

Use of Mobile Electronic Devices in Bed Associated with Sleep Duration, Insomnia, and Daytime Sleepiness

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INTRODUCTION: In recent years, mobile devices have become ubiquitous in bedrooms. The extent to which use of these devices is related to habitual sleep factors among adults is not well studied.

METHODS: Data from the Sleep and Healthy Activity, Diet, Environment, and Socialization (SHADES) study were used. Data were collected from surveys of adults age 22-60 in southeastern Pennsylvania (N=1007). Sleep duration was assessed using the NHANES item and was categorized as short (≤ 6 h), normal (7-8h, reference), and long (≥ 9 h). Insomnia was assessed using the Insomnia Severity Index (ISI) and was categorized as none (reference), mild, moderate, or severe. Sleepiness was assessed as scores of ≥ 10 on the Epworth Sleepiness Scale (ESS). Subjects were asked to rate the frequency of mobile electronic device use at night on a scale of 0 ("Never") to 4 ("Every night"). Variables included presence of device, any use, texting, emailing, browsing internet, calling, or social networking in bed, being woken by a call/text/email, being woken by device alarm, and checking device during the night. Since most use was among younger participants, age was restricted to 22-29 (N=473) and analyses were adjusted for age, sex, education, and race/ethnicity.

RESULTS: Simply having access to a device near the bed was not associated with short sleep, insomnia, or sleepiness, nor were most specific behaviors (e.g., calling or texting). Short sleep duration was associated with e-mailing "every night" (OR=2.95;p=0.003), browsing the internet (OR=5.73;p=0.003) and checking the device at night (OR=2.78;p=0.015). Being woken by a call "every night" was associated with moderate insomnia (OR=5.03;p=0.029), and checking the device was associated with mild (OR=4.25;p=0.001) and moderate (OR=17.69;p<0.0001) insomnia, as well as excessive sleepiness (OR=2.31;p=0.037).

CONCLUSIONS: Using the internet in bed was associated with shorter sleep duration and frequently checking the device at night was associated with less sleep, more insomnia, and excessive sleepiness.

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