The Lancet Commission's Egregious Omission: Why Poor Sleep Is a Risk Factor for Dementia

Greg Potter, PhD

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Sleep health  **Dementia**

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The 2024 Report of the Lancet Standing Commission

Dementia prevention, intervention, and care: 2024 report of the *Lancet* standing Commission

Gill Livingston, Jonathan Huntley, Kathy Y Liu, Sergi G Costafreda, Geir Selbæk, Suvarna Alladi, David Ames, Sube Banerjee, Alistair Burns, Carol Brayne, Nick C Fox, Cleusa P Ferri, Laura N Gitlin, Robert Howard, Helen C Kales, Mika Kivimäki, Eric B Larson, Noeline Nakasujja, Kenneth Rockwood, Quincy Samus, Kokoro Shirai, Archana Singh-Manoux, Lon S Schneider, Sebastian Walsh, Yao Yao, Andrew Sommerlad*, Naaheed Mukadam*

To be included as a risk factor:

- Evidence from diverse populations

To what extent do the proposed risk factors meet these criteria?

(Livingston et al, 2024. Lancet)

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(Livingston et al, 2024. Lancet)

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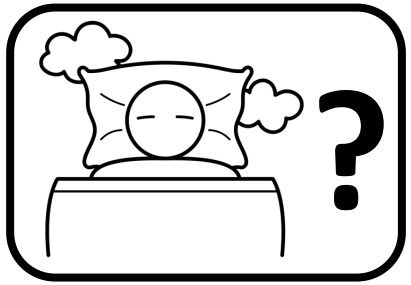
The 2024 Report of the Lancet Standing Commission



- Doesn't seem to assess sleep in a coherent way — is the focus on "too little sleep"?
- There are stark inaccuracies: "no information exists on sleep quality or circadian rhythm disturbance", yet:
  - Non-linear dose-response association between years of shift work and risk of dementia (Gao et al, 2023. Public Health)
  - Sleep disturbances in general are prospectively associated with increased all-cause and vascular dementia (Shi et al, 2018. Sleep Med Rev)

(Livingston et al, 2024. Lancet)

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A better way to conceptualise healthy sleep

PERSPECTIVE

http://dx.doi.org/10.5665/sleep.3298

Sleep Health: Can We Define It? Does It Matter?

