Age-dependent association of exposure to television screen with children's urinary melatonin excretion?


Department of Pediatrics, University of Florence, Florence, Italy.

Abstract

OBJECTIVES: Changes in magnetic field are associated with a decrease in nocturnal urinary melatonin excretion. Television screens emit low and very low frequency electromagnetic waves (radiofrequencies and light) and exposure to them may be associated with a decrease in 24-hour melatonin in children's urine. Design and setting. An observational study in schools of Cavriglia, Italy, determined melatonin in 24-hour urines from 42 boys and 32 girls 6 to 13 years of age after one week of watching TV and after another week of abstaining from watching TV. RESULTS AND MAIN FINDINGS: In a gender- and age-dependent fashion, exposure to a television screen was associated with lower urinary melatonin concentrations, affecting particularly younger children at a pubertal stage when important changes in melatonin's time structure occur.

CONCLUSION: Additional work should test further relations to growth, maturation and development, focusing on any adverse effect from exposure to a television screen also on obesity from a neuro-hormonal viewpoint, quite apart from any decreased activity and/or other lifestyle alterations associated with watching TV.

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