

TRNAVA UNIVERSITY IN TRNAVA
Faculty of Health Sciences and Social Work
Public Health Department

**POSTURE ASSESSMENT OF PUPILS OF YOUNGER
SCHOOL AGE - RESEARCH PROPOSAL**

Mgr. Veronika Rechteríková
Doc. Ing. Margaréta Kačmaríková

Trnava 2016
17th May 2016

Introduction (1)

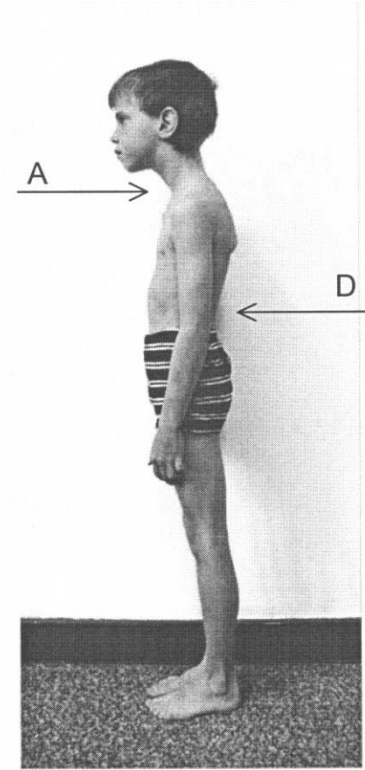
- **Incorrect posture** - one of the major predisposing factors of musculoskeletal disorders in adulthood, current problem among adults but also among children
- Regular and adequate physical load at different stages of ontogeny => **significant impact on the health**
- Absence of physical activity affects the development of motor skills, overall posture and circulatory system

Introduction (2)

The most common postural deviations:

- **kyphosis, lordosis, scoliosis**

The **period of acceleration** is connected with **risk of incorrect posture** of children.



- Bad posture of children => **changes in body shape** => early **PREVENTION**

Facts (1)

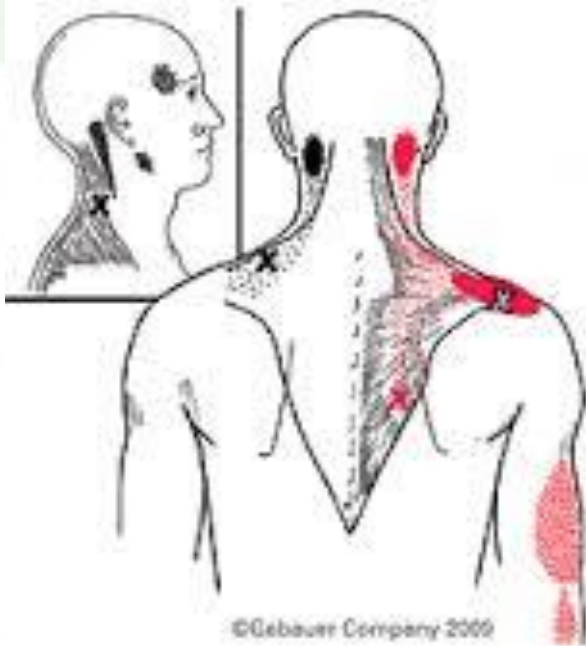
- One of the most common civilization diseases (1st is allergy) - **musculoskeletal diseases** and **scoliosis** = the result of behavioral risk factors
- **School** is a place where we spend a big part of our lives = **ergonomics**



