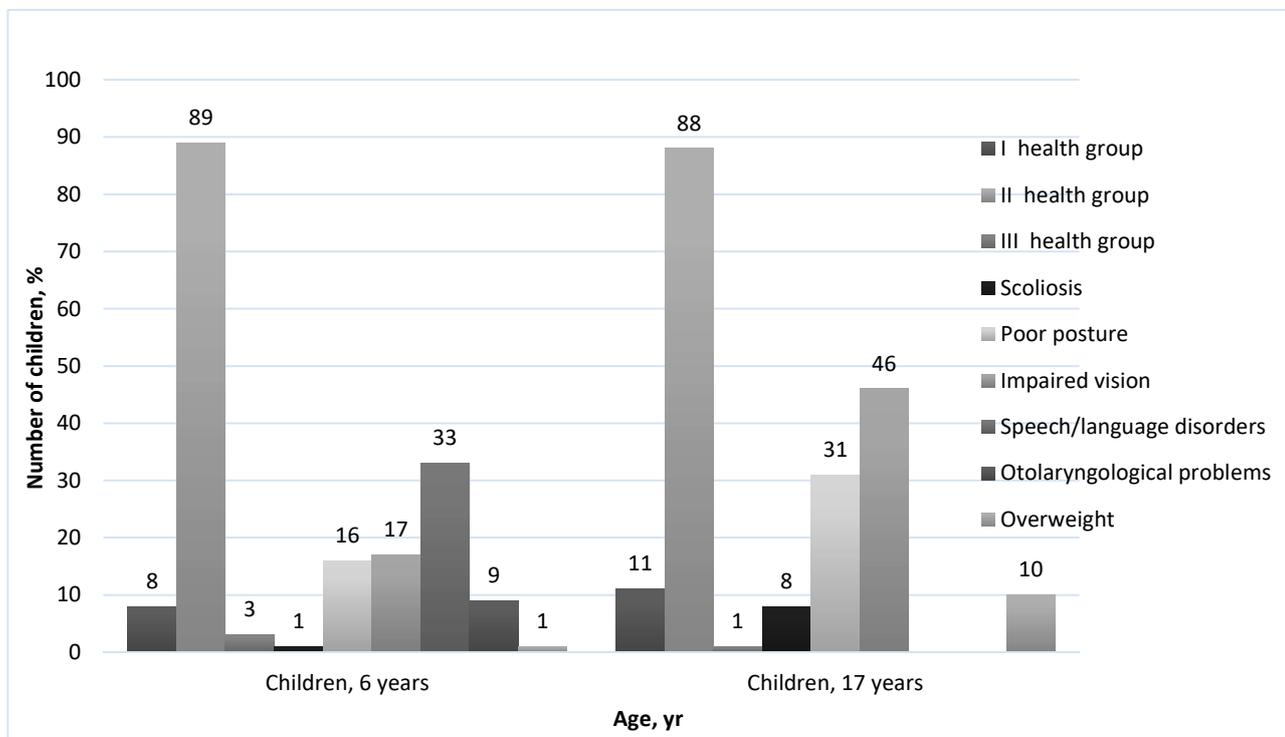


Figure 9. The distribution of children health by groups

Analysing health condition of children, who now are 6 years old and children, who were the same age 11 years ago, revealed that numbers of I health group increased, but now we have cases of IV health

group; decreasing numbers of poor posture and spinal impairments, but growing incidence of vision and speech/ language impairments (see Figure 10).

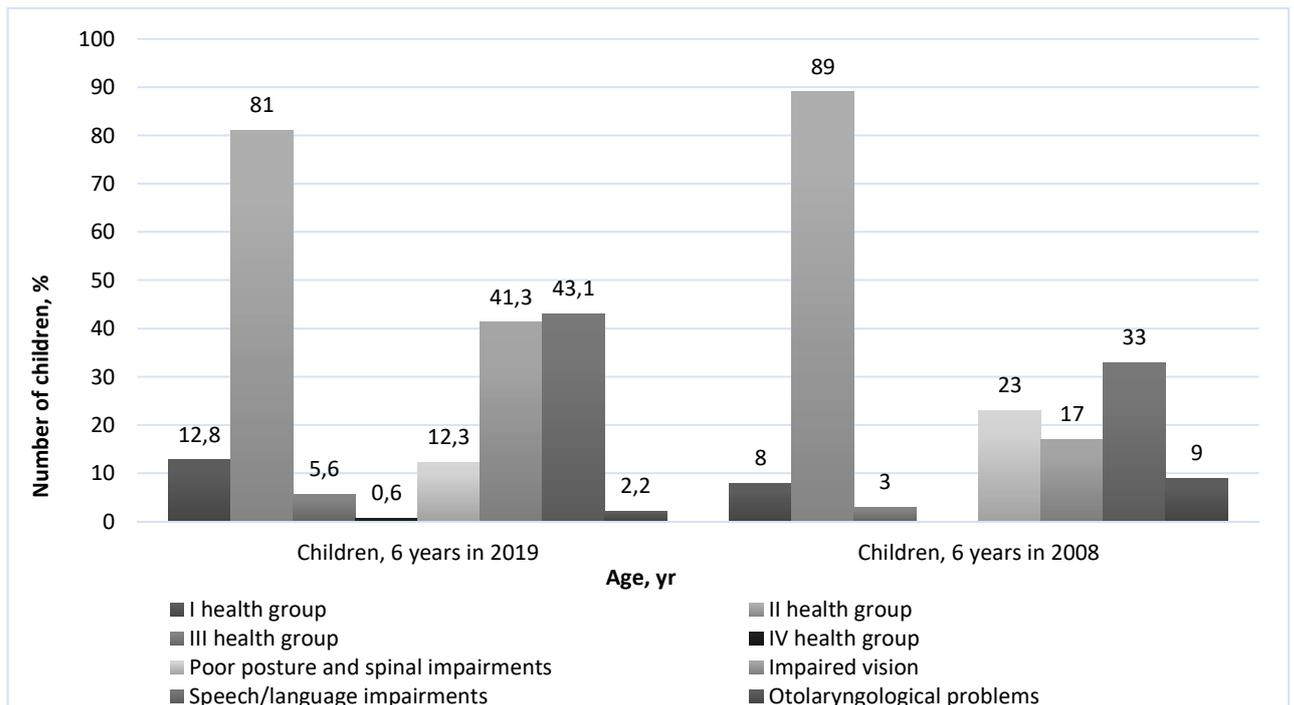


Figure 10. Children's health trends

Though majority of children had II health group, and more than 1/10 of children had I health group, almost half of children had speech/language disorders and vision problems even at the age of 6 years.

## CONCLUSIONS

1. The main children health issues during school period are vision problems, poor posture, spinal deformities and overweight.
2. The majority of children had II health group at the beginning and at the end of school period. There is slight increase in numbers of I health group at the end of school period, but only 10 percent of the children were perfectly healthy.
3. Prevailing health problems at the age of 6 years were speech/language impairments, posture/spinal impairments and vision problems. The main health problems at the age of 17 years were vision impairments, posture/spinal deformities and weight abnormalities.
4. Speech/language and vision impairments were more often for preschool age boys. At the age of 17 years poor vision, poor posture or spinal deformities and weight abnormalities were more often for girls.
5. Comparing health of preschool age children now and 11 years ago revealed the growing numbers of I health group, impaired vision, speech/language impairments and decreasing numbers of poor posture and spinal deformities.

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