

The relationship of chronic pain with and without comorbid psychiatric disorder to sleep disturbance and health care utilization: Results from the Israel National Health Survey^{☆,☆☆,★}

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Abstract

Objective: Chronic pain is associated with health problems including sleep difficulties and increased medical utilization. Because chronic pain is frequently comorbid with psychiatric disorders, it is unclear to what degree chronic pain itself is associated with these problems. In a large population sample, we examined the relationship between chronic pain, both alone and comorbid with psychiatric disorders, with sleep disturbance and increased medical utilization. **Methods:** We analyzed data from the Israel National Health Survey (INHS) conducted in 2003–2004 on a representative sample ($N=4859$) of the adult Israeli population. Data were collected in face-to-face interviews using the Composite International Diagnostic Interview. Statistical analyses were performed using multinomial logistic regression models. **Results:** Past year chronic pain was reported by 29.9% of all study participants ($n=1453$). Psychiatric disorders were more common

among participants with chronic pain; adjusted odds ratios were 2.23 (95% CI 1.49–3.36) for depressive disorders and 2.94 (95% CI 2.08–4.17) for anxiety disorders. Associations of chronic pain and psychiatric disorders were stronger in men. Chronic pain was associated with both sleep problems and increased health care utilization even for individuals with no psychiatric comorbidity. Sleep difficulties but not health care utilization rates were more pronounced in the comorbid group compared to the chronic pain only group. **Conclusion:** Chronic pain was associated with sleep problems and increased health care utilization in this sample, independent of psychiatric comorbidity. Sleep problems were significantly greater in the comorbid vs. non-comorbid group. In contrast, associations of pain with health care utilization were largely independent of psychiatric comorbidity.

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Introduction

Chronic pain is associated with a range of health-related problems. However, most studies do not consider comorbidity of psychiatric disorders which commonly co-occur with chronic pain conditions [1–5]. Comorbid depression and anxiety disorders, for example, are associated with a range of outcomes including greater pain severity and disability [6–8]. Thus the degree to which chronic pain is itself associated with health-related problems remains unclear. We sought to examine two common health problems, sleep problems and increased health care utilization, in comorbid vs. non-comorbid chronic pain.

Determining the role of comorbid psychiatric disorders and their impact on associated health problems in chronic pain has important implications for diagnosis and treatment of patients with chronic pain. Psychiatric disorders are often overlooked in medical patients [9] particularly those with pain syndromes [10,11]. Comorbidity often predicts worse course of illness in pain patients [12] and some comorbid pain conditions may necessitate referral to a mental health specialist or multi-disciplinary clinic [13,14]. Illuminating specific features associated with comorbid pain conditions may help increase physician recognition of and attention to these psychiatric syndromes. Furthermore, disentangling this complex relationship may be essential to judging adequate response to medication or psychosocial interventions targeting one syndrome or the other. Finally, from a public health standpoint it is important to gauge the relative impact of different disorders to help determine allocation of limited resources for prevention, intervention, and research.

Chronic pain and sleep difficulties

Quality sleep is vital to good health; yet, disrupted sleep pattern is one of the most prevalent complaints among persons with chronic pain conditions and is associated with pain discomfort. The relationship between chronic pain and disrupted sleep is believed to be reciprocal; each condition may cause, maintain, and even exacerbate the other [2,15–20]. A related problem, fatigue, is also associated with pain syndromes [21]. Sleep difficulties are also common among persons with psychiatric disorders [1,2,22] and are associated with higher depression and anxiety levels and with more physical and psychological disability [18]. Given the high comorbidity of chronic pain and psychiatric disorders, it is important to examine the independent and combined associations with sleep problems.

Chronic pain and health care utilization

Chronic pain is also associated with higher health care utilization; health care services and utilization increase with number and severity of pain episodes [7,23]. Chronic pain and psychiatric comorbidity may be associated with higher health care utilization rates and costs [7,24–28]. For

example, patients with comorbid chronic pain and depression initiate about 20% more office visits than patients with depression alone [24], have higher mean health care charges, and are more likely to report pain-related disabilities and limitations in daily activities than patients with chronic pain and no depression [25].

Representative population-based estimates of the prevalence of comorbid psychiatric disorders among adults with chronic pain and their association with health indices are scarce and generally involve comparisons for specific types of pain syndromes [4,29]. We used data from a large representative sample of the adult population of Israel. We first examined patterns of comorbidity of chronic pain with depressive and anxiety disorders. We then analyzed the relationship between chronic pain (both alone and comorbid with psychiatric disorders) with sleep disturbances and with health care utilization. We hypothesized that chronic pain would be associated with both sleep disturbance and health care utilization even when non-comorbid with psychiatric disorders. However, we expected to find stronger associations in persons with both chronic pain and psychiatric disorders compared with those who have chronic pain only.

Methods

Data for this report are from the Israel National Health Survey–World Mental Health survey (INHS), conducted as a part of the World Health Organization survey of 27 countries around the world. The INHS was a cross-sectional survey designed to collect data on the prevalence of psychiatric disorders and their correlates (including physical health conditions and disabilities, health care utilization and expenditure, socioeconomic and demographic correlates) in the Israeli population. Face-to-face interviews were conducted by survey interviewers between May 2003 and April 2004 using laptop computer-assisted personal interview methods in Hebrew, Arabic, and Russian. The World Mental Health Composite International Diagnostic Interview (WMH-CIDI) developed for this survey [30] yielded prevalence rates of *DSM-IV* psychiatric disorders. Diagnoses obtained using the CIDI have been shown to be reliable and valid [31,32].

Study sample

The National Population Register was used as a sampling frame, and the study population consisted of all noninstitutionalized de jure adult (age 21 and over) residents. Residents living in immigrant absorption centers, student residences, and sheltered housing for the elderly were also included [33]. A total of 4859 interviews were completed with an overall response rate of 71% among Jewish-Israelis. Of those, 4855 participants with no missing data were included in this study. For more detailed sampling methods, please refer to Levinson et al. [33].

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