Impact of COVID-19 on Sleep Health

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Accreditation Statement

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of The American Academy of Sleep Medicine and The Virginia Academy of Sleep Medicine. The American Academy of Sleep Medicine is accredited by the ACCME to provide continuing medical education for physicians.

Learning Objectives:

- Identify sleep-related changes a/w the COVID-19 pandemic
- Describe the impact of COVID-19 on sleep in different populations
- Access AASM resources related to COVID-19's impact on sleep health and the practice of sleep medicine

6 things doctors wish patients knew about "coronasomnia" – AMA interview with Ilene Rosen, MD

Term used for "sleep problems related to the pandemic. It is the impact of the uncertainty and the barrage of information that we are getting. That uncertainty is being carried with you into your bed and affecting how you sleep and thus how alert you feel in the morning."

- Get bright light early
- Give your system a break
- Importance of a clear mind
- How news adds to anxiety
- Right kind of noise can help
- Why alcohol won't work

https://www.ama-assn.org/delivering-care/public-health/6-things-doctors-wish-patients-knew-about-coronasomnia

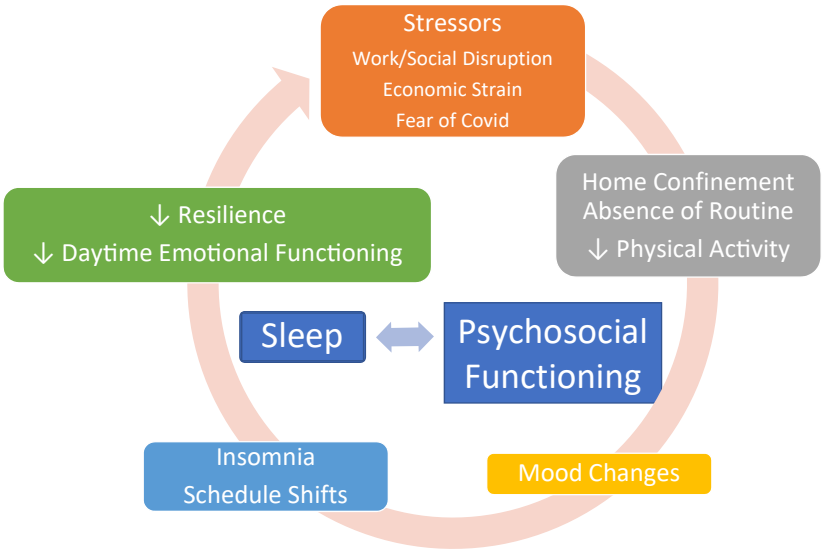
Presentation Outline

- Describe mechanisms for how COVID-19 impacts sleep health
- Summarize studies on sleep-related changes in the pandemic
- List AASM COVID-19 resources and initiatives
- Discuss how the practice of sleep medicine will change with COVID

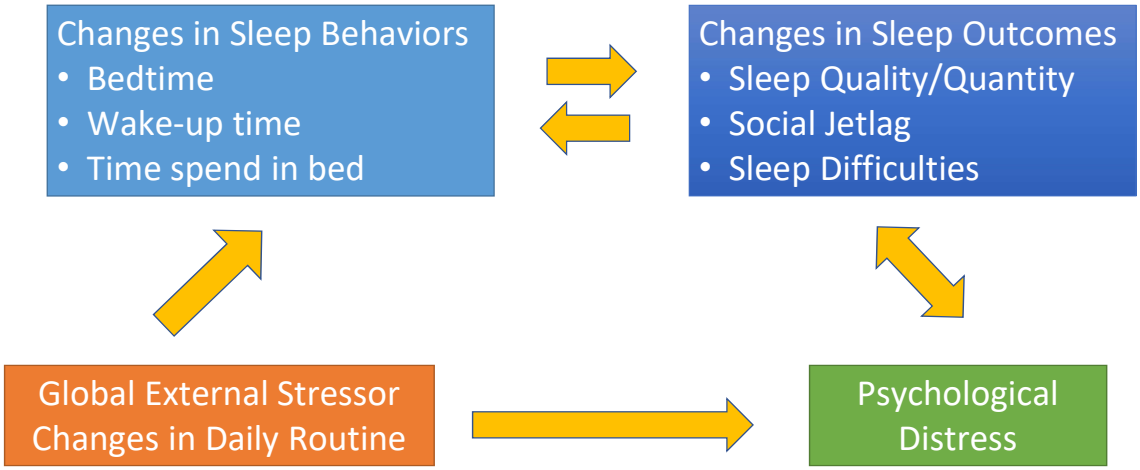
Mechanisms

- Stress
- Changes in Life Habits

How the Pandemic Impacts Sleep and Function



COVID-19 Pandemic Impact on Sleep



Slide adapted from Sleep 2020 COVID Sleep Symposium presentation by Dr. R. Robillard