Daniel J. Buysse, MD

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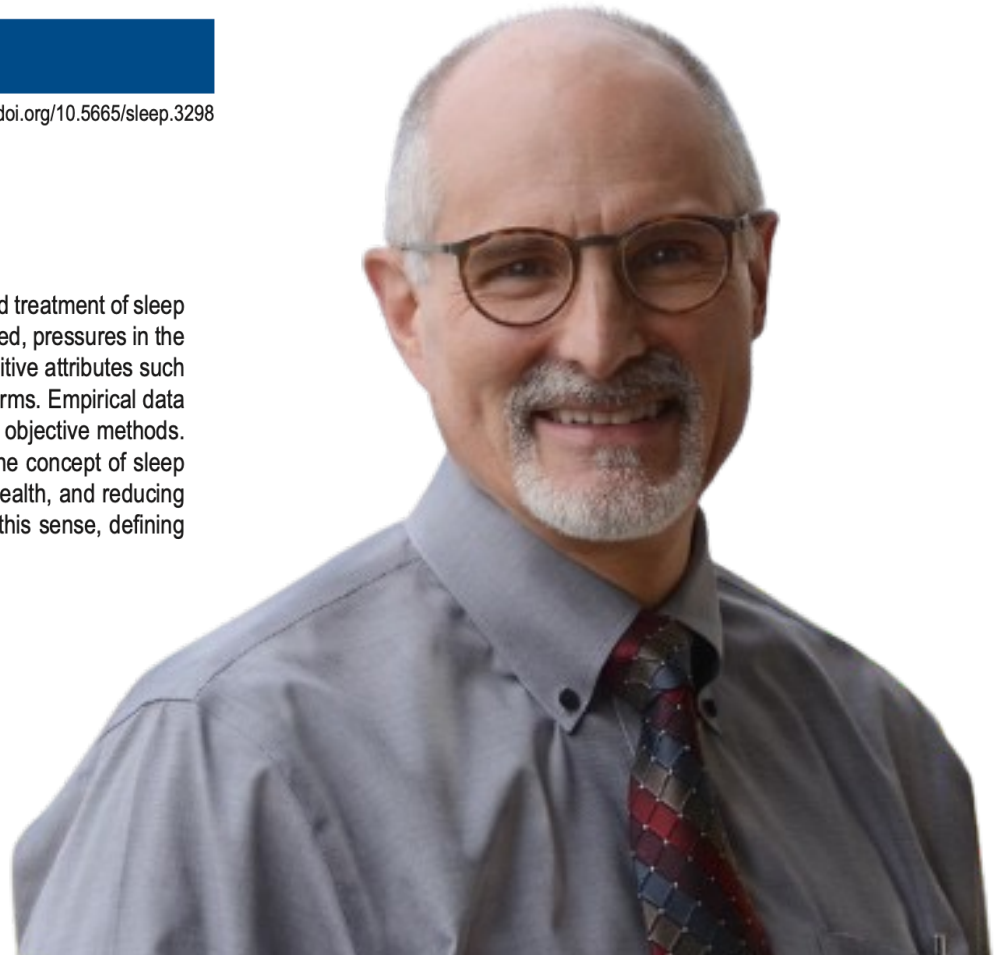
Good sleep is essential to good health. Yet for most of its history, sleep medicine has focused on the definition, identification, and treatment of sleep problems. *Sleep health* is a term that is infrequently used and even less frequently defined. It is time for us to change this. Indeed, pressures in the research, clinical, and regulatory environments require that we do so. The health of populations is increasingly defined by positive attributes such as wellness, performance, and adaptation, and not merely by the absence of disease. Sleep health can be defined in such terms. Empirical data demonstrate several dimensions of sleep that are related to health outcomes, and that can be measured with self-report and objective methods. One suggested definition of sleep health and a description of self-report items for measuring it are provided as examples. The concept of sleep health synergizes with other health care agendas, such as empowering individuals and communities, improving population health, and reducing health care costs. Promoting sleep health also offers the field of sleep medicine new research and clinical opportunities. In this sense, defining sleep health is vital not only to the health of populations and individuals, but also to the health of sleep medicine itself.

Keywords: Sleep, health measurement, outcomes, public policy

Citation: Buysse DJ. Sleep health: can we define it? Does it matter? *SLEEP* 2014;37(1):9-17.



(Buysse, 2014. Sleep)

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Daniel Buysse's conception of sleep health: R U SATED?

Reg**U**larity

Satisfaction

Alertness

Timing

Efficiency

Duration

Variables are independently associated with risk of all-cause mortality and many chronic diseases

(Buysse, 2014. Sleep)

