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„Sleep – associated breathing disorders in children exposed to tobacco smoke”

Abstract:

Background. The most common cause of respiratory disorders in sleeping children is the Obstructive Sleep Apnoea Syndrome (OSAS). Among factors predisposing to obstructive sleep apnoea (OSA) the scientific literature mentions passive smoking. Apnoea episodes lead to disturbances in sleep structure (sleep fragmentation), what affects physical, emotional and cognitive development of organism. Complications and sequels of untreated OSAS are: arterial hypertension, growth and body weight deficiency, and behavioural disorders.

Purpose. Determination of a correlation between exposure to tobacco smoke (passive smoking) and development of respiratory disorders in children during sleep.

Methods. 160 school-aged children (6-18 years) were included in the study. The inclusion criterion was exposure to tobacco smoke at home (90 subjects). The control group were school-aged children who had had no contact with tobacco smoke at home (70 subjects). Exclusion criterion: obese children and children with impaired patency of the nose. Each child had a polygraphic examination done at home. Both children and parents filled the questionnaire constituting a basis for the assessment of the level of child's exposure to tobacco smoke. Study duration: 15.12.2012-26.02.2016.

Results. Obstructive sleep apnoea was observed in 12% of subjects with the apnoea-hypopnoea index >1.5 (for children under 13 years of age) and apnoea-hypopnoea index >5 (for children over the age of 13 years), and with diurnal and nocturnal symptoms. Children exposed to tobacco smoke presented more apnoea-hypopnoea events than control group (17/3; $P < 0.001$).

In the group exposed to tobacco smoke the following were noted more often: concentration problems (38.9%), tiredness/lethargy (46.7%), irritability/hyperactivity (36.7%). No statistically significant differences were found in nocturnal symptoms: waking up, snoring and sleep apnoea.

Conclusions. Obstructive Sleep Apnea Syndrome occurs more often in children exposed to tobacco smoke and these children demonstrate concentration problems, tiredness and irritability/hyperactivity to a greater extent than control group.

Keywords: obstructive sleep apnea, apnea, poligraphy, tobacco.