

# Gender differences in sleep habits and sleep-related problems in Arab Palestinian university students

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## Abstract

A convenience sample of 400 students were recruited to investigate gender differences in sleep habits and sleep-related problems using a self-administered questionnaire. Univariate analysis showed that females went to bed earlier ( $p < 0.01$ ) and rose earlier ( $p < 0.01$ ), had longer sleep duration ( $p < 0.01$ ), more nightmares ( $p < 0.01$ ), lesser snoring ( $p < 0.01$ ), lesser nocturnal awakening caused by eating ( $p < 0.01$ ), and had poorer sleep quality than males on the night of examination ( $p < 0.01$ ). Gender differences in sleep habits and sleep problems were found and were different than those reported from other cultures.

**Keywords:** gender differences; sleep habits; undergraduates.

## Introduction

Sleep habits and sleep-related problems among Palestinian Arab college students have been recently reported (1). However, gender differences in sleep habits and sleep-related problems among Arab college students in general have not been investigated. International studies regarding gender differences in sleep habits among different cultures have been published (2–5). Studies in college students did not show consistent gender differences in sleep pattern (2, 6–8). These inconsistent findings could be partly attributed to cultural differences and wide age range of the studied population (9, 10).

It is well-known that women have different rates of psychiatric disorders than men (11). In the Palestinian Authority, where the study took place, the devastating political and military conflict, future insecurity and poverty are stressful factors that might affect sleep habits in males and females in different ways (12–15). Such factors do not seem to be

present in many countries especially the western countries where most sleep studies have been carried out. A review article has found that gender differences in anxiety disorders do exist among males and females in the Arab world (16). A study in the Palestinian Authority has shown that female adolescents exhibited higher levels of psychological symptoms compared to their male counterparts despite that both males and females were equally exposed political violence (17). Therefore, we hypothesized that gender differences do exist in sleep habits and sleep-related problems and that these differences are not similar to those reported in other cultures.

The aim of this study was to investigate gender differences in sleep habits and sleep problems in a sample of the Palestinian Authority university students. In this study, self-reported night- and daytime sleep habits of students at An-Najah National University, the largest university in the Palestinian Authority, were reported. The studied sample has a narrow age range and has similar cultural and religious background. Therefore, any differences in sleep habits and problems between males and females will be most likely be because of gender. The search for any gender differences has a significant impact not only on the etiological and pathophysiological implications, but also on the health care utilization, treatment and prognosis of the disorders.

## Methods

This article was based on data obtained from a study carried out to characterize sleep quality and its correlation with academic achievement and other sleep variables among Arabs in general. This is a cross-sectional, questionnaire-based study carried out in spring 2009 among undergraduate students enrolled at An-Najah National University in Nablus. Approval of the university medical research Ethics Committee was obtained before the initiation of the study. Verbal consent of the student was necessary for his/her enrollment. The students were recruited at more than ten various sites in the university campus to assure recruitment of students from both gender and from different colleges. Confidentiality was assured to all students who were asked to volunteer and none were reimbursed. Data collection was carried out daily from 9:00 am until 12:00 pm for 1 week. Completion time for each questionnaire was approximately 10 min.

## Study tool

A questionnaire containing 34 questions, divided into six sections, was developed for this study and published elsewhere (1). The students were asked to limit their responses to incidents occurring during the past week. The questionnaire was based on Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV) criteria and

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Received September 4, 2011; accepted November 6, 2011