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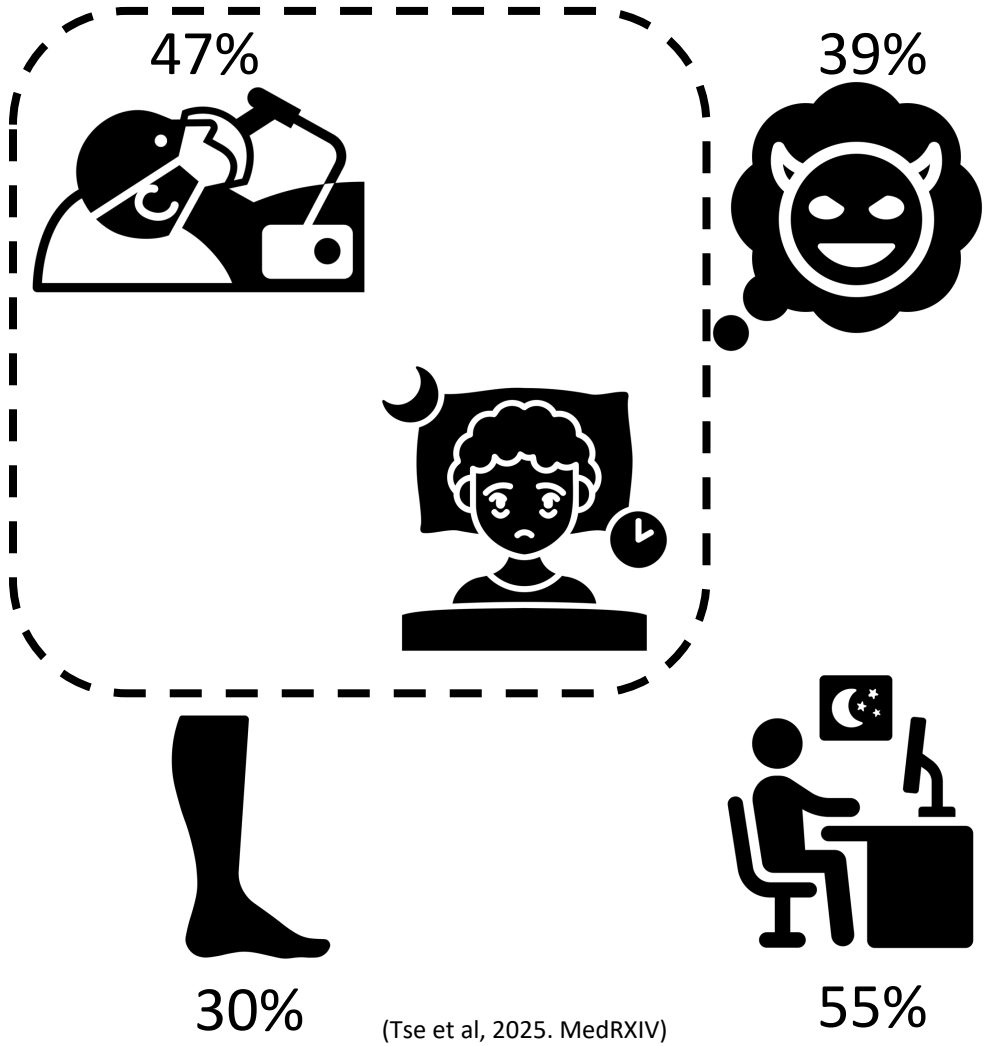
Multidimensional sleep health associates with dementia

People with the worst sleep health had increased:

- All-cause dementia (HR 1.76, 95% CI 1.52 to 2.05)
- Vascular dementia (HR 2.13, 95% CI 1.61 to 2.83)
- Alzheimer's disease risk (HR 1.55, 95% CI 1.22 to 1.97)



(Huang et al, 2025. BMC Med)

(Tse et al, 2025. MedRXIV)

(Sweetman et al, 2019. Brain Sci)

