

# Weight and the factors influencing it in a cohort of school aged children

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**Disclosure statement** – The authors declare they have no conflict of interest.

## INTRODUCTION

Weight disturbances in children are a chief concern, both underweight and obesity having important health consequences. There is an ongoing debate about their cause, the risk factors involved and the need for public health policies focused on their prevention [1].

## OBJECTIVE AND HYPOTHESIS

The aim of this study was to estimate the prevalence of weight disturbances in a cohort of school-aged children and to analyse some factors considered to play a role in their etiology.

## METHODS

An observational study was conducted in 16 schools in Mures County, Romania, between November 2013 and May 2014, on a random sample of 1923 children 6-14 years of age. Variables analysed: ages, sex, environment, birthweight, gestational age, and body mass index standard deviation score. Method: Each child was measured and weighted using metrological checked instruments and a legal representative had to fill in a questionnaire regarding perinatal factor upon signing the written consent. The WHO and Swiss BMI charts were used for anthropological assessment. Statistical analysis used M.O. Excel and MedCalc v. 12.5 with a level of significance of 0.05.

## RESULTS

The prevalence of underweight was 2.81% (WHO) and 2.86% (Swiss). Overweight and obesity had a prevalence of 9.57% and 5.04% respectively (WHO charts) (Fig. 1).

Boys have a higher probability of being overweight (OR 1.45, CI 1.06-1.97,  $p=0.01$ ) (Fig. 2), but not underweight (OR 1.14, CI 0.68-1.92,  $p=0.61$ ). Prematurity or low birth weight are not associated with higher odds of weight disturbances. Children from rural areas have higher odds of being underweight (OR 2.15, CI 1.27-3.65,  $p=0.0014$ ) (Fig. 3). There is a significant difference in the prevalence of overweight adjusted for age ( $p=0.005$ ) (Fig. 4).

## DISCUSSIONS

Although previous studies reported higher prevalence of overweight and obesity in our region [2], our study showed a decreasing trend, perhaps due to the higher percentage of rural subjects.

Moreover, the fact that only sex had an important influence on weight disturbances shows the need to give a bigger role to nutritional and lifestyle changes as management of this disease.

The highest prevalence of overweight was in prepubertal children, consistent with the findings in other studies [3].

## CONCLUSIONS

Obesity and overweight have lower prevalence than previously reported. From the various factors analysed sex was the only significant one influencing weight disturbances in school aged children.

