

Excessive daytime sleepiness as cardiovascular risk in Croatian obese patients

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Introduction: Excessive daytime sleepiness (EDS) is a very common complaint, especially in obese patients and is a potentially alarming symptom related to many risk factors and comorbidities¹. In obese patients obstructive sleep apnea (OSA) is quite common. Our goal was to assess the connection between EDS and hypertension in Croatian obese patients.

Patients and Methods: This cross-sectional study was carried out in a tertiary healthcare centre in an outpatient clinic for treatment of obesity. 49 participants were included. Inclusion criterion was BMI>30 kg/m². Epworth Sleepiness Scale (ESS), consisting of 8 questions, every question ranged from 0-3 (overall range 0-24) was used to assess EDS. Spearman correlation coefficient, Welch t-test, chi-squared test and regression analysis were used. They were divided into 4 and 3 categories. 4 categories: 0-7, 8-9, 10-15 and 16-24. Many researches take ESS score 10 or greater as excessive daytime sleepiness, so our results were also interpreted as 3 categories: 0-7, 8-9 and 10 or greater.

Results: Mean age of our participants was 50.29 ± 11.91 years. Overall mean BMI was 44.64±8.12 kg/m². Results on ESS divided into 4 categories (**Figure 1**) were statistically significant correlated to hypertension: $\chi^2 = 9.61$; $p = .02$. Also, results on ESS in 3 categories (**Figure 2**) were statistically significant correlated to hypertension: $\chi^2(2) = 9.43$; $p = .009$. Results on ESS were not significantly connected to AHI index (ESS in 4 categories:

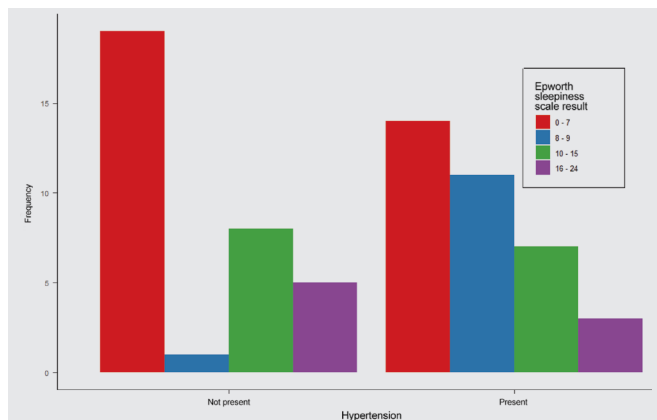


FIGURE 1. Scores on Epworth Sleepiness Scale divided into 4 categories depending on the presence of hypertension.

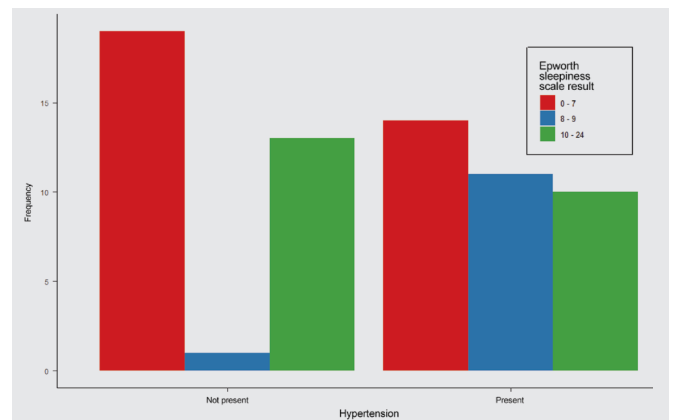


FIGURE 2. Scores on Epworth Sleepiness Scale divided into 3 categories depending on the presence of hypertension.

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$\chi^2(9) = 8.43$, $p = .49$; ESS in 3 categories: $\chi^2(6) = 6.45$, $p = .37$). Furthermore, results on ESS were not correlated to sex (ESS in 4 categories $\chi^2(3) = 0.85$, $p = .84$ and ESS in 3 categories: $\chi^2(2) = 0.56$, $p = .76$).

Conclusion: Our results show that the presence of hypertension alters the result on the ESS and is most visible in the so-called "borderline" area for the ESS score 8-9 in both divisions (into 3 and 4 categories), which shows a possible underestimation of the risk of the population achieving the result on the ESS <10, which is consistent with the studies of Borsini *et al.*²

LITERATURE

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