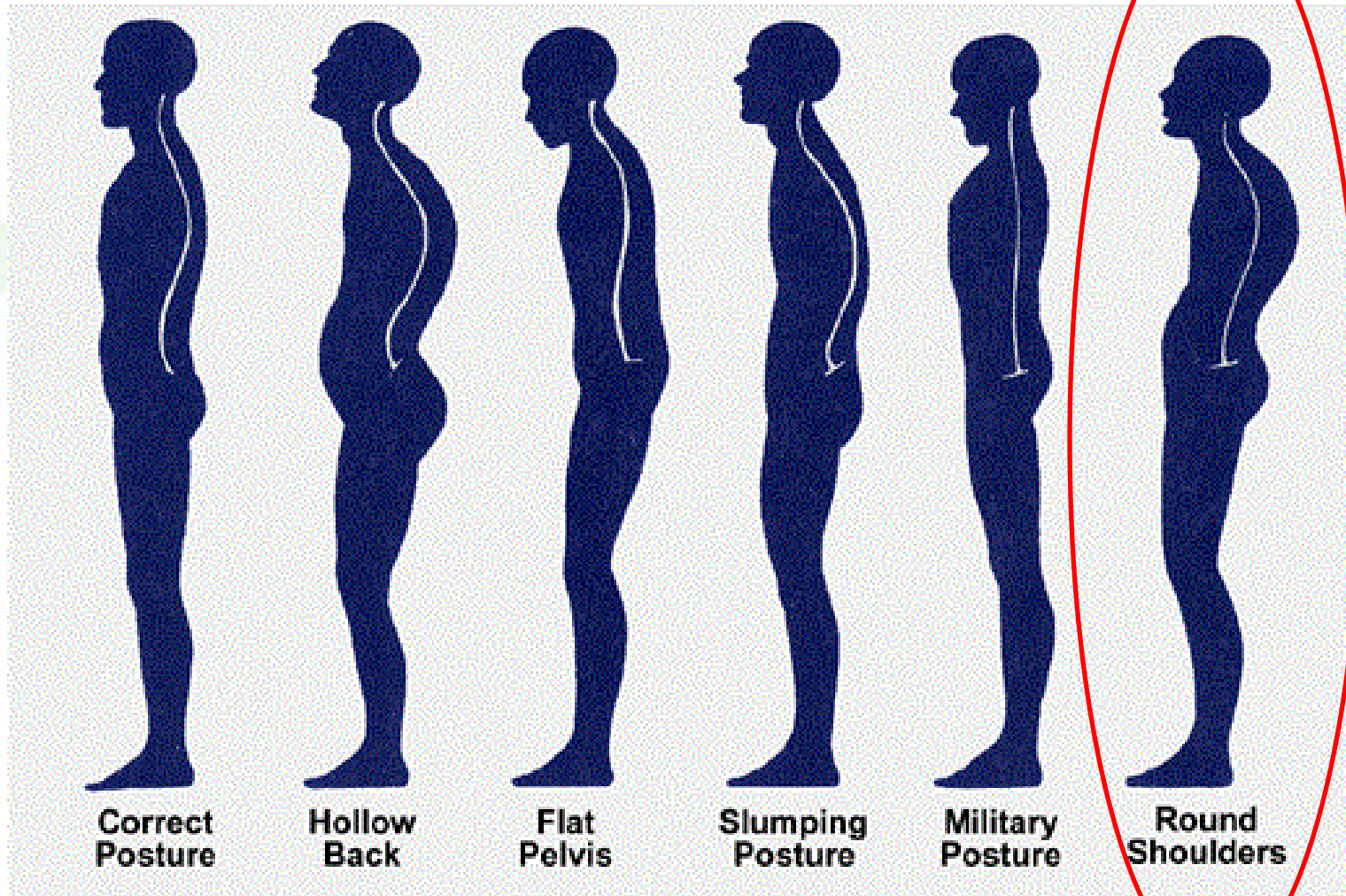
Facts (2)

Sitting :

- static load of the back, shoulder and neck muscles



- development of **round shoulders** (cause of weakness of the abdominal muscles, unilaterally loaded plate, it shortens the ligament on the spine and vertebrae)

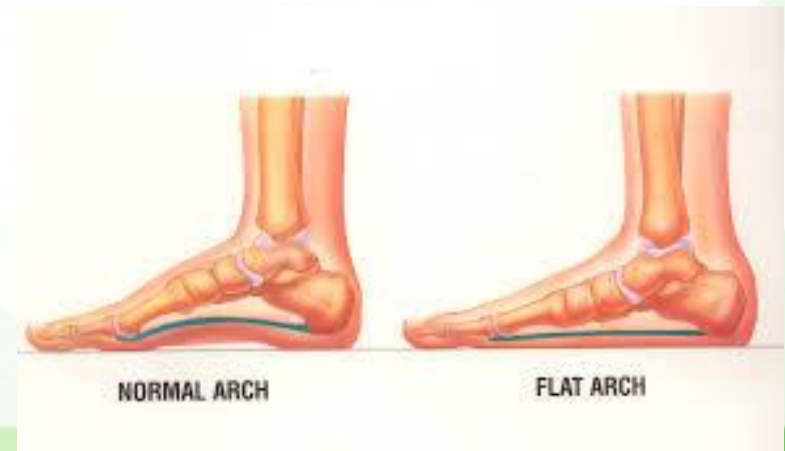


Facts (3)

- Interruption of the blood circulation in the legs

What can affect bad posture in pupils?

