Impact of the COVID-19 pandemic on change in sleep patterns in an exploratory, cross-sectional online sample of 79 countries

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How has the pandemic changed sleep patterns?

991 people surveyed worldwide found...

- 56% reported symptoms of insomnia
- 65% reported symptoms of depression
- AND most people fell into 4 main sleep pattern profiles.

4 Sleep Pattern Profiles

**DELAYED SLEEP**
- Later bedtime
- Reduced sleep quality
- Increased nightmares and naps
  - total time spent in bed and total sleep time did not change

**SLEEP LOST AND FRAGMENTED**
- Reduced sleep quality
- Reduced time in bed and total sleep time
- Little napping to make up for sleep loss
  - more women than men in this group

**SLEEP OPPORTUNISTS**
- Increased time in bed and total sleep time
- Increased family stress and discord
- Few nightmares and little insomnia
- Less likely to be employed
  - this group reported greatest change in daily routines

**DYSREGULATED AND DISTRESSED**
- Reduced total time in bed, total sleep time, and sleep quality
- Increased nightmares and naps
- Symptoms of severe insomnia
  - this group reported greatest change in family income and/or employment

Take Homes

Poor sleep and depressive symptoms were widespread and increased during the pandemic.

Women were more affected than men.

Sleep and mental health issues during the pandemic may be long lasting and contribute to poor long-term health outcomes.

Results may help identify at-risk groups in need of interventions.

Potential for personalized behavioral sleep health interventions based upon individual sleep profiles.