Sleep Problems During COVID-19 Pandemic

- Higher rates of sleep problems, stress most common precipitant
  - Insomnia (20-35%)
  - Psychological symptoms
    - Anxiety 20-45%
    - Depression (25-50%)
    - Posttraumatic symptoms
  - Symptoms appear more severe among individuals with higher risk of being infected, *eg* health care workers.

COVID Sleep Health Highlights from Sleep 2020

- Symposium with new research on impact of COVID on sleep health (COV-1)
- Lab Management (COV-2, not covered in this presentation)
- Health Care Workers (COV-3)

Assessible at the Sleep 2020 website "on demand"

Sleep Changes in the General Population (Robillard)

- > 5000 Canadian survey respondents, age 16 to 95 y, Apr 3 to Jun 4
- Significant changes in sleep parameters before and during the outbreak with inter-individual variability in terms of sleep and emotional outcomes
- "Any serious sleep difficulties" 36% → 51%; 8% reported ↑ sleep med use;
  - 6% better quality sleep while 17.5% were worse
  - Overall, small changes in sleep parameters or PSQI, *eg* 28 min later wake time
- Sleep behavior change subgroups: Extended TIB, Reduced TIB, Phase delay
  - Female, prior dx of mental disorder, evening chronotypes in reduced and delayed groups
  - Differential changes in sleep quantity, quality and psychological responses

COVID 19 and Sleep Patterns in Youth (Forest)

- Teenagers, young adults (12-25 yr old), particularly affected by social distancing rules. Circadian phase delay is already typical in this group, so greater potential for sleep-wake cycle changes during confinement
  - Pre-existing increased sleep debt, EDS, social jet lag
  - More vulnerable b/c loss of school limits, structure; social structure, changes in life habits
- Results of online survey (n=588, Jun 3 to Jul 3 in Quebec), pre and during lockdown
  - Outcomes varied by age group (12-14, 15-17, 18-21, 22-25 y)
  - Weekdays: later sleep with increased duration, but almost no changes on weekends (all groups)
  - Younger teens: bigger changes including improved EDS and sleep quality
  - Young adults: more sleep onset difficulties, nocturnal and early AM wakings, nightmares

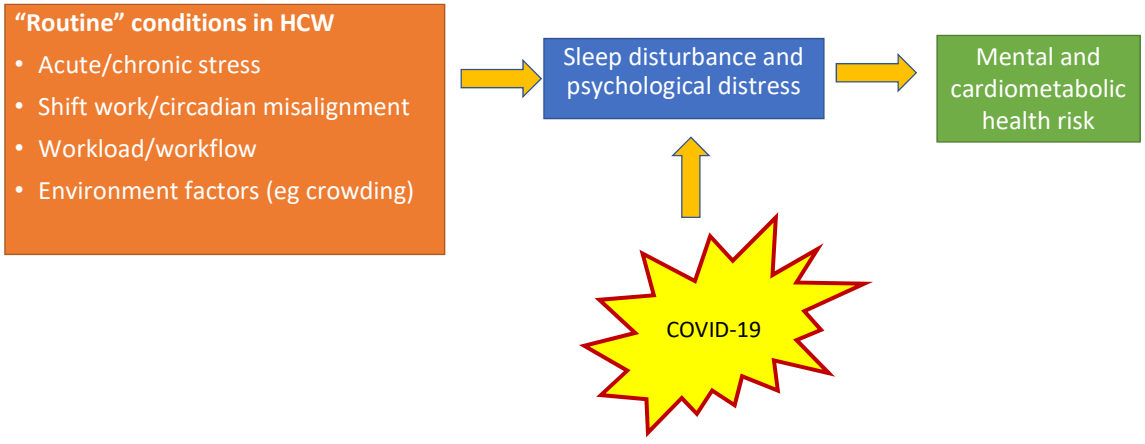
Highlights: Insomnia (Morin)

