



Contents lists available at ScienceDirect

Sleep Health

Journal of the National Sleep Foundation

journal homepage: <http://www.elsevier.com/locate/sleh>

The impact of home safety on sleep in a Latin American country[☆]

Guido Simonelli, MD^{a,b}, Sanjay R. Patel, MD^{b,c}, Solange Rodríguez-Espínola, PhD^d,
Daniel Pérez-Chada, MD^e, Agustín Salvia, PhD, MS^d,
Daniel P. Cardinali, MD, PhD^a, Daniel E. Vigo, MD, PhD^{a,*}

^a Applied Neuroscience Laboratory, Institute for Biomedical Research (BIOMED), School of Medical Sciences, Pontifical Catholic University of Argentina, and the National Scientific and Technical Research Council (CONICET), Buenos Aires, Argentina

^b Division of Sleep and Circadian Disorders, Brigham and Women's Hospital, Boston, MA

^c Division of Pulmonary, Critical Care and Sleep Medicine, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA

^d Observatorio de la Deuda Social Argentina, Pontificia Universidad Católica Argentina, Consejo Nacional de Investigaciones Científicas y Técnicas, Buenos Aires, Argentina

^e Pulmonary Division, Department of Internal Medicine, Hospital Universitario Austral, Buenos Aires, Argentina

ARTICLE INFO

Article history:

Received 19 November 2014

Received in revised form 13 February 2015

Accepted 16 February 2015

ABSTRACT

Objectives: We sought to assess the impact of feelings of safety in one's neighborhood and home on sleep quality and sleep duration.

Design: The design is a cross-sectional survey using face-to-face interviews, as part of the Argentine Social Debt Observatory assessment.

Setting: The setting is a nationwide data from Argentina.

Participants: There are 5636 participants aged 18 years and older.

Intervention (if any): N/A.

Measurements: The relationships between both subjective sleep quality and self-reported sleep duration, categorized as short (<7 hours), normal (7–8 hours), and long (>8 hours) with safety in one's neighborhood and one's home, were analyzed. Age, sex, obesity, neighborhood socioeconomic status, and education were included as covariates.

Results: Feeling unsafe in one's home was strongly associated with poorer sleep quality and with short sleep duration. Feeling unsafe in one's neighborhood was initially associated with reduced sleep quality but was no longer significant after controlling for home safety. In contrast, we found no correlation between safety measures and long sleep. In analyses stratified by sex, feeling unsafe in one's home was associated with poor sleep quality in women but not in men.

Conclusions: Our findings suggest that safety in the home has an important effect on both sleep quality and duration, particularly among women. In contrast, after accounting for safety in the home, neighborhood safety does not impact sleep. Further research is warranted to identify mechanisms underlying the sex differences in susceptibility to poor sleep quality and shorter sleep duration, as well as to assess whether interventions addressing safety in the home can be used to improve sleep and overall health.

© 2015 National Sleep Foundation. Published by Elsevier Inc. All rights reserved.

Introduction

Several studies have established an association between neighborhood characteristics and health, especially on cardiovascular disease.^{1–4} Those living in disadvantaged neighborhoods have a higher incidence of cardiovascular events, even after controlling for individual-level factors.^{4–6} Neighborhood characteristics often studied include walkability, and access to healthy food, as well as social and physical environmental factors such as crime, social cohesion, noise, and aesthetic quality.⁴ In terms of the latter, some authors argue that fear of crime as well as crime itself may be mediators of the effect of the physical environment (eg, litter, contamination, abandoned buildings, etc) on public health.⁷

[☆] Studies were supported by grants from the Agencia Nacional de Promoción Científica y Tecnológica, Buenos Aires, Argentina (PICT 2010-2195, PICT 2012-0984, and PICT Start-Up 2013-0710). DEV and DPC are Research Career Awardees from the Argentine Research Council (CONICET). GS is currently a Research Associate at the Centre for Military Psychiatry and Neuroscience Research, Walter Reed Army Institute of Research (United States) supported by the National Research Council Research Associateship Program.

* Corresponding author at: Facultad de Ciencias Médicas, Pontificia Universidad Católica Argentina, Alicia Moreau de Justo 1500, 4° piso C1107AAZ, Ciudad Autónoma de Buenos Aires, República Argentina, Argentina. Tel.: +54 11 4349 0200x1152.

E-mail address: dvigo@conicet.gov.ar (D.E. Vigo).

Neighborhood environment has been shown to be associated with classic cardiovascular risk factors such as diabetes, hypertension, and obesity,^{4,8–13} as well as negative mental health outcomes.^{14,15} Interestingly, most of this association persists after adjusting for behavioral and biomedical risks factors, suggesting that other mediators are involved. Poor sleep has been increasingly identified as an independent risk factor for cardiovascular disease as well as for cardiovascular risk factors including obesity, diabetes, and hypertension.^{16–19,8} Disturbed sleep has been also linked to depression.²⁰ If neighborhood characteristics impact sleep, sleep disturbances and poor sleep quality may be one of the mechanisms through which neighborhoods affect health.