1. School ergonomics
2. Heavy bags
3. Wrong lifestyle (absence of physical activity, bad sleeping conditions, lack of calcium, phosphorus and vitamin D)
4. Flat arch
5. BMI



Facts (4)

- ✓ In Banská Bystrica (85.3%), Spišská Nová Ves (44.5%), Galanta (43.1%), Martin (40.8%), Zvolen (35.7%), Žilina (33.9 %) and Žiar nad Hronom (32.5%) is the highest percentage of children with bad posture.



- ✓ The occurrence of incorrect posture in **Slovakia** is close to **23.1%**

Table 1 Percentage of incorrect posture in several Slovak towns in 2003

Town	Percentage (%)
Banská Bystrica	85,3
Spišská Nová Ves	44,5
Galanta	43,1
Martin	40,8
Zvolen	35,7
<u>Žilina</u>	<u>33,9</u>
Žiar nad Hronom	32,5

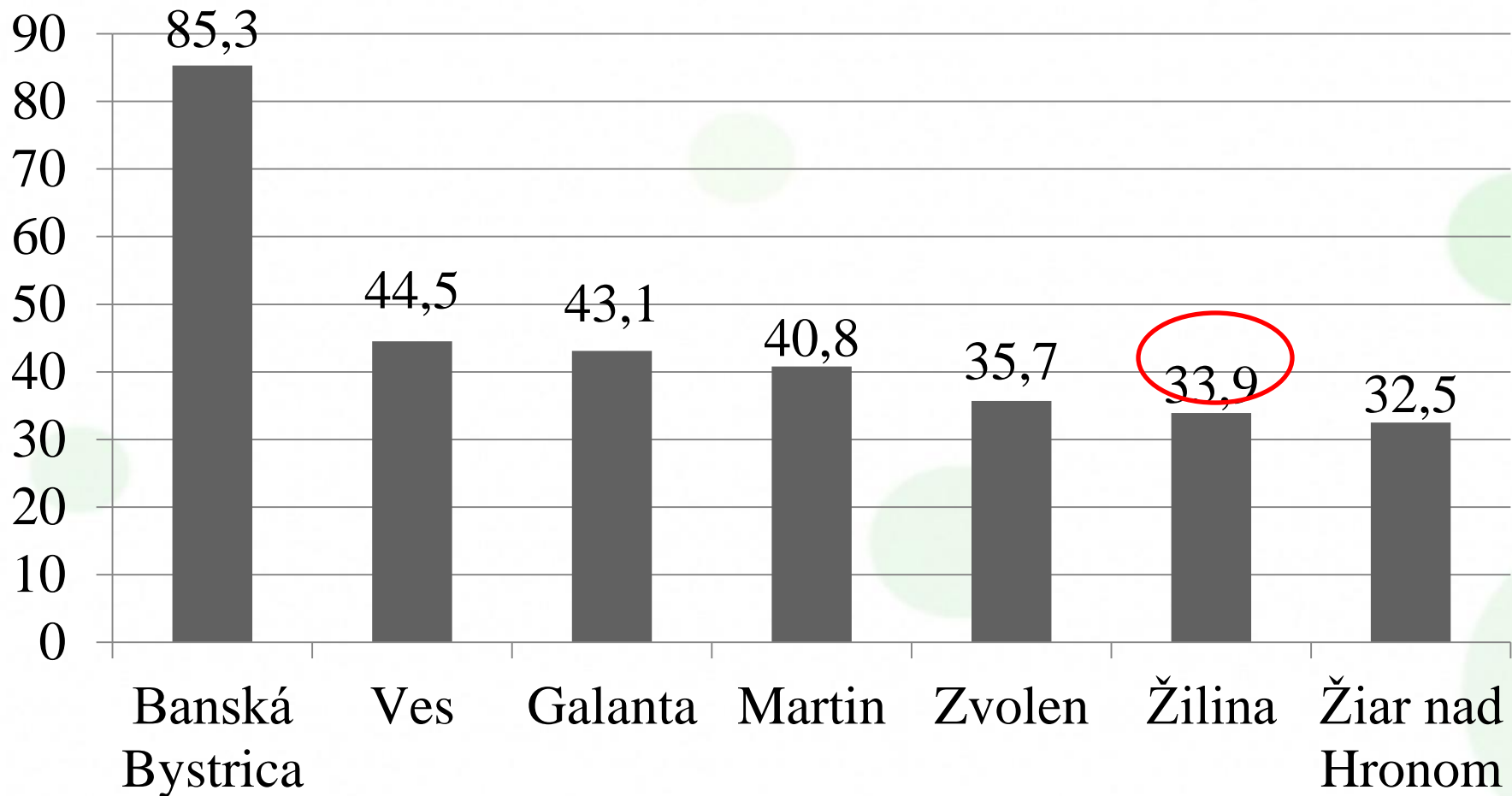


Chart 1 Percentage of incorrect posture in several Slovak towns in 2003

Methods (1)

The main objective

- To obtain and expand the knowledge of the posture of pupils of younger school age in Žilina region

1. Methodology of Klein and Thomas - visual assessment of posture - the overall posture of body, chest, abdomen, pelvis slope, curvature of the spine, shoulder height with reference to the role of the blades

Table 2 : Marks of visual assessment of posture (by Klein and Thomas)

1	without deviation
2	minor deviation
3	larger deviation
4	hard deviation

Methods (2)

Then we would divide pupils to the groups:

1. perfect posture
2. good, almost perfect posture
3. limp posture
4. bad posture

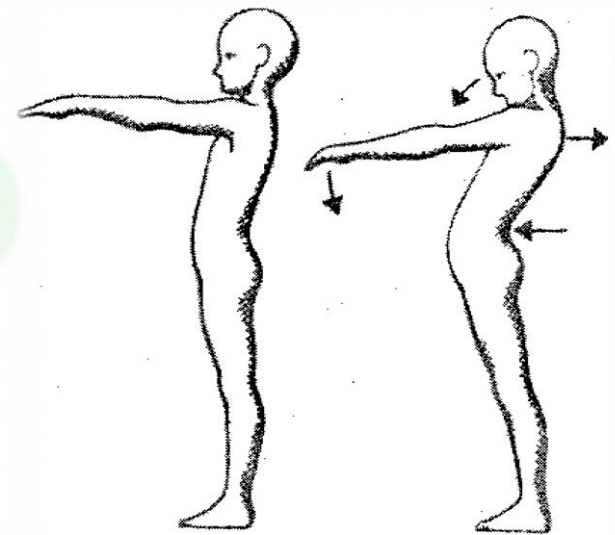
