Sickness absenteeism is associated with sleep problems independent of sleep disorders: results of the 2016 Sleep Health Foundation national survey

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Abstract

Introduction: Sleep disorders are associated with sickness absenteeism (SA), at significant economic cost. Correlates of absenteeism are less well described in nonclinical samples.

Participants and methods: We determined the relationship between markers of inadequate sleep and SA in a sample of 551 working adults aged ≥18 years across Australia. We considered diagnosed obstructive sleep apnea (OSA) and insomnia symptoms, daytime symptoms, and sleepiness with respect to sickness absenteeism (missing ≥1 day of work in the past 28 days because of problems with physical or mental health).

Results: Sickness absenteeism was reported by 27.0% of participants and was more frequent in younger participants, university graduates, and those experiencing financial stress. Sickness absenteeism was independently associated with insomnia (odds ratio [OR] = 2.5, confidence interval [CI] = 1.5-4.0), OSA (OR = 9.8, CI = 4.7-20.7), sleep aid use (OR = 3.0, CI = 1.9-4.7), and daytime symptoms (OR = 3.0, CI = 2.0-4.6) and inversely associated with perception of getting adequate sleep (OR = 0.6, CI = 0.4-0.9). Associations persisted in the population free of insomnia and/or OSA.

Conclusions: In adults without clinical sleep disorders, sleep behaviors are contributing to sickness absenteeism. An increased focus at an organizational level on improvement of sleep hygiene is important to reduce lost work performance.

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Introduction

Sickness absenteeism is costly to business and is an indicator of poor health and well-being of workers,1,2 with absenteeism associated with chronic disease.3,4 Productivity losses and costs associated with sick leave account for an estimated $32.5 billion annually in Australia.5 The absenteeism-related cost to employers associated with sick leave account for an estimated $32.5 billion and workers' effects a need to better understand modifiable behaviors which may contribute to sickness absenteeism.

Insufficient sleep is a plausible contributor to sickness absenteeism; indeed, even a short period of insufficient sleep is associated with adverse metabolic health outcomes.6,7 Insufficient sleep is also associated with obesity, type 2 diabetes, cardiovascular disease, and inflammation.7,8 Thus, it is plausible that insufficient sleep may contribute to higher rates of sickness absenteeism.

To date, there is no clear picture of the relationship between sleep problems and sickness absenteeism independent of sleep disorders such as insomnia and obstructive sleep apnea (OSA), both of which have previously established relationships with sickness absenteeism.9,10 Although a 2014 study of sickness absence and sleep duration revealed that sleep disturbance is associated with periods of sickness absence, this finding was limited to periods of medically confirmed leave >10 days.11 This provides insight into the
potential impact of sleep disturbance on long periods of absence but
does not clarify whether shorter periods of sleeplessness are
associated with sleep disturbance. Further, such associations in
workers without OSA or insomnia have received little attention,
limiting our capacity to provide evidence-based advice on suitability
of sleep education for the workforce to improve productivity and
reduce costs associated with sleeplessness.

The primary aim of the present study was to determine the asso-
ciation between sleep behaviors and clinical sleep disorders with
sickness absenteeism in a sample of Australian adults. The secondary
aim was to determine whether these associations differed in those
free of OSA and insomnia while accounting for important influencing
factors including age, shift work (SW), and sociodemographic factors.

Participants and methods

Survey methodology

The survey was conducted in March 2016 in a national sample of
1011 adults (≥18 years) across Australia, with representativeness for
age, sex, location, and an indicator of socioeconomic status.12 Final
analyses were conducted in participants who answered the sickness
absenteeism question (n = 551 of 554 workers). Survey questions
were drawn from the 2002 US National Sleep Foundation Sleep in
Adults survey13 with some additional questions from the Australian
2010 survey.14 The survey was conducted online by the Survey
Sampling International research organization using a 3-stage
randomization process to minimize risk of bias and has been
described previously.12 The survey methodology was approved by
The University of Adelaide Office of Research Ethics (H-2016-029).

Sickness absenteeism and indicators of sleep problems

Participants indicated the number of days in response to the ques-
tion “In the past 4 weeks (28 days), how many days did you miss an
entire work day because of problems with your physical or mental
health?” Daytime symptoms were defined as experiencing ≥1 of 3
daytime consequences a minimum of 3 times a week, assessed by
asking “In the past month how often have you....
1. experienced sleepiness that interfered with your daily activities,
2. felt fatigue or exhaustion, or
3. felt irritable or moody?”

