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The prevalence of deforming dorsopathies (scoliosis, kyphosis and lordosis) in the population children and adolescents in Poland (2011 – 2013)

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Introduction

- The epidemiological studies concerning scoliosis and other spinal deformities are not frequent in the literature.
- Spinal deformities remain an important orthopaedic problem consistently equally in both developed and developing countries.
- The prevalence studies may clarify the situation where the effective interventions for prevention or treatment are needed.
- It is interesting how high is the percentage of the population that is affected with deforming dorsopathies (scoliosis, kyphosis and lordosis) at a given time in the population.
- The most of articles report that adolescent idiopathic scoliosis is the most common in the group of deforming dorsopathies, with the overall prevalence of 0.47-5.2 %[1].

The aim of the study

to assess the prevalence of scoliosis among children and adolescents in Poland using obligatory statistical healthcare data.

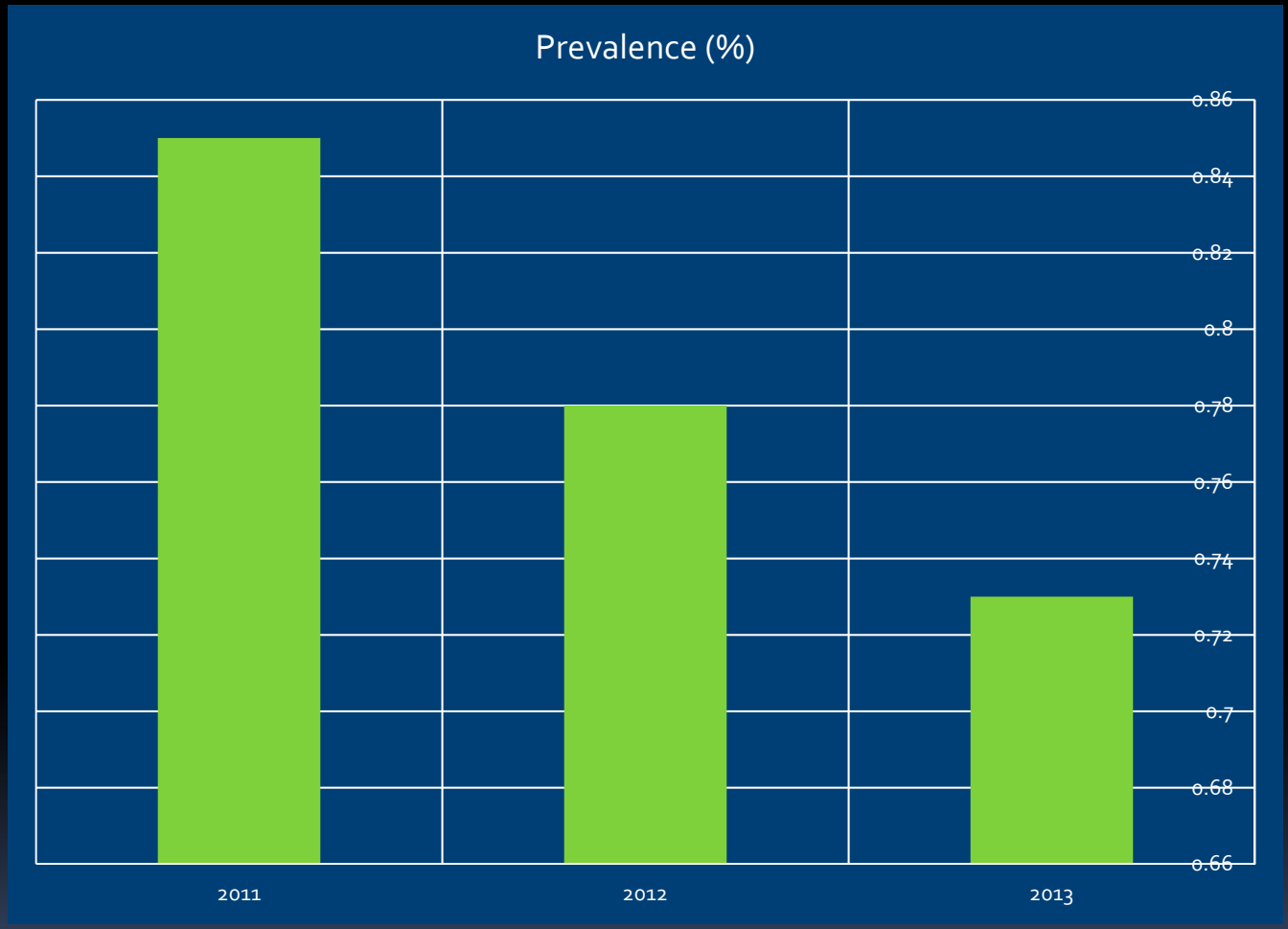
Material and methods

- Data extracted from MZ-11 were analyzed and compared with population statistical data of Poland [2].
- The MZ-11 form is the obligatory report form collected at the national level.
- Deforming dorsopathies defined by International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10)[3] were analyzed.
- The data source supplied combined, unsegmented data for kyphosis, scoliosis and lordosis diagnoses (M40 and M41).

