

**Are gross motor skills in preschool children related to lifestyle factors:
a cross sectional study**

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BACKGROUND: Poor gross motor abilities in children contribute to further adverse developmental consequences and therefore form a major public health concern in developed countries. The aim of this study was to identify risk factors which are amenable to prevention.

METHODS: This cross sectional study is based on the obligatory health examination at school entry in Bavaria in 2003. A total of 2.938 children aged 5 to 6 years were examined by a common gross motor test: standing and jumping on one foot. Quartiles were used to classify children as good, borderline or poor performer. Stature and height were measured. Parental reports of gross motor development-related lifestyle, constitutional and sociodemographic factors were obtained by questionnaire. The data were analysed in 2004/05 using a generalized logit model, adjusted for gender and age. The results were checked in a second sample.

RESULTS: Poor gross motor performance could be observed among 12% of preschool children. After adjustment for numerous factors poor performance was associated with prenatal smoking exposure [adjusted OR 1.3], playing outdoors less than one hour [adjusted OR 1.5], children perceived as clumsy [adjusted OR 1.6], and overweight [adjusted OR 1.6]. With leisure habits such as television viewing or club sports no associations were found. The hypotheses were confirmed in the second sample.

CONCLUSIONS: The only lifestyle factor associated with “poor performance” was playing outdoors. It is tempting to assume “poor performers”, all above overweight children and those perceived as clumsy, might benefit from a high amount of playing outdoors longer hours.

Keywords:

gross motor development, physical activity, maternal smoking, overweight, leisure habits;