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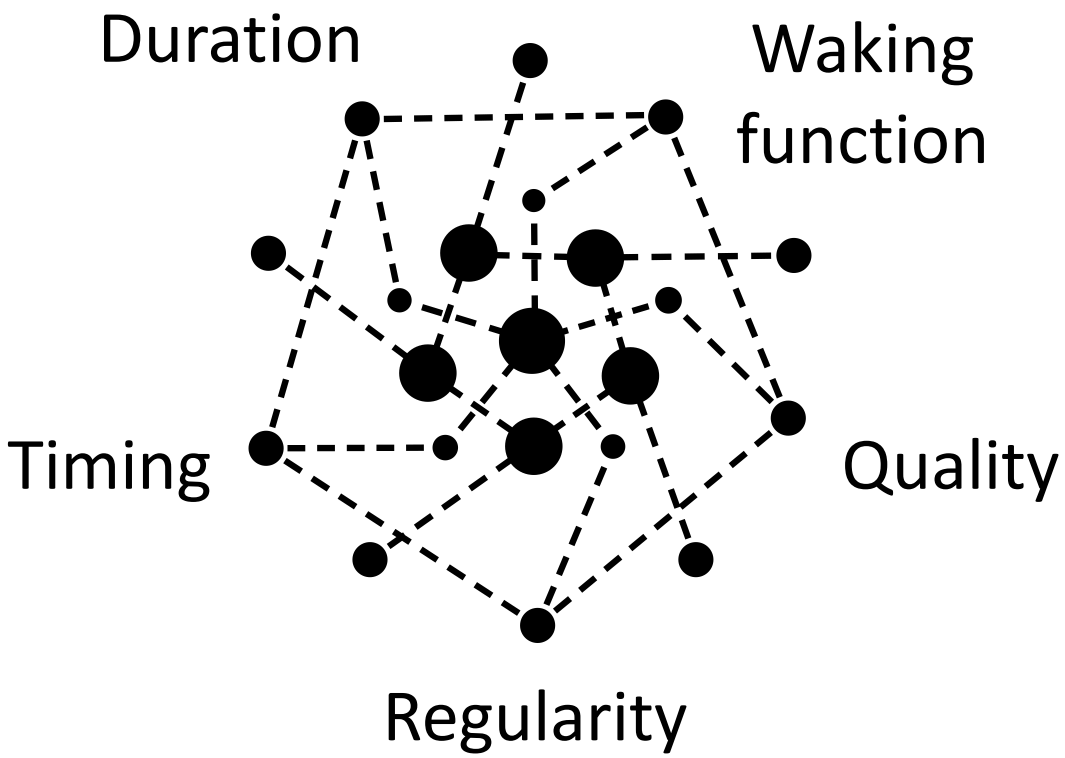
Another reason for multidimensional methods: dimensions of sleep health interact



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Poor sleep directly drives dementia: experimental sleep disruption

?

PNAS

Check for updates

β-Amyloid accumulation in the human brain after one night of sleep deprivation

Ehsan Shokri-Kojori[a,1], Gene-Jack Wang[a,1], Corinde E. Wiers[a], Sukru B. Demiral[a], Min Guo[a], Sung Won Kim[a], Elsa Lindgren[a], Veronica Ramirez[a], Amna Zehra[a], Clara Freeman[a], Gregg Miller[a], Peter Manza[a], Tansha Srivastava[a], Susan De Santi[b], Dardo Tomasi[a], Helene Benveniste[c], and Nora D. Volkow[a,1]

[a]Laboratory of Neuroimaging, National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health, Bethesda, MD 20892; [b]Piramal Pharma Inc., Boston, MA 02108; and [c]Department of Anesthesiology, Yale School of Medicine, New Haven, CT 06510

Edited by Michael E. Phelps, University of California, Los Angeles, CA, and approved March 13, 2018 (received for review December 14, 2017)

(Volkow et al, 2018. Proc Natl Acad Sci U S A)

(He et al, 2025. Commun Med)

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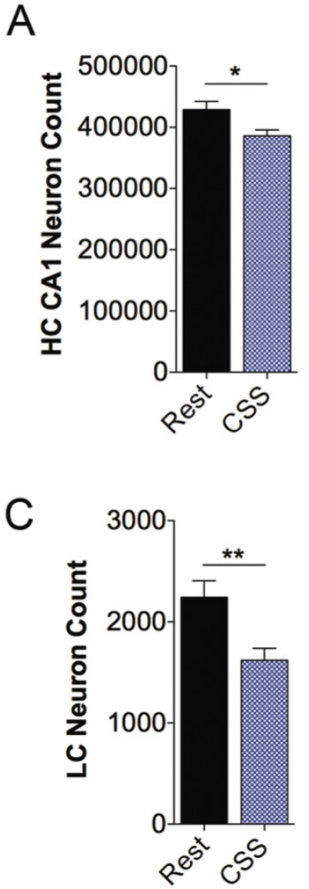
Poor sleep directly drives dementia: experimental sleep disruption

- Starting at 2 months, male and female C57 BL/6J mice underwent 3 consecutive days per week of enforced wakefulness in first 8 h of sleep period for 3 months over a 4-month period
- Their brains were then assessed at age 18 months
- Sleep loss repercussions mirrored some of dementia: memory deficits, hippocampal inflammation, and neuronal loss



(Owen et al, 2021. Sleep)