Results

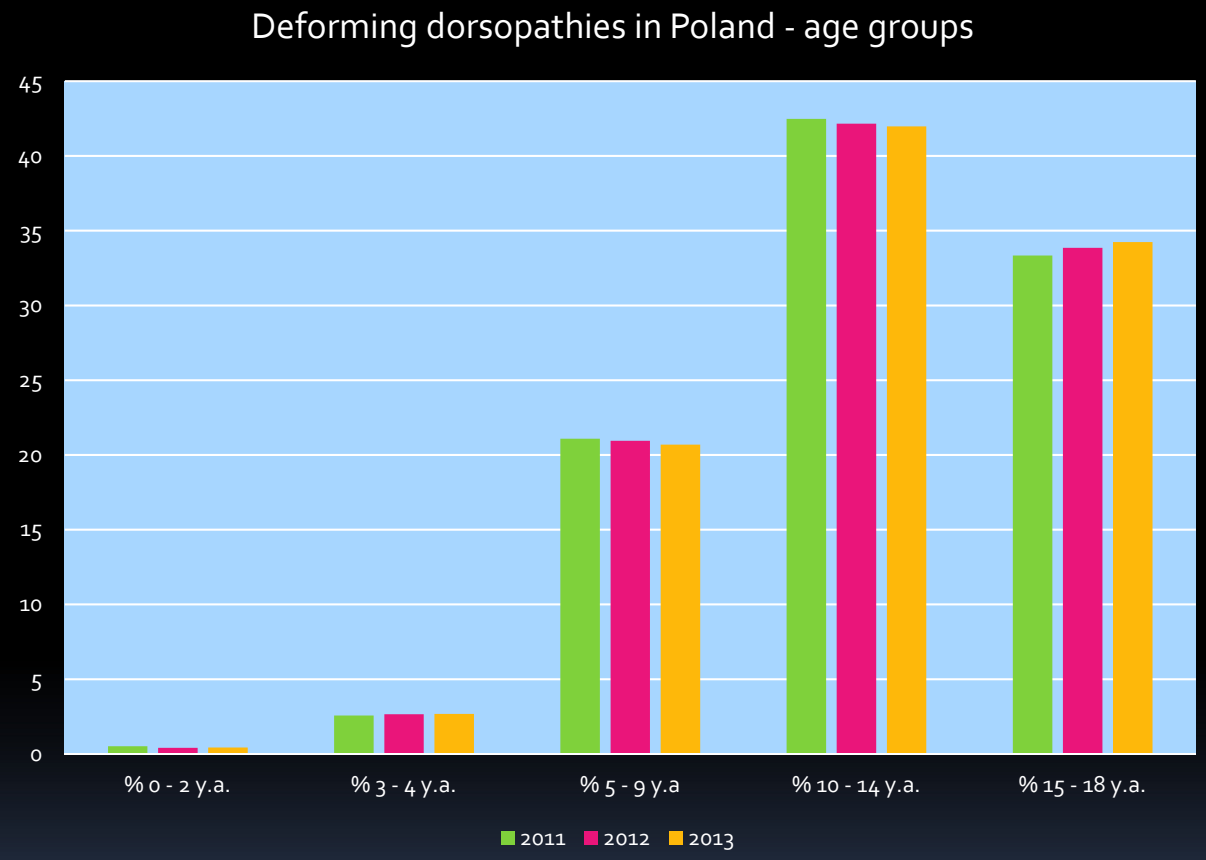
- The mean prevalence of all deformities named accordingly to M40 and M41 was 0,95% and varied from 0,73% to 1,1% (std.dev. 0,15%).
- For the whole average population of 38 million population of Poland, 393 thousands were diagnosed spinal deformity in a childhood and adolescence. It varied in age groups.

Results



Graph shows the decreasing trend of the mean prevalence of all deformities named accordingly to M40 and M41 was 0,95% in years 2011-2013.

Results



- The graph shows the distribution of spinal dorsopathies prevalence in age groups.

Limitations

The data for the age group 0-18 were collected from the MZ-11 form filled by primary care physicians.

Due to no identification of the patient's personalities data could be the subject to error of repeated report of the same patient by two or more physicians.

However, the possibility for this repetitive inclusion shouldn't be high because of the most of primary physicians care of the registered patients in their areas.

There are doubts that the primary care physician can adequately classify the type of the spinal dorsopathy, including rare ones.

This study is unable to distinguish the level and the type of deformity and whether a patient needs consequent checkups, to wear a brace or have surgery.

Conclusions

The awareness of the prevalence of the spinal deformities, scoliosis, kyphosis and lordosis, may enhance the overall health policy and improve the treatment budget planning in particular districts of the country.

The assessment of scoliosis and other spinal deformities during school screening and other similar tests may lead to different figures than registered number of diagnosed cases reflected in obligatory documents.

Our data confirmed that scoliosis cases occur most frequently in the adolescent age group.

There is observed significant discrepancy between spinal deformity cases reported to the healthcare statistics and literature data describing the percentage of posture and scoliosis cases detected by a screening methods.

Data obtained from school screening programs have to be interpreted with caution since a methods and cohorts of the different studies are not comparable as age groups of the cohorts and diagnostic criteria differ substantially.

We do need data from studies with clear standards of diagnostic criteria and study protocols that are comparable to each other.

Fragmentary data from a small study groups usually lead to overstated conclusions about the prevalence of postural defects in children.

Acknowledgements

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References

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- 2. Podstawowe informacje o rozwoju demograficznym Polski do 2013 roku. . http://stat.gov.pl/obszary-tematyczne/ludnosc/ludnosc/podstawowe-informacje-o-rozwoju-demograficznym-polski-do-2013-roku-,12,4.html.
- 3. http://www.icd10data.com/ICD10CM/Codes/M00-M99/M40-M43.

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