Exploring the uncertain relationship between lunar phases and human sleep duration and quality: A narrative literature review

Nicholas A. Skrobul
Valparaiso University Department of Psychology

Introduction

• There is evidence for lunar influence in other organisms:
  Fireemitted Nightjar lays its eggs during the full moon in September and uses the extra light for greater foraging time.1
  A handful of reviews from the early 2000s concluded there was not sufficient evidence for a lunar influence on sleep quality in humans.2
  That conclusion stood until a retrospective study in 2013 by Capecchi et al. discovered that sleep quality decreased in their subjects during the days surrounding the full moon.3
  Several studies4-6 were published in response to Capecchi et al, but despite having larger sample sizes and null findings, they varied greatly in data collection and research methods.
  However, other studies, also with larger samples managed to find statistically significant interactions between lunar phases and human sleep.4
  Despite the varied evidence, the moon still has a strong presence in popular culture today and continues to be blamed for poor sleep or behavioral issues.2

Method (Cont.)

• (2) Studies needed to include human participants in some manner. Those studies which were only about other organisms were not included.
• (3) Studies needed to include some measure of sleep quality, either subjective or objective, relative to lunar phase.
• (4) Studies needed to be primarily interested in relationships between the moon and health individuals. Those articles which studied those with medical or psychological disorders exclusively were not included. Figure 1 shows the delineation of articles throughout the literature search.

Method

• Academic Search Complete, Web of Science, PsychARTICLES, PsycINFO, and Psychology Database were the five databases used for this literature review.
• Keywords: sleep, moon, (lunar cycles), and (circadian rhythms)
• Articles were excluded if they did not fit the following inclusion criteria:
  (1) Articles must include actual experimental procedures, commentaries, literature reviews, and other non-experimental works were noted for reference and discussion but not included in the literature review.

Results (Cont.)

• 7 studies rejected their null and found statistically significant interactions between lunar phase and sleep.4,4,11
  Of these:
  • 6 found shorter sleep duration around full moon4,6,11,13,15
  • Sleep Latencies Ranged from 5-15min
  • 1 found greater sleep duration around full moon14
  • Participants in hunter-gatherer societies had higher sleep duration from full moon and decreased nighttime activity15

References

2. Smith MP, 2016
4. Hadza tribe
5. Naturally occurring
6. Mean cerebral blood flow velocity