In our research proposal, we are supposed to achieve the community needs assessment. Thanks to this data we can continue in planning of our intervention.

Keywords: musculoskeletal system, posture, pupils, chronic diseases

Methods (3)

2. Metodogoly of Matthias

- ✓ The child is in underwear
- ✓ To raise hands up to 90 degree angle and keep it in this position for 30 seconds unless attitude in this interval significantly does not change
- ✓ If it does not change in 30 seconds, posture is correct



Methods (4)

3. Metodology of other tests

- Evaluation of the extent of mobility of the spine by **Stibor and Thomayer** (range of movement of thoracic and lumbar spine)
- Assessment by **Jaroš and Lomníček** – examen of six components: **head and neck** in the sagittal plane, **the chest** in the sagittal plane, **stomach and tilt the pelvis** in the sagittal plane, the **curve back** in the sagittal plane, **posture in the frontal plane** and the **position of the lower limbs**
- In each component is examined rated points of 1-4 (1 = best)

Conclusion

Adequate physical activity during childhood is important for elimination of risk factors of musculoskeletal system in the future and prevention of chronic diseases.

Expectations:

To obtain valid data → planning of intervention → implementation → better health status of pupils → better knowledge of pupils, their parents and teachers about this public health problem.

**Thank you for your
attention!**