Adequate sleep ≥3 nights per week was determined with the
question “In the past month how often have you got ade-
quate or satisfactory sleep?” Sleep aid use was determined with
“How frequently do you use the following sleep aids specifically to
help you sleep”? (1) Over-the-counter or store-bought sleep aids;
(2) sleep medication prescribed by a physician; (3) alcohol, beer, or
wine; (4) an eye mask or ear plugs; or (5) melatonin. For ques-
tions on adequate sleep and sleep aid use, response options included
(1) rarely or never, (2) a few nights a month, (3) a few nights a
week, and (4) every or almost every night. Sleep aid use was analyzed
using 2 approaches: (a) using at least 1 of the 5 sleep aids ≥3 nights a
week (prescribed and nonprescribed) and (b) using prescribed sleep
medication only ≥3 nights a week.

Respondents were asked to estimate usual sleep duration on the
night preceding work and nonwork days in hours and minutes.
Short sleep duration on work days was categorized as ≤5 hours
per night according to categories used in existing published
literature.15–17 Excessive daytime sleepiness was determined as ≥11
on the Epworth Sleepiness Scale (ESS).18 Self-reported physician-
diagnosed medical conditions were recorded. Body mass
index was calculated from self-reported height and weight;

overweight and obesity were classified according to World Health
Organization criteria.

Diagnosed OSA was determined with “Have you been diagnosed
with sleep apnoea with an overnight sleep study?” Possible undi-
nosed OSA was subsequently defined in those reporting “no”/“don’t
know” as (1) witnessed breathing pauses at least 3 times a week or
(2) witnessed breathing pauses a few times per month with loud
snoring at least 3 times a week. Insomnia was classified with the In-
ternational Classification for Sleep Disorders-3 criteria as follows19:
(1) sleep initiation or maintenance problems at least 3 times a week
≥1 of difficulty falling asleep, waking a lot during the night,
Waking too early, can’t get back to sleep, (2) adequate opportunity
and circumstances to sleep (“Does your current work schedule or
typical weekday routine, including your duties at home, allow you
to get enough sleep”), and (3) daytime consequences at least 3
A week ≥1 of sleepiness interfered with activities, felt
fatigue/exhaustion, felt irritable/mood.

Sociodemographic characteristics included sex, age (10-year cate-
gories), gross household income, highest education level obtained,
and financial stress (assessing a participant’s family money situation
and ability to save). SW was determined with the question “Thinking
about the past 3 months, which of the following best describes your
work schedule?” Options included regular day, evening, or night
shift, rotating or “other.” Responses were categorized as either day
work (regular day) or SW (all shift types) for analysis. Work hours
were obtained by the question “On average, how many total hours
per week do you work at a job for which you are paid?” and catego-
rized to reflect part time (≤35 hours per week), full time (35–44
hours per week; in line with Australian Bureau of Statistics definition
of full-time work), and long hours (≥45 + hours per week).20

Data were analyzed using IBM SPSS version 24.0 (IBM Corpora-
tion, Armonk, NY). Differences in distribution of study participant
characteristics by absenteeism status were determined with the
Pearson χ2 statistic or Mantel-Haenszel test of trend. A series of
logistic regression models determined associations of sickness
absenteeism with each of the primary independent sleep disorder/
behavior/perceptions variables adjusted for age, SW, financial stress,
and education. Subsequent models determined the contribution of
sleep problems to sickness absenteeism in a population free of OSA
and insomnia.

Results

Representativeness of the study sample

Characteristics of the workers in this sample were compared with
data from the Australian Bureau of Statistics (ABS) from August
2016.20 Representativeness of the workers in this sample to current
Australian estimates was confirmed with a comparable percentage
of male respondents (cohort: 52.3%; ABS: 53.7%), age (cohort: 18–
44, 45.7%; 45–64, 35.6%; 65+, 5.9%; ABS: 15–44, 60.5%; 45–64,
35.6%; 65+, 3.9%), and financial stress (assessing a participant’s
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Results
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<th>متن کامل مقاله</th>
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- امکان دانلود نسخه تمام متن مقالات انگلیسی
- امکان دانلود نسخه ترجمه شده مقالات
- پذیرش سفارش ترجمه تخصصی
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