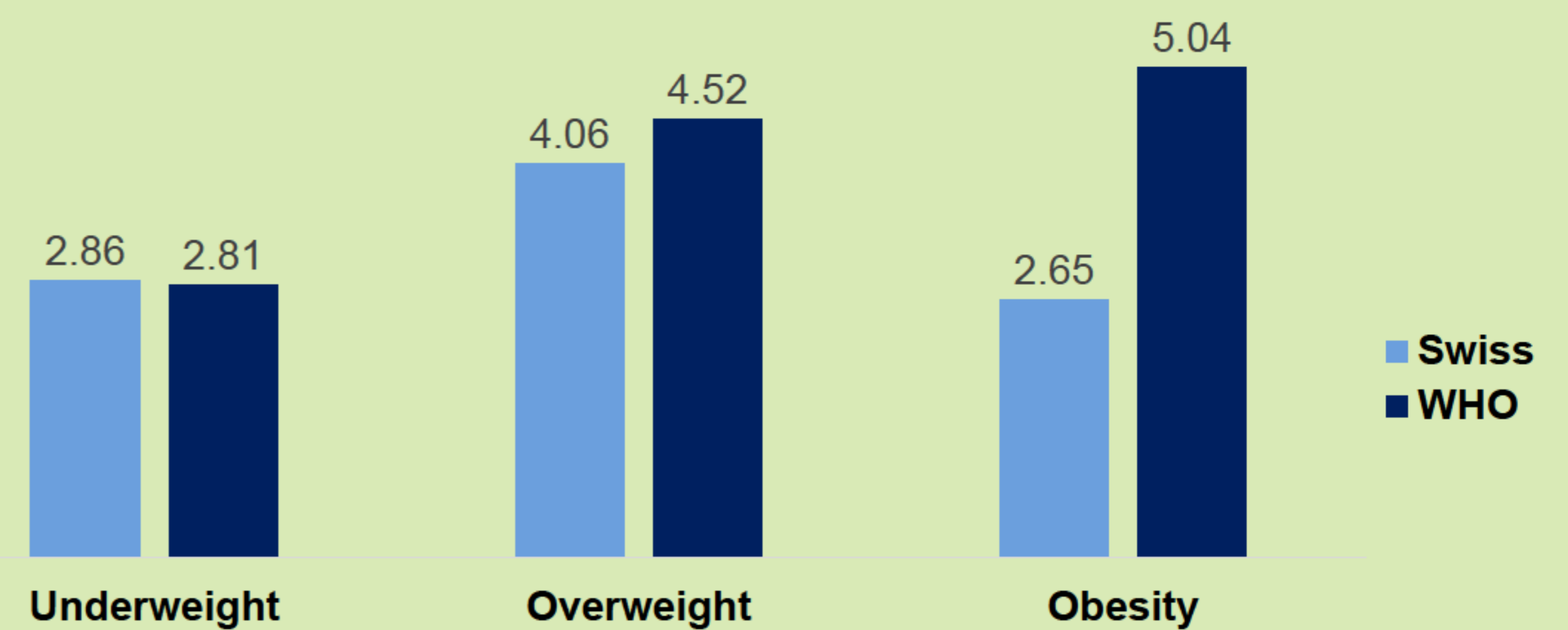


Figure 1 – Prevalence of weight disturbances (%)