- On-line follow up (May 2020) of ongoing longitudinal study of the natural history of insomnia which individuals followed previously (10 yr) were contacted during the pandemic (n=594, 64% female, mean age 47 y)
- Assessed incidence rates (new cases of insomnia) among good sleepers and rates of persistence and remission among those who already had insomnia in 2018
- **Overall: incidence rate 32% (3x), persistence rate 76.5%, and remission rate 23.5%**
  - **Increases in psychological symptoms: anxiety, depression, and fatigue**
- Given long-term adverse outcomes of insomnia, need for dissemination of population-based sleep health programs to prevent or minimize chronic insomnia

Dreams & Nightmares (Solomonova)

- Dream content is known to react to ongoing concerns, emotional or personal. Since the pandemic, reports of ↑ dreaming, recall, vivid
- Internet Survey (n=968): dreams, nightmare, depressive symptoms, anxiety; participant grouped by stress level.
- Findings: ↑ dreams correlated with greater stress, mood disturbance
  - #1 prevalent theme: inefficacy rather than being chased

Working in Healthcare Can Be Hazardous to Your Health



Slide adapted from Dr. Ari Schecter's Sleep 2020 Introduction to COV-3 session

COV-3: Sleep and mental health in healthcare workers during the COVID-19 pandemic: Data, implications, and therapeutic approaches

- Abdalla: Sleep, psychological distress, coping behaviors and preference for support among NYC healthcare workers during the COVID-19 pandemic (now in press Schechter A et al Gen Hosp Psychiatry)
- Pappa: Prevalence of insomnia, anxiety and depression among healthcare workers during COVID-19 pandemic: A systematic review and meta-analysis
- De Mello: Does the compromised sleep and circadian disruption of healthcare workers and shift workers make them highly vulnerable to COVID-19?
- Blake: Mitigating the psychological impact of COVID-19 on healthcare workers: a digital learning package

Sleep 2020 – 45 min session available on video session

Highlights from the HCW presentations

- Sleep, psychological distress, coping behaviors, and preferences for support among NYC healthcare workers during COVID-19 pandemic (Abdalla)
  - 26% had severe or very severe sleep problems, 40% moderate; sleep duration 5.9 ±1.2 h, with attending >resident/fellow, >APN/RN (lowest)
- Prevalence of insomnia, anxiety and depression among healthcare workers during COVID-19 pandemic: A systematic review and meta-analysis (Pappa)
  - Insomnia pooled prevalence = 39%, ie, 4/10 HCW experienced sleep difficulties and or insomnia with pooled prevalence of anxiety and depression, 23%

DID YOU KNOW?

Journal of Clinical Sleep Medicine (JCSM)

"COVID-19 Collection" with Free Access Articles
Accessible at the AASM Website

The effects of COVID-19 stay-at-home order on sleep, health, and working patterns: a survey study of United States health care workers

- Cross-sectional online survey, 834 health care workers, 41 states, Mar 28-Apr 29
- Assessed changes in sleep, work, screen time, media exposure, diet, exercise, substance use and mood
- After stay-at home orders
  - Mood worsened while screen time and substance use increased
  - TST shortened if continuing to work in-person, but unchanged if working from home
  - Working from home: later bedtimes and wake times; worked fewer hours
  - Reduced TST and increased screen time a/w worse mood
  - Longer sleep time a/w better mood

Conroy DA et al. https://doi.org/10.5664/jcsm.8808

Google Trends reveal increases in internet searches for insomnia during the COVID-19 global pandemic

- Analysis of search query data from Jan 2004 to May 2020 from Google Trend and Keyword Planner for search term *insomnia*
- ↑ search queries over the past decade, insomnia > other sleep dx
- ~ **60% ↑ Jan-May 2020 (COVID-19 time) compared to other years**
- Robust diurnal pattern for insomnia searches in US, **peaking @ 3 AM**

Zittig K-M et at. https://doi.org/10.5664/jcsm.8810

Escalation of sleep disturbances amid the COVID-19 pandemic: a cross-sectional international study

- Two studies: Mar 26-Apr 26, 1 international w/ 2562 completers (84%), age: 45±14 y, 68% women; 1 US (971 completers (95%), 40±14 y, 52% women looking demographics, sleep duration, quality timing and sleep pill consumption
- Int'l: **↓ sleep quality after pandemic, 20% ↑ in pill consumption; worse for women, 31-45 yr; ↓ physical activity and livelihood insecurity a/w more severe worsening of sleep quality.** Similar findings in US cohort.

