

interview

Interview with Helen Burgess, PhD

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Dr. Burgess obtained her PhD at Melbourne University in 1998 and currently works as a full professor at Rush University Medical Center, Chicago, where she is director of the Biological Rhythms Research Laboratory. Her research examines basic sleep and circadian rhythm mechanisms and also sleep and circadian rhythms in the context of various conditions such as diabetes, fibromyalgia, irritable bowel syndrome, jet lag, migraine, shift work, and post-traumatic stress disorder. Dr. Burgess' research also examines how light and melatonin can be used to improve sleep and circadian adaptation and she has developed a method to facilitate accurate measurement of circadian timing in the home environment with appropriate measures of compliance.



1. Why is sleep important in terms of health and wellbeing?

Sleep is a pillar of health, along with exercise and diet (Luyster, Stollo, Zee, & Walsh, 2012). Poor sleep is associated with an increased risk for cardiovascular disease, diabetes, obesity, cancer, depression, chronic pain, cognitive impairments, accidents and ultimately death (Watson, et al., 2015). Sleep is clearly a biological need and a critical determinant of health and wellbeing.

2. To what extent do you think sleep is similar or different to other health behaviors such as eating, exercising, smoking?

Poor sleep, whether from voluntary sleep restriction, sleep disorders or shift work, often occurs hand-in-hand with other health problems, and plays an important role in shaping health behaviors. As with diet, exercise and smoking, humans have some voluntary control over their sleep times, especially their bedtimes. However, increasingly we go to bed later and later to

maximize evening leisure time (most want some TV each night, Basner & Dinges, 2009). In an increasing trend, at least a third of the U.S. population report regularly cutting their sleep short (<7 h/night, Luyster et al., 2012). This is akin to people not eating as healthily as they should, not exercising as much as they should, and smoking when they know they should not. So going to bed each night at a time that permits enough sleep appears to be a modifiable health behavior.

3. Do you think this topic gets sufficient attention from health psychologist?

Sleep research has expanded dramatically in the past decade or so, and so I suspect sleep as a general concept is on most health psychologists' radar. What may not be recognized is that sleep duration (how much) is only one dimension of sleep. Sleep quality (subjective experience) and sleep efficiency (sleep fragmentation) are separate, important aspects of sleep. Also, sleep timing and variability in sleep timing are increasingly recognized as predictors of worse health (e.g.

depression, obesity, inflammation, Levandovski et al., 2011; Parsons et al., 2015; Roenneberg, Allebrandt, Merrow, & Vetter, 2012) and poorer health behaviors (e.g. caffeine, alcohol, nicotine, diet, Kanerva et al. 2012; Wittmann, Paulus, & Roenneberg, 2010). This leads me to mention the circadian system, which partially controls sleep, but also a host of other biological factors. Indeed, the timing of health behaviors is an emerging area of interest, as perhaps currently most evident in the focus on meal timing (eating later in the day is often associated with more weight gain, Reid, Baron, & Zee, 2014).

4. What (more) could health psychologists add to the study of sleeping behavior?

Any work that enables people to obtain more sleep would be of great benefit. How do we get people to take sleep more seriously, to get more sleep, at regular times, with cost effective approaches? Adapting some of the theories and approaches that have worked well in improving other health behaviors would really benefit the field. We need to have better awareness of “sleep health” (Buysse, 2014).

5. What are important roads for future research that health psychologists could take up?

Recently a consensus report recommending at least 7 hours of sleep per night was published, which helps set an appropriate target for interventions (Watson et al., 2015). Also consider time-of-day effects on health and health behaviors – examine your data for these. More broadly, perhaps focus in on what is happening in the home, as the laboratory is increasingly a poor replica of the home environment (e.g. sound, light, activity patterns, family interactions, bed partners). Currently our research group is focused on how sleep and circadian timing can be optimized in the home, to reduce symptom burden

and improve outcomes in a variety of clinical diseases.

6. What specific challenges do you think health psychologists studying sleep might come across?

Assessment of sleep can be time consuming and expensive. Polysomnography yields measures of sleep architecture, but even the set up for in-home polysomnography can disturb people’s sleep. Wrist actiwatches permit the objective assessment of sleep patterns across days, weeks and months in the home environment, but currently are around \$900 per device. The best place to start may be with some self-report questionnaires (see below).

7. What recommendations do you have for health psychologists who would like to study sleeping behavior?

Start with some validated questionnaires as a first step towards investigating the role of sleep in your research. The Pittsburgh Sleep Quality Index (Buysse, Reynolds, Monk, Berman, & Kupfer, 1989). will assess sleep quality, with scores >5 indicating some sleep quality issues. Note that sleep quality is distinct from insomnia, which can be assessed with the Insomnia Severity Index (Bastien, Vallieres, & Morin, 2001). If you are interested in sleep timing and variability, you can use the Munich ChronoType Questionnaire (Roenneberg, Wirz-Justice, & Merrow, 2003). which will help you estimate chronotype (a proxy marker of the internal circadian clock, Kantermann, Sung, & Burgess, 2015) and the variability in sleep across each week.

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