**Pediatric Continuous Metabolic Syndrome Score (PsiMS score)
Use in Everyday Clinical Practice**

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**INTRODUCTION**

**Current definition of Metabolic Syndrome (MS)**

- Dichotomous in nature → loss of information
- Lacks ability to assess the severity of the MS

**Continuous MS scores**

- Standardized residuals in linear regression (Z scores) or factor scores of principal component analysis (PCA)
  - Provide means to quantify MS, overcoming the limitations of the dichotomous definition
  - Can be used in both the adult and pediatric populations
  - Sample specific and require complex calculation which makes them highly impractical for clinical use

**Pediatric siMS score (PsiMS score)**

- Novel, easily calculated continuous MS score:
  - Developed based on the IDF MS criteria for the pediatric population using database with data on 153 obese children and adolescents
  - PsiMS score showed high correlation with most of the complex continuous scores calculated using sum of Z scores or factor scores of PCA (0.792-0.901), while being simple and easy to calculate
  - Also, PsiMS score is not sample specific, meaning that scores from different studies can be compared, as well as changes in score of a single patient

**OBJECTIVE**

To demonstrate the usefulness of PsiMS score calculation in everyday clinical practice, illustrating the benefits of easily quantifying metabolic syndrome in everyday clinical setting for both patients and physicians.

**EVERYDAY CLINICAL PRACTICE USE EXAMPLE**

**1st exam:**
- 12 year old obese boy, height 155.0 cm, weight 68.0 kg
  - BMI 28.3 kg/m² (>+2 SD)
  - Waist circumference 77.0 cm (>90th percentile)
  - Blood pressure 135/85 mmHg
  - Blood glucose 6.0 mmol/l
  - HDL 0.95 mmol/l
  - Triglycerides 2.3 mmol/l
  - Metabolic syndrome: YES

**Follow-up after 6 months:**
- 12.5 year old obese boy, height 160.0 cm, weight 72.5 kg
  - BMI 28.3 kg/m² (>+2 SD)
  - Waist circumference 71.0 cm (>90th percentile) ↓
  - Blood pressure 130/80 mmHg ↓
  - Blood glucose 6.1 mmol/l ↑
  - HDL 0.90 mmol/l ↓
  - Triglycerides 1.7 mmol/l ↓
  - Metabolic syndrome: YES

**PsiMS score:**
- 1st exam: 3.53 → 3.09 at follow-up

**CONCLUSION**

PsiMS score represents an accurate and easy to use score for quantification and evaluation of metabolic syndrome in the obese youth.

**REFERENCES**