

MAIN FINDINGS

- The sample comprised 690 representative responses.
- Generally, patients had self-reported reduced sleep quality (66%) but typical daytime sleepiness (85%).
- Pain had a significant, large effect on lowering self-reported sleep quality. Effective pain management could help alleviate lower sleep quality.
- Age and gender had a significant, small effect on lowering self-reported sleep quality (with older patients and females & nonbinary patients experiencing the worst sleep quality).
- Patients should track sleep quality and report changes to their doctor.

MEASURING SELF-REPORTED SLEEP QUALITY

This questionnaire is called the Pittsburgh Sleep Quality Index (Buysse et al., 1989) and measures your overall sleep quality. Even if your answer fluctuates day by day, provide your best answer that reflects your habits over a majority of days during the past month. You can use this tool to track changes in your sleep quality!

1. During the past month, when have you usually gone to bed at night?
2. During the past month, how long (in minutes) has it usually taken you to fall asleep at night?
3. During the past month, when have you usually gotten up in the morning?
4. During the past month, how many hours of actual sleep have you gotten at night? (This may be different than the number of hours spent in bed; please provide your best estimate)
5. During the past month, how often have you had trouble sleeping because you...
 1. Cannot get to sleep within 30 minutes
0 = Not within the past month
1 = Less than once a week
2 = Once or twice a week
3 = Three or more times a week
 2. Wake up in the middle of the night or early morning
0 = Not within the past month
1 = Less than once a week
2 = Once or twice a week
3 = Three or more times a week
 3. Have to get up to use the bathroom
0 = Not within the past month
1 = Less than once a week

2 = Once or twice a week
3 = Three or more times a week

4. Cannot breathe comfortably
0 = Not within the past month
1 = Less than once a week
2 = Once or twice a week
3 = Three or more times a week

5. Cough or snore loudly
0 = Not within the past month
1 = Less than once a week
2 = Once or twice a week
3 = Three or more times a week

6. Feel too cold
0 = Not within the past month
1 = Less than once a week
2 = Once or twice a week
3 = Three or more times a week

7. Feel too hot
0 = Not within the past month
1 = Less than once a week
2 = Once or twice a week
3 = Three or more times a week

8. Have bad dreams
0 = Not within the past month
1 = Less than once a week
2 = Once or twice a week
3 = Three or more times a week

9. Have pain
0 = Not within the past month
1 = Less than once a week
2 = Once or twice a week
3 = Three or more times a week

10. Another reason (please select 0 if there is no other reason)
0 = Not within the past month
1 = Less than once a week
2 = Once or twice a week
3 = Three or more times a week

6. During the past month, how would you rate your overall sleep quality?

0 = Very good

1 = Fairly good

2 = Fairly bad

3 = Very bad

7. During the past month, how often have you taken medicine (prescribed or over the counter) to help you sleep?

0 = Not within the past month

1 = Less than once a week

2 = Once or twice a week

3 = Three or more times a week

8. During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in social activity?

0 = No problem at all

1 = Only a very slight problem

2 = Somewhat of a problem

3 = A very big problem

9. During the past month, how much of a problem has it been for you to keep enough enthusiasm to get things done?

0 = No problem at all

1 = Only a very slight problem

2 = Somewhat of a problem

3 = A very big problem

Reference: Buysse, D. J., Reynolds, C. F. III, Monk, T. H., Berman, S. R., & Kupfer, D. J. (1989). The Pittsburgh Sleep Quality Index: A new instrument for psychiatric practice and research. *Psychiatry Research*, 28, 193–213. [https://doi.org/10.1016/0165-1781\(89\)90047-4](https://doi.org/10.1016/0165-1781(89)90047-4)

MEASURING SELF-REPORTED DAYTIME SLEEPINESS

This questionnaire is called the Epworth Sleepiness Scale (Johns, 1991), and it measures your daytime sleepiness. You can use this tool to track changes in your daytime fatigue.

How likely are you to doze off or fall asleep in the following situations, in contrast to feeling just tired? Even if you have not done some of these things, try to determine how they would have affected you.

1. Sitting and reading

0 = would never doze

1 = slight chance of dozing

2 = moderate chance of dozing

- 3 = high chance of dozing
2. Watching TV
 - 0 = would never doze
 - 1 = slight chance of dozing
 - 2 = moderate chance of dozing
 - 3 = high chance of dozing
 3. Sitting inactive in a public place (e.g., a theater or a meeting)
 - 0 = would never doze
 - 1 = slight chance of dozing
 - 2 = moderate chance of dozing
 - 3 = high chance of dozing
 4. As a passenger in a car for an hour without a break
 - 0 = would never doze
 - 1 = slight chance of dozing
 - 2 = moderate chance of dozing
 - 3 = high chance of dozing
 5. Lying down to rest in the afternoon when circumstances permit
 - 0 = would never doze
 - 1 = slight chance of dozing
 - 2 = moderate chance of dozing
 - 3 = high chance of dozing
 6. Sitting and talking to someone
 - 0 = would never doze
 - 1 = slight chance of dozing
 - 2 = moderate chance of dozing
 - 3 = high chance of dozing
 7. Sitting quietly after a lunch (without alcohol)
 - 0 = would never doze
 - 1 = slight chance of dozing
 - 2 = moderate chance of dozing
 - 3 = high chance of dozing
 8. In a car while stopped for a few minutes in traffic
 - 0 = would never doze
 - 1 = slight chance of dozing
 - 2 = moderate chance of dozing
 - 3 = high chance of dozing

Reference: Johns, M. W. (1991). A new method for measuring daytime sleepiness: The Epworth Sleepiness Scale. *Sleep*, 14, 540–545. <https://doi.org/10.1093/sleep/14.6.540>