Mandelkorn U et al. https://doi.org/10.5664/jcsm.8800

Impact COVID-19 on PAP treatment adherence and sleep duration in patients with OSA

- Retrospective medical record review at single center 1 mo before and after the national "lockdown" on Mar 15. Inclusion: only patients with available adherence data in the prior 12 mo and 1 mo after (n=123)
- Age 64±14, 55% male, BMI 32±8; 60% severe, 29% mod, 11% mild OSA
  - Insomnia symptoms 41% → 48%, with worsening insomnia only in women
  - **No difference in PAP adherence by hours of use, self-reported sleep duration or use of sleep medication**

Batool-Anwar S et al. https://doi.org/10.5664/jcsm.8746

Impact on Children's Sleep

- Letter to editor (Dellaguilia) about a 30-days of sleep duration, quality and routine in 37 mothers of Italian pre-schoolers.
  - Overall, the mothers reported poorer quality sleep, while the sleep time decreased, then stabilized. Authors conclude: need to maintain routine or create new positive ones.
- Letter to editor (LeCuelle) re: responses to the Sleep Disorder Scale for Children in 92 mothers of French pre-schoolers were compared post lockdown to an age and gender matched sample in 2018
  - Longer nocturnal sleep, decreased naps, increased proportion of children in the "pathological" range (40-62%) with changes in the domains of difficulty staying asleep and parasomnia.

Dellaguilia et al, https://doi.org/10.5664/jcsm.8648
LeCuelle F et al, https://doi.org/10.5664/jcsm.8806

Impact on Teen Sleep

- Phone interviews in 45 teens from Apr 28 to June 3 during school shutdown in Quebec
- Findings: 2-hour shift in the sleep of typically developing adolescents, longer sleep duration, improved sleep quality, and less daytime sleepiness compared to the regular school-time schedule.
- Consistent previous studies showing that delaying high school start times could extend sleep duration, improve quality, reduce EDS and stress.

Gruber R et al, https://doi.org/10.1016/j.sleep.2020.09.015

The impact of the COVID-19 pandemic on sleep medicine practices

- Anonymous online survey to 379 healthcare providers (297 centers) in sleep medicine on Apr 29, 2020
- 94% stopped all or nearly all sleep testing (no adult or peds difference), but more continued HSAT service
  - ~ 60% reported reduced HSAT volume by at least 90%
  - ~ 90% reported reduced in-lab testing by at least 90%
  - ~ 52% anticipated ≥ 25% virtual visits after the pandemic, although none had this pattern prior to the pandemic
- Concern: impact on access to sleep care for diagnosis and management

Johnson KG et al. https://doi.org/10.5664/jcsm.8830

Impact of the COVID-19 pandemic on obstructive sleep apnea: recommendations for symptom management

- Prospective study of patients with 156 family medicine patients with OSA (PSG diagnosis) and 60 controls
- Findings: Based on the Sleep Symptom Checklist (daytime symptoms, insomnia, sleep disorders, psychological adjustment), participants with OSA compared to controls had
  - More sleep-related symptoms, greater severity, and higher SSC scores
  - Several PSG indices correlated with SSC Sleep Disorder domain score
- Conclusions: clinicians can offer behavioral techniques targeting symptoms as mitigation strategies while waiting for specialist care

Rizzo D et al. https://doi.org/10.5664/jcsm.8922

The effects of the COVID-19 pandemic on patients with narcolepsy

- Prospective study to explore the impact of C-19 quarantine on sleep, schedules, symptoms, need for medication, work, income, and QOL in 76 Brazilian narcolepsy patients (mean age 37 y, 69% NT).
- Findings: Based on a 36-question survey, participants experienced an increase in narcolepsy symptoms (cataplexy, sleep paralysis, hallucinations, night wakings, and sleepiness) along with altered sleep patterns suggesting circadian misalignment. Used more stimulants, but fewer antidepressants.
- Conclusions: effects of the pandemic go beyond the illness, and create "collateral damage" with respect to unemployment, financial hardship and reduced QOL in vulnerable groups like narcolepsy patients.