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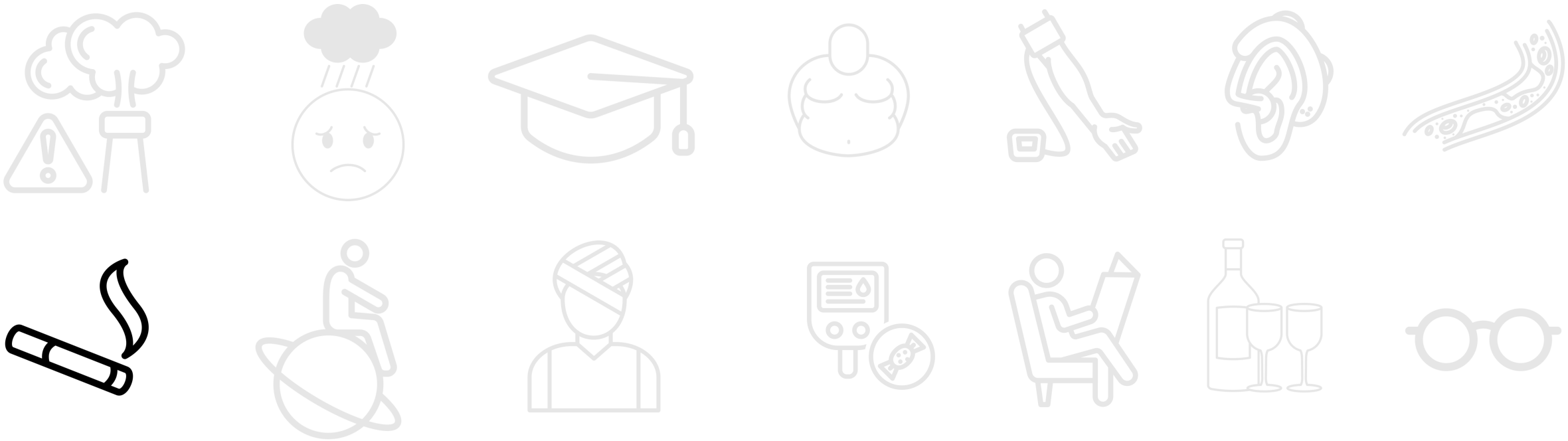
Poor sleep increases dementia risk by exacerbating other risk factors



(Hamidovic et al, 2009. Pharmacol Biochem Behav)

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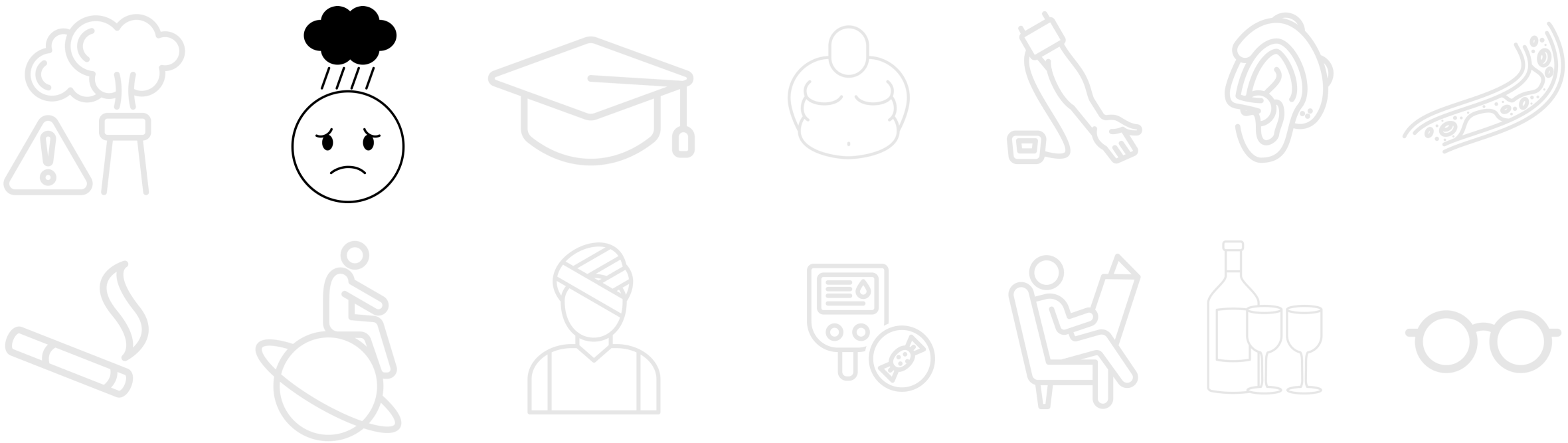

