

Prevalence and associated risk factors of periodic limb movement in sleep in two German population-based studies

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Abstract

Study Objectives

Periodic limb movements in sleep (PLMS) are frequent motor phenomena; however, population-based data are scarce. We assessed the prevalence of PLMS and factors associated with PLMS within two German population-based cohorts, the SHIP-TREND and BiDirect.

Methods

Single-night polysomnography was performed on 1107 subjects recruited from the general population (mean age: 52.9 years, 54.1% men) in the SHIP-TREND and on 247 participants (mean age: 57.6 years, 50.6% men) in the BiDirect. PLMS were evaluated using the standard criteria of the American Academy of Sleep Medicine. Sociodemographic data, behavioral variables, medical history, current medication, and other sleep disorders were assessed.

Results

The prevalence of PLMS index (PLMSI) >15/hour was 32.4% (SHIP-TREND) and 36.4% (BiDirect). In multivariable models, age (odds ratio [OR] = 1.05 per +1 year), male gender (OR = 2.20), restless legs syndrome (OR = 2.32), physical inactivity (OR = 1.52), current smoking (OR = 1.49), diabetes (OR = 2.13), antidepressant use (OR = 2.27), lower serum magnesium (OR per -0.1 mmol/L = 1.27) showed a positive, and the intake of beta-blockers an inverse association with PLMSI >15/hour in SHIP-TREND. In BiDirect, age (OR = 1.13 per +1 year), body mass index (OR = 1.11 per +1 kg/m²), and restless legs syndrome (OR = 8.77) were significantly associated with PLMSI >15/hour.

Conclusions

A high PLMSI is frequent in the German population. Age, male gender, restless legs syndrome, physical inactivity, current smoking, obesity, diabetes, antidepressant use, and lower magnesium were independently associated with PLMSI >15/hour in at least one of the cohorts.

[periodic limb movements in sleep](#), [restless legs syndrome](#), [polysomnography](#), [epidemiology](#), [general population](#)

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