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Sleep Disturbance in Indonesian School-Aged Children and Its Relationship to Nutritional Aspect

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Abstract : Background: Sleep is essential for children because it provides enhancement for the neural system activities that give physiologic effects for the body to support growth and development. One of the modifiable factors that relates with sleep is nutrition, which includes nutritional status, iron intake, and magnesium intake. Nutritional status represents the balance between nutritional intake and expenditure, while iron and magnesium are micronutrients that are related to sleep regulation. The aim of this study is to identify prevalence of sleep disturbance among Indonesian children and to evaluate its relation with aspect to nutrition. Methods : A cross-sectional study involving children aged 5 to 7-years-old in an urban primary health care between 2012 and 2013 was carried out. Related data includes anthropometric status, iron intake, and magnesium intake. Iron and magnesium intake was obtained by 24-hours food recall procedure. Sleep Disturbance Scale for Children (SDSC) was used as the diagnostic tool for sleep disturbance, with score under 39 indicating presence of problem. Results: Out of 128 school-aged children included in this study, 28 (23,1%) of them were found to have sleep disturbance. The majority of children had good nutritional status, with only 15,7% that were severely underweight or underweight, and 12,4% that were identified as stunted. On the contrary, 99 children (81,8%) were identified to have inadequate magnesium intake and 56 children (46,3%) with inadequate iron intake. Our analysis showed there was no significant relation between all of the nutritional status indicators and sleep disturbance (p>0,05%). Moreover, inadequate iron and magnesium intake also failed to prove significant relation with sleep disturbance in this population. Conclusion: Almost fourth of school-aged children in Indonesia were found to have sleep disturbance and further study are needed to overcome this problem. According to our finding, there is no correlation between nutritional status, iron intake, magnesium intake, and sleep disturbance.

Keywords : iron intake, magnesium intake, nutritional status, school-aged children, sleep disturbance
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