Rodrigues Aguilar AC et al. https://doi.org/10.5664/jcsm.8952

FYI: COVID-19 Resources at the AASM Website

- CDC Summary (patient care, health care provider, equipment & facility)
- Sleep Considerations (Public Safety Committee, AASM Staff)
- COVID-19: FAQs
- Clinical Conversations: hear how your colleagues changed their practices
- COVID-19: Pulse Survey

Clinicians can send their sleep-related questions, suggestions and feedback about COVID-19 to the AASM at covid@aasm.org.

Considerations for the Practice of Sleep Medicine During COVID-19: Public Safety Committee → COVID-19 Task Force

- Care delivery
- COVID-19 pretesting
- Sleep testing considerations
- Therapy considerations
- Mitigating risk in your practice

American Academy of Sleep Medicine. COVID-19 resources. Accessed Sept. 23, 2020. https://aasm.org/covid-19-resources/

Self Care for Sleep Professionals

Free webinar with top tips for self care from Dr. Emerson Wickwire

- Relax your body
- Reduce your worry
- Control your new work-from-home routine
- Increase positive emotions
- Write a gratitude list
- Stay connected
- Establish your priorities

AASM takes the pulse of the sleep field and responds to COVID-19

Kannan Ramar, MD

Published Online:September 28, 2020 https://doi.org/10.5664/jcsm.8846

AASM COVID Pulse Survey (551 members)

- 46% concerned about ability of their practice/facility to remain financially solvent through the end of the year
- 66% reported lower patient volumes
- 36% applied for loans or financial assistance

Slide set available on the website

American Academy of Sleep Medicine. COVID-19 pulse survey. Accessed Sept. 23, 2020. https://aasm.org/covid-19-resources/coronavirus-pulse-survey-sleep

AASM Initiatives (1)

- Waiving facility membership dues in 2021
- Free 3-month subscription extension for ISR
- Free 3-month AASM SleepTM telemedicine system
- COVID-19 Relief Fund for state and regional medical societies
- AASM Foundation COVID-19 Relief Fund for current awardees
- Accreditation flexibility and virtual site visits

AASM Initiatives (2)

- JCSM COVID-19 collection: Telemedicine
- New COVID-19 Task Force
- New Telemedicine Presidential Committee

Wrap UP

Long-term Health Consequences of COVID-19 that May Be Relevant for Sleep Clinicians

- Failure to seek care to diagnose new or manage existing sleep disorders
- Acute insomnia symptoms that becomes chronic insomnia
- Development of delayed sleep phase disorder with loss of routines
- Persistent severe post-acute COVID-19 conditions a/w sleep disorders
  - 1/3 adults have not returned to their usual state of health 2 wk after testing
  - Symptoms: dyspnea, fatigue, joint pain, chest pain; **sleep disturbance**, "brain fog"
  - Sequelae: cardiovascular, pulmonary, neurologic, emotional health and well being

Future Changes/Needs in Sleep Medicine

- Need for tailored interventions because distinct profiles of sleep problems emerged
- Will the increase in insomnia symptoms persist and lead to higher rates of chronic insomnia in the population?
  - If yes, given long-term adverse outcomes of insomnia, need for population-based sleep health programs to prevent or minimize chronic insomnia
- All of us are experiencing big changes in practice patterns, <u>especially telemedicine</u>, to maintain access to care for diagnosis and management

Next Steps

- AASM BOD want to identify additional ways to support our members
  - Share your input: email kramar@aasm.org
- Health Policy and Advocacy
  - Asking CMS to make telemedicine waivers permanent
  - Take action! Go to: aasm.org/advocacy/take-action
  - Providing feedback to CMS of proposed physician fee schedules
  - Preparing member sofr changes in 2021 E/M office visit codes
- Telemedicine Presidential Committee
  - Develop telemedicine resources for members

How to Contact AASM re: COVID-19 Resources

- Dedicated email for member questions: covid@aasm.org
- COVID-19 resources: aasm.org/covid-19-resources/
- Dedicated email for coding & reimbursement questions: coding@aasm.org
- Telemedicine codes: aasm.org/clinical-resources/coding-reimbursement/telemedicine-codes/

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