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High TV-viewing is associated with low HDL levels in adolescents

by

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Objectives: To assess whether excessive TV viewing is related with an impaired lipid profile during adolescence. **Methods:** Data from 581 adolescents (299 males and 282 females, aged 12.5 - 17.5 years) were obtained within the framework of the HELENA study. Apolipoprotein (apo) A-1, apo B-100 were measured by immunochemical reaction. Total cholesterol (TC), low density lipoprotein cholesterol (LDL) and high density lipoprotein cholesterol (HDL) were measured by enzymatic methods. Sedentary behaviour by questionnaire was divided as: “High TV users” (> 4 hours/day) and “Moderate-Low TV users” (< 4 hours/day). Physical activity was assessed by the Actigraph accelerometer (time spent in moderate-vigorous, as >4000 counts per minute; c.p.m.). Puberty stage was established according to Tanner stages. Differences between groups were analyzed using analysis of covariance (ANCOVA) with age, Tanner status and time in moderate-vigorous physical activity as covariates.

Results: In boys, significant differences were found for HDL and TC levels (mg/dl) between groups of TV time (HDL: 52.1 ± 9.1 and 54.1 ± 10.0 ; TC: 156 ± 23.9 and 154 ± 24.4 for High and Moderate-Low TV users, respectively; all $p < 0.05$). A trend to significance was found for Apo B/A-I ratio (0.44 ± 0.13 in “High TV users” and 0.43 ± 0.12 in “Moderate-Low” TV users, $p = 0.06$). For TC/HDL and LDL, no significant differences were obtained. In girls, only HDL levels were reduced in those with a high TV viewing level (51.2 ± 9.4 in High TV users and 57.7 mg/dl ± 10.8 in Moderate-Low TV users, $p < 0.05$), whereas, non significant differences were found for the rest of lipid markers.

Conclusions: Watching TV more than 4h/day seems to be independently associated with low levels of HDL. Although we controlled for moderate-vigorous physical activity levels, these findings suggest that other factors mediate the impaired lipid profile during time spent in sedentary behaviors. Intervention studies should be carried out to confirm whether reducing time spent in TV viewing improves lipid profile.

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