Three studies have examined neighborhood and sleep in relationship to obstructive sleep apnea risk. Those studies have shown that an adverse neighborhood environment increases the risk of obstructive sleep apnea in children.^{21–23} Furthermore, this increased risk is independent of obesity, ethnicity, and socioeconomic status (SES).^{21,22} Four studies have found that disadvantaged neighborhoods are associated with poor sleep quality and short self-reported sleep in United States.^{24–27} Nevertheless, those studies did not account for home safety, only focusing on neighborhood environment as a whole.

A previous study from our group found that sleep quality in a slum setting can be improved with a low-cost housing intervention, and those changes were sustained over a period of at least 6 months.²⁸ This study raised questions about the impact of the psychosocial and physical neighborhood environment on sleep when provided a safe home environment for sleeping.

In recent years in Latin America, safety from crime has become a major concern for the general population. According to Latinobarómetro,²⁹ the proportion of the population of Latin America that reports crime as their primary social concern rose from 5% in 1994 to 27% in 2010. Indeed, over the last 15 years, crime perception displaced unemployment as the most important concern in the region.²⁹

Fear of crime and feelings of insecurity have been extensively studied in the social sciences. Some authors consider public insecurity as a direct function of threats and vulnerabilities exposed by the risk of becoming a victim of crime.³⁰ In this context, adverse social environment may create feelings of insecurity, which may impair the ability of residents to initiate and/or maintain sleep.^{31,32}

The purpose of this study was to examine the relationship between sleep quality and quantity and perceived crime safety in a Latin American country (Argentina). We analyzed data from the 2012 Argentine Social Debt Observatory (ASDO), a nationwide survey. To our knowledge, this is the first nationwide survey in a South American country that included the aforementioned factors as a whole and the second in Latin America to explore neighborhood safety and sleep quality specifically.³³

Participants and methods

Participants and design

All analyses use data from the 2012 ASDO, a nationwide probability sample of 5766 adults residing in Argentina aged 18 years and older. Participants were selected by multistage cluster random sampling based on urban agglomeration, housing conditions, and SES. In the first stage, demographic criteria were used to select the urban agglomerations (by geographic region and size). Second, stratified random sampling was used in conjunction with a variable-radius plot, with probability proportional to the size of the population aged 18 years and older. At the third stage, random systematic sampling was used to select houses inside the radius plot. A trained

interviewer visited the houses, and individuals were invited to participate from each house, randomly selected through a quota system of age and sex. A total of 5636 individuals (46.4% men and 53.6% women) participated in the survey. For this analysis, all responses were weighted to reflect each subgroup's actual proportion in the overall Argentine population. The protocol was approved by an Institutional Review Board at Pontificia Universidad Católica Argentina, and all participating subjects provided oral informed consent.

Data

Neighborhood and house safety: Participants were asked to rate separately their neighborhood and house as “rather safe from crime” (0) or “rather unsafe from crime” (1).

Sleep quality: Sleep quality was measured with the following question taken from the Spanish version of the Pittsburgh Sleep Quality Index (PSQI): “¿Cómo calificaría en general su calidad de sueño de los últimos 30 días?” or “How would you rate your sleep quality overall for the past 30 days?” Possible answers rated from 0 (“very bad”) to 3 (“very good”). Sleep quality for analysis purposes was dichotomized as “good sleep quality” (“very good” and “good”) (0) and “poor sleep quality” (“poor” and “very poor”) (1).

Sleep duration: Questions regarding sleep included bedtime (lights off), rise time, and latency. Total sleep time was derived from the responses to these questions as nocturnal sleep (rise time to bedtime), latency, and categorized as short (<7 hours), average (7–8 hours), or long (>8 hours).

Demographics: Age was categorized in 5 categories (18–29, 30–39, 40–49, 50–64, and ≥65 years). Sex was obtained by self-report.

Education: Participants reported the number of years spent attending formal education. This variable was modeled continuously.

Neighborhood type: Based on structural aspects of the neighborhood and level of urbanization (street light, paved streets, land ownership, schools and hospitals in the area), neighborhoods were classified into 2 categories: “slums” and “low- and middle-income neighborhoods”.

Obesity: Self-reported height and weight were included in the questionnaire. Body mass index (BMI) was calculated. Participants were categorized as obese (BMI, ≥30 kg/m²) and nonobese (BMI, <30 kg/m²).

Statistical analysis

Data are shown as frequency (percentage) for categorical variables and mean (SD) for numerical variables. Sleep quality and sleep duration were modeled separately as dependent variables. Binary logistic regression was used to model sleep quality, whereas multinomial logistic regression was used to model sleep duration. Three models were used for each analysis; the first model was adjusted for sex, age, education, neighborhood type, and obesity. In model 2, neighborhood safety was added; and, in the final model, home safety was added to understand how much of the sleep association with neighborhood safety was explained by a sense of security in their home. A safety-by-sex interaction term was added to model 3 for both home and neighborhood safety to assess for evidence of effect modification. Where this interaction term was statistically significant ($P < .05$), sex stratified models were generated to better understand the impact of safety on sleep by sex.

Results

Characteristics of the sample are displayed in Table 1 stratified by neighborhood and home safety. Participants who provided incomplete data on our variables of interest ($n = 130$) were excluded

Download English Version:

<https://daneshyari.com/en/article/916337>

Download Persian Version:

<https://daneshyari.com/article/916337>

[Daneshyari.com](https://daneshyari.com)