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# Prevalence of Obesity in Korean Adolescents and its Relationship with the Weekly Frequency of the Physical Education Classes 

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#### Abstract

The purpose of this study was to investigate differences in the prevalence of obesity among Korean adolescents and to determine the relationship of obesity prevalence with weekly frequency of physical education (PE) classes. In 2009, 72,399 students from grades 7 to 12 participated in the fifth Korea Youth Risk Behavior Web-based Survey (KYRBWS-V) project. Body mass index (BMI) and the frequency of PE classes attended were assessed by the KYRBWS-V. BMI was computed to classify the participants as underweight, normal weight, overweight, and obese. The association between the frequency of PE classes and BMI were examined using one-way ANOVA and logistic regression analysis. The differences in the weekly frequency of PE classes and the BMI values among both the boys and girls were significant ( $p<0.001$ ). A post-hoc test showed that underweight boys and girls attended the PE classes more frequently ( $p<0.001$ ), and overweight girls attended these classes less frequently ( $p<0.01$ ) than the other groups did; moreover, obese boys and girls, compared to boys and girls in the other groups, attended less number of PE classes per week while at school (p < 0.05). Besides, the odds ratio (95\% confidence interval, CI) for normal-weight vs. underweight boys attending 1 PE class, 2 PE classes, and $\geq 3$ PE classes per week were 1.168 (1.011-1.349, $p=0.035), 1.621$ (1.450-1.812, p < 0.001 ), and 3.023 (2.704-3.381, p < 0.001), respectively, compared with those for boys who did not attend PE classes. The OR ( $95 \% \mathrm{CI}$ ) of normal-weight vs. obese boys attending $\geq 3$


PE classes attended across normal vs. obese boys was 0.862 ( 0.762 $0.974, p=0.017$ ), compared with those of boys who did not attend PE classes. The OR ( $95 \% \mathrm{CI}$ ) for normal-weight vs. underweight girls who attended 2 PE classes and $\geq 3$ PE classes per week were 1.235 (1.131$1.349, \mathrm{p}<0.001$ ) and 2.238 (2.048-2.446, p < 0.001), respectively, compared with those of girls who did not attend PE classes. The OR ( $95 \% \mathrm{CI}$ ) of for normal-weight vs. overweight girls who attended $\geq 3$ PE classes per week were 0.886 ( $0.787-0.997, \mathrm{p}=0.045$ ) and 0.772 (0.679-0.878, p < 0.001), respectively, compared with those of girls who did not attend PE classes. The OR (95\% CI) for normal-weight vs. obese girls who attended 2 PE classes and $\geq 3$ PE classes per week were 0.788 ( $0.675-0.919, \mathrm{p}=0.002$ ) and 0.709 ( $0.599-0.838, \mathrm{p}<0.001$ ), respectively, compared with those of girls who did not attend the PE class. Increase in the frequency of PE classes should be considered in any attempt for curbing weight-related problems in Korean adolescents.

Key words: Prevalence of obesity, physical education class, adolescents

## Key Points

- Increase in the frequency of PE classes is a factor that should be considered to improve weight status


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