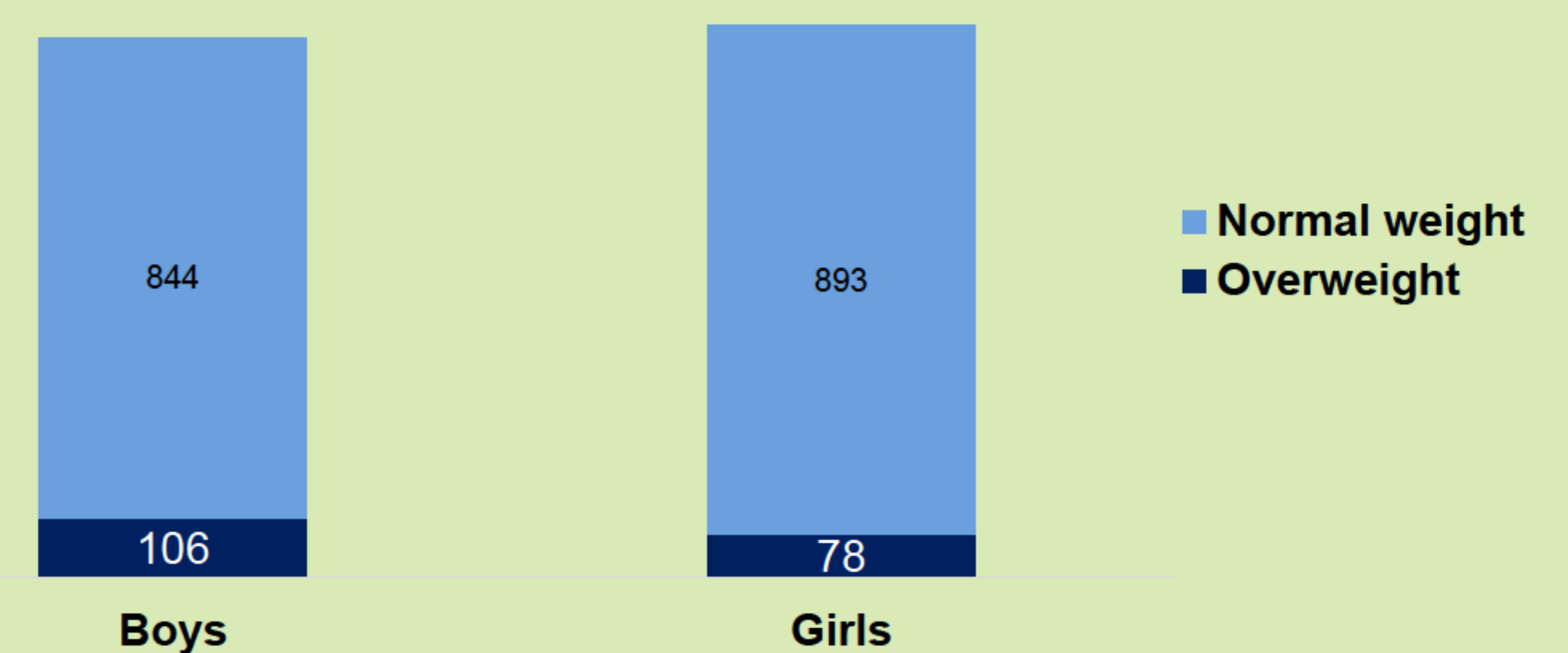


Figure 2 – The influence of sex on overweight  
OR 1.45, CI 1.06-1.97,  $p=0.01$

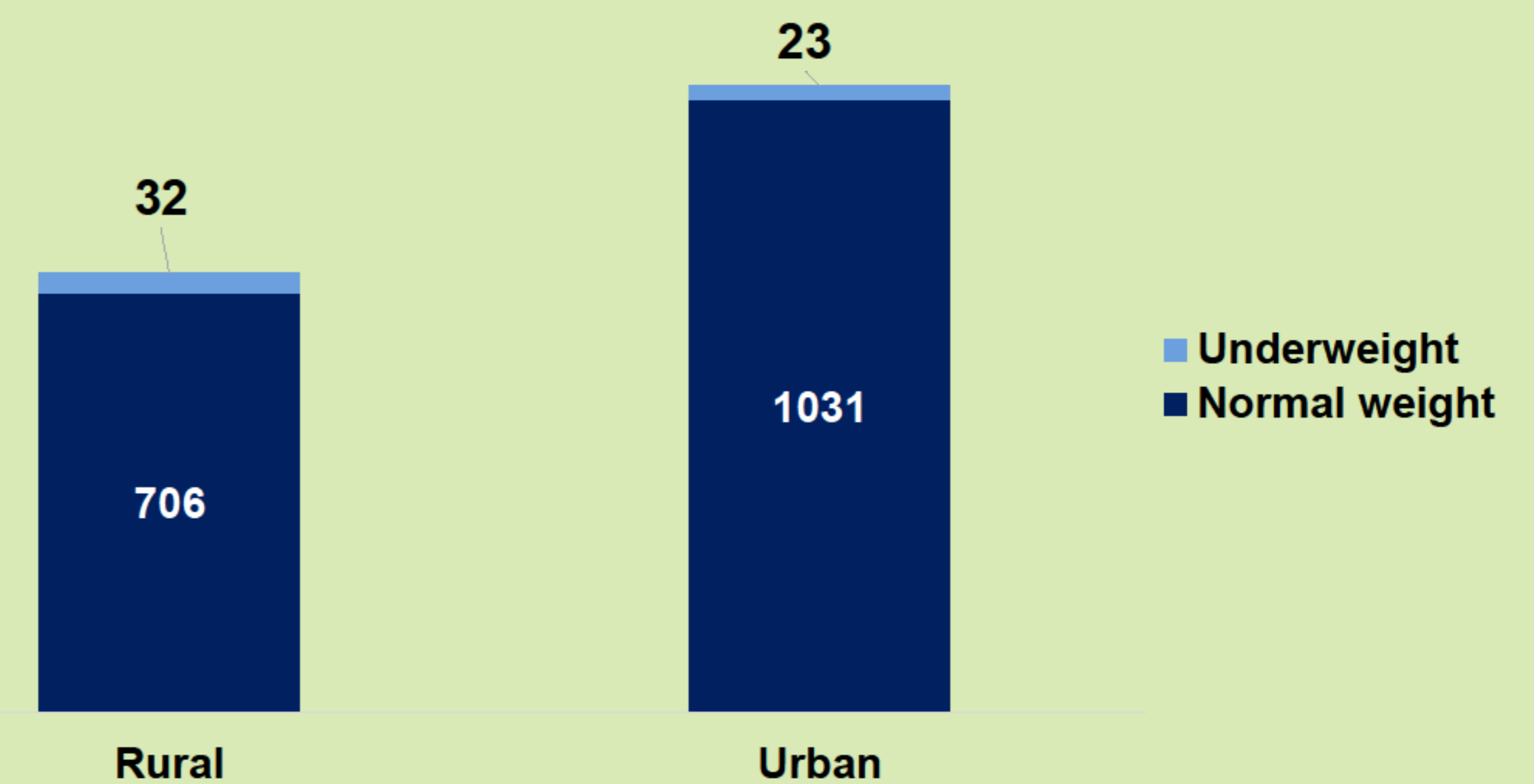


Figure 3 – The association between environment and underweight prevalence  
OR 2.15, CI 1.27-3.65,  $p=0.001$