(Jones et al, 2024. Sleep)

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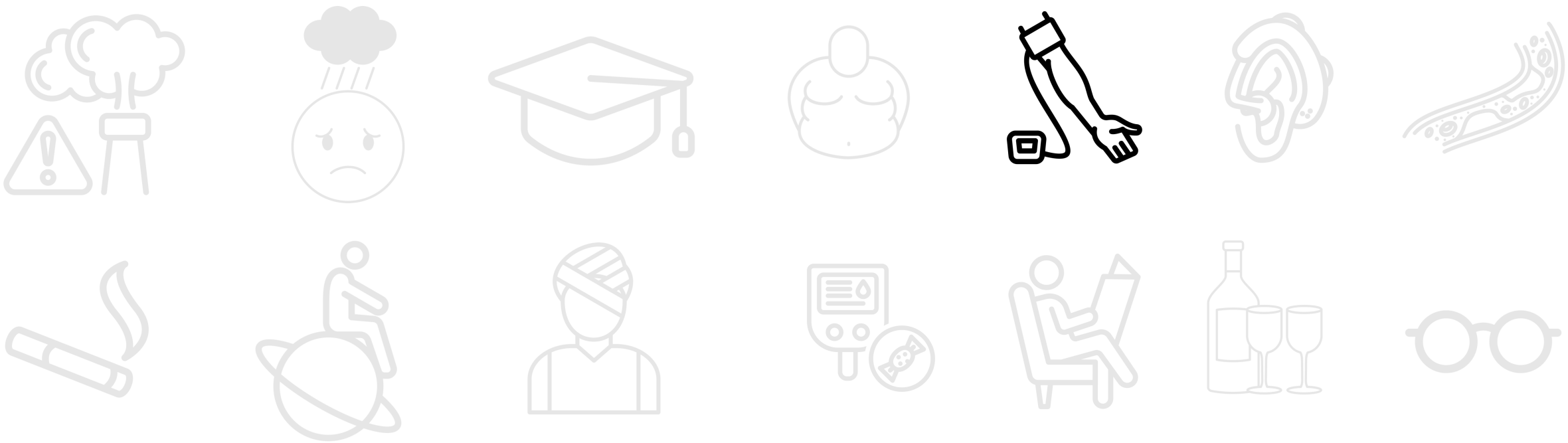

(Yildiz et al, 2022. Blood Press Monit)

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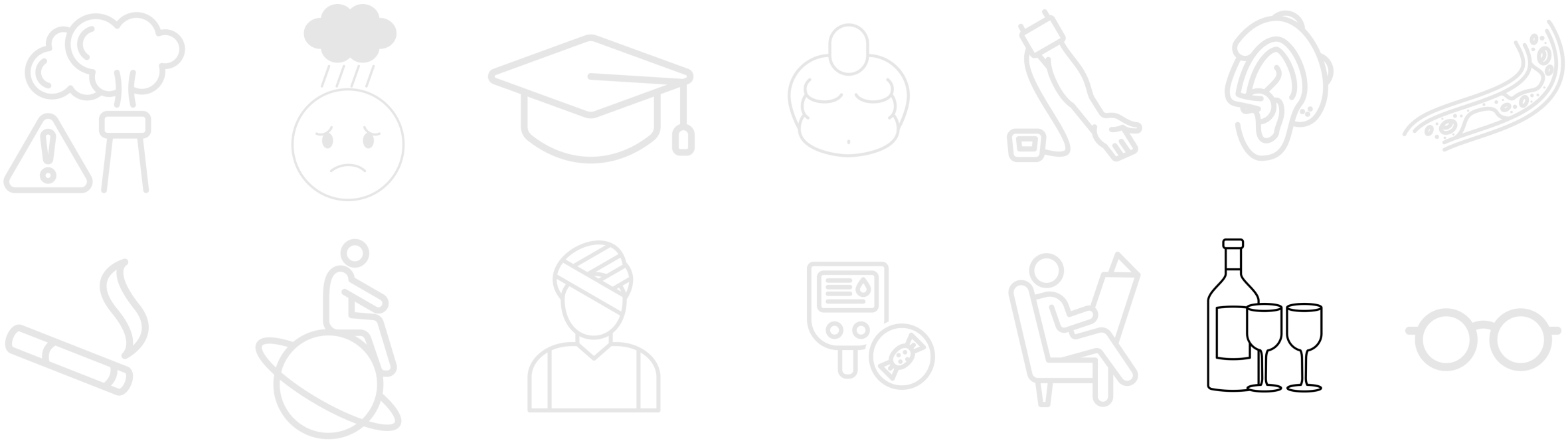
Poor sleep may mediate some of the repercussions of other risk factors