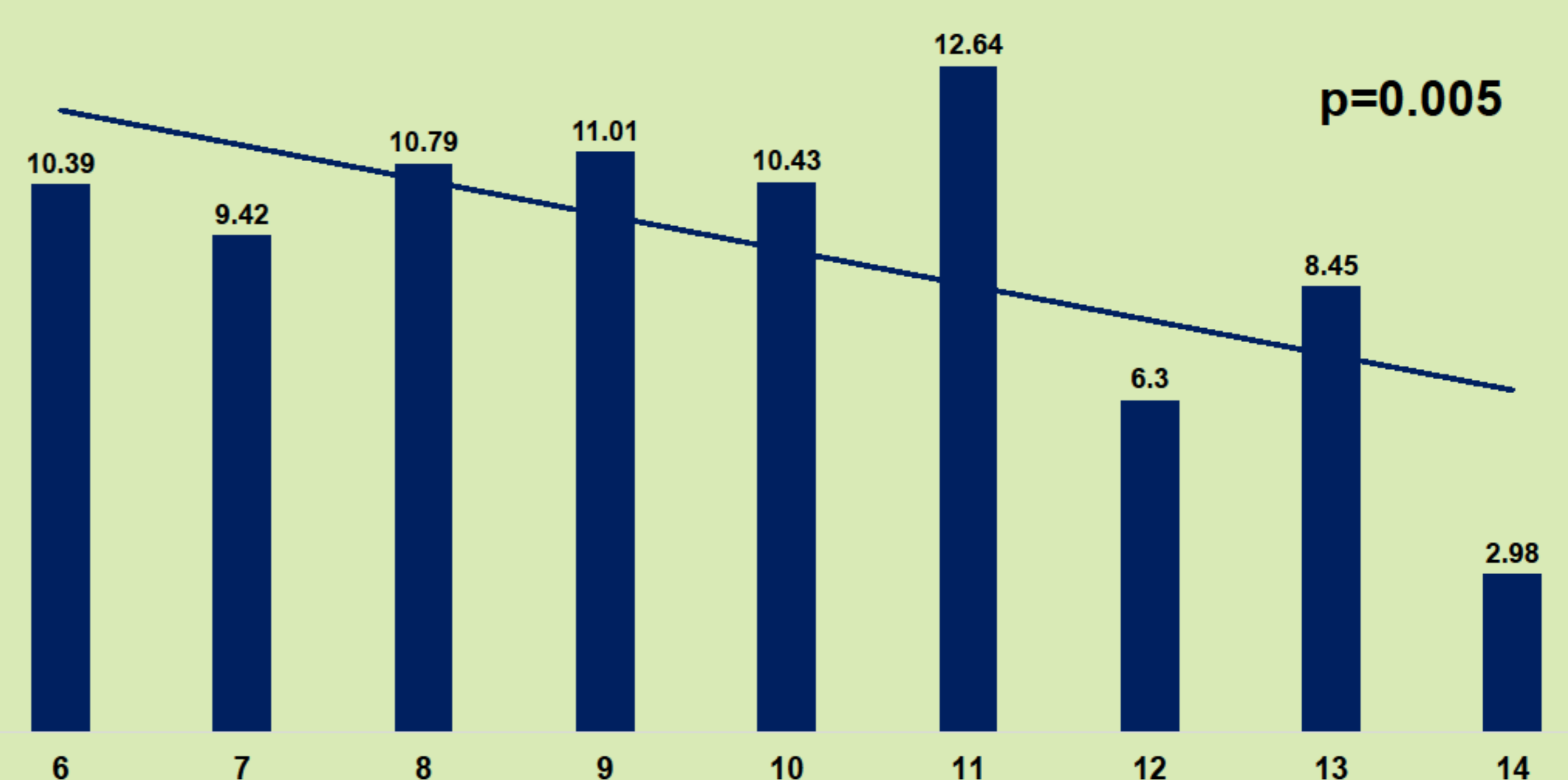


Figure 4 – Overweight prevalence (%) according to age

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