(Gardiner et al, 2025. Sleep Med Rev)
(Simou et al, 2018. Sleep Med)
(Lee et al, 2023. Sleep Med Rev)

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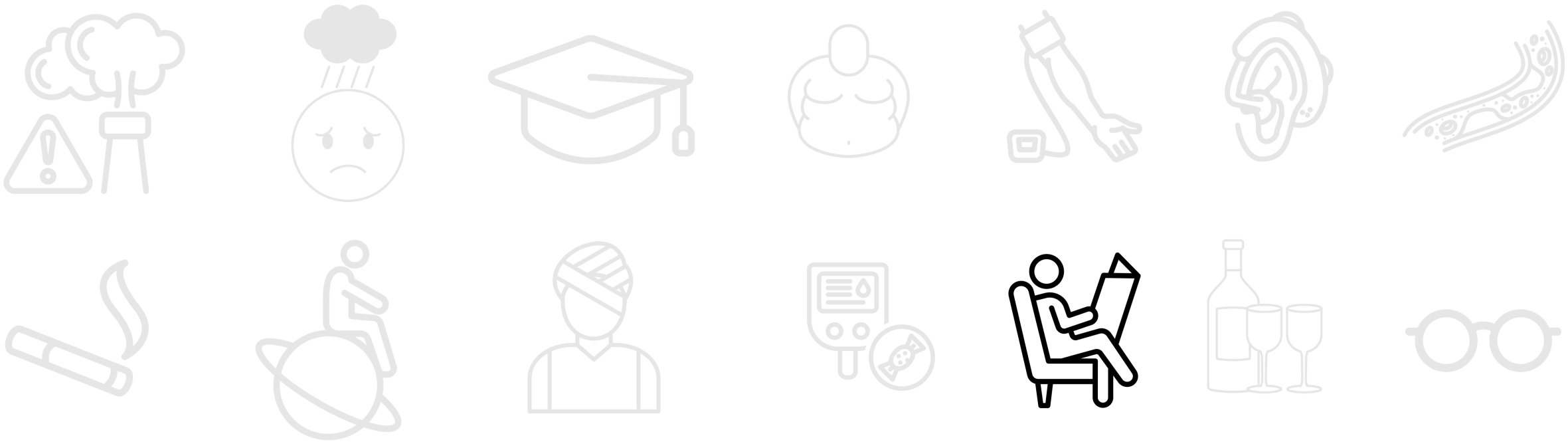
Poor sleep may mediate some of the repercussions of other risk factors



(Wang et al, 2025. Sleep Med)
(Lin et al, 2024. J Clin Sleep Med)

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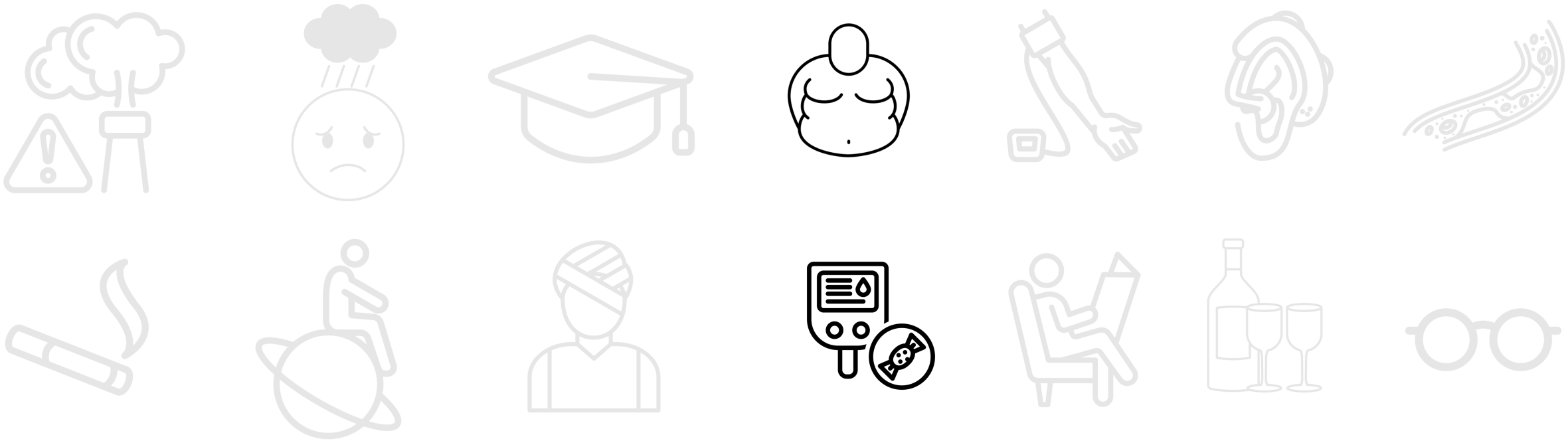
Poor sleep negatively affects behaviours that contribute to dementia risk factors



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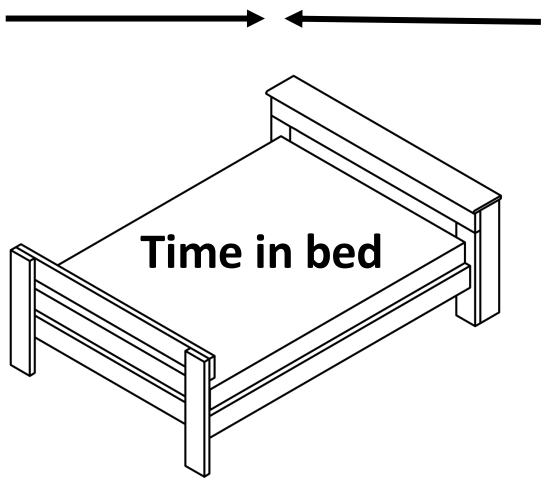

Meta-analysis of sleep restriction:

- Increased energy intake by 253 Calories per day
- Led to weight gain (0.34 kg)
- Reduced insulin sensitivity

(Zhu et al, 2019. Sleep Med Rev)

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What should we do about all of this?

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- Encourage the Lancet Standing Commission to re-evaluate sleep in a more considered way
- As usual, we need more research:
  - Reconsider how population attributable fractions are modeled
  - Objective, comprehensive sleep measures across the lifespan
  - Does improving sleep health reduce dementia risk?

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A modular approach to improve multidimensional sleep health

Core modules

- Usual sleep hygiene stuff
- Match time in bed to actual sleep capacity
- Etc…

Optional modules

- Apply principles of stimulus control
- Address sleep-related breathing issues
- Etc…

Harvey et al, 2017. Treating Sleep Problems: A Transdiagnostic Approach.

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Thanks for your time!

- Have something you'd like help with? greg@gregpotterphd.com
- Anything else: @gregpotterphd on "social" media
- Podcast: The Method (Thriva)
- Translational research: Voloridge Health
- Dietary supplements: Coastline Longevity
- YouTube: @gregpotterphd

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