

ABSTRACT

The prevalence of burnout amongst primary care physicians (PCPs) in Singapore is likely to be high. Burnout has a negative impact on sleep quality, and poor sleep quality in turn feeds into burnout resulting in a vicious perpetuating cycle. Evidence-based behavioural strategies can be useful to help improve sleep quality, which in turn contributes to the amelioration of burnout. This article details some of the evidence-based behavioural strategies that PCPs can use to improve their own sleep quality if used consistently.

Keywords:

Behavioural Strategies, Burnout, Primary Care Physician, Sleep Difficulties, Self-Care

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INTRODUCTION

Burnout is arguably a prevalent problem amongst primary care physicians (PCPs) in Singapore for various reasons that will be explored in later sections. Burnout can have a detrimental effect on sleep, and poor sleep in turn aggravates burnout amongst PCPs. Ultimately, these two problems adversely affect the PCPs' well-being and ability to perform their job effectively. This article highlights behavioural methods that PCPs can adopt in their own lives to ameliorate sleep difficulties and contend against burnout.

BURNOUT, SLEEP AND THE PRIMARY CARE PHYSICIAN

Good sleep is essential for the survival and well-being of a person. It is essential for the restoration of the body's energy and in helping to consolidate memory. Sleep may also play an important role in helping to resolve internal emotional turmoil.¹ Unfortunately, a recent newspaper article reporting about a world-wide study indicated that Singaporeans are the third most sleep-deprived compared to citizens in other countries surveyed.² Additionally, the prevalence rate of chronic sleep disorders in Singapore in the 1990s was reported to be 15.3 percent for people between the ages of 15 and 55.³ Similar to most societies, chronic sleep problems constitute significant health problems in Singapore.⁴

Besides sleep, another significant problem experienced by

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working Singaporeans is burnout.⁵ Burnout is especially high amongst PCPs in Singapore and it has been suggested that burnout amongst PCPs is more the normative state than the exception.⁶ Factors that may contribute to burnout in PCPs in Singapore include working in systems that do not allow physicians to practice optimally, having to manage the complex healthcare system, social isolation, and lack of support in solo practice. Ultimately, the erosion of the physician's own sense of efficacy, autonomy and mastery that result from these situations contribute to burnout.⁶

Poor sleep and burnout are symbiotic and mutually perpetuating. This in turn compromises the well-being of those who suffer from these afflictions. Insufficient sleep contributes to clinically-significant levels of burnout⁷ and increased sleepiness during the day predicts greater emotional exhaustion and cynicism.⁸ Emotional exhaustion in turn predicts increased sleepiness.⁸ Given the likely high prevalence of sleep problems and burnout in Singapore among PCPs, this article highlights some behavioural methods that can be applied to improve sleep, which in turn can buffer or help improve burnout for PCPs.

Prior to taking steps to address sleep difficulties, it is essential for PCPs to recognise the symptoms of insomnia in themselves.⁹ These symptoms (or signs) can include the combinations of the following that persist for some time:

- Difficulties initiating sleep;
- Difficulties staying asleep; and
- Adequate sleep duration that does not feel restorative.

Although a formal diagnosis of insomnia would require the symptoms to be present for at least 4 weeks and for these symptoms to significantly impact daytime functioning, fulfilling the diagnostic criteria is not a prerequisite to starting evidence-based sleep interventions because these interventions can also have a prophylactic effect.

FACTORS AFFECTING INSOMNIA

It is also important to differentiate between the factors that contribute to poor sleep because different behavioural methods are more suited to addressing specific factors. Factors that can affect sleep include environmental, lifestyle, psychological, physical and routine ones.^{10,11,12,13,14,15} Table 1 below provides a summary of these factors. Behavioural methods can be used to address most of these factors, sometimes in conjunction with medical intervention.

Overall, a lack of a consistent sleep-wake routine will result in disruption to one's circadian rhythm. Additionally, over-compensating for poor sleep by sleeping longer erodes the

Table 1: Factors Contributing to Poor Sleep

Environmental	Lifestyle	Psychological	Physical	Routine
<ul style="list-style-type: none"> ▪ Too much clutter ▪ Temperature too high or low ▪ Too much noise 	<ul style="list-style-type: none"> ▪ Too much caffeine or caffeine intake <6 hrs before bedtime ▪ Overly long naps (>30 mins) 	<ul style="list-style-type: none"> ▪ Putting in too much effort to sleep ▪ Strong emotions ▪ Mental over-arousal ▪ Clock watching when not sleeping well ▪ Continuing to stay in bed when unable to sleep 	<ul style="list-style-type: none"> ▪ (Chronic) pain ▪ Obstructive sleep apnoea ▪ Physical over-arousal 	<ul style="list-style-type: none"> ▪ Inconsistent sleep-wake timings across the days ▪ Lack of relaxing pre-sleep routine ▪ Sleeping overly long (sometimes as an attempt to make up for lost sleep)

sleep drive required for deeper sleep. Other than these, mental and emotional over-arousal also contributes to difficulties initiating sleep.

BEHAVIOURAL STRATEGIES FOR INSOMNIA

Evidence-based behavioural interventions that address some of the above-mentioned factors and help improve sleep include the following:

- Relaxation¹³ and mindfulness¹⁶ which reduce physical and emotional over-arousal;
- Improving sleep hygiene and health habits;¹⁴
- Stimulus control to re-condition the body to sleep when exposed to the sleep environment;¹⁰ and
- Sleep restriction to reset the body’s sleep-wake cycle and improve quality of sleep.¹⁵

Different behavioural methods address different factors that affect sleep. Table 2 provides a summary and matches strategies to factors.

In the following sections, different behavioural strategies are explained in more detail.

Relaxation and Mindfulness

Mindfulness is a mental exercise to quiet the mind and to help people accept their comfortable and uncomfortable internal experiences such as thoughts and emotions. It requires practitioners to accept their experiences without attempting to change them, avoid them or suppress them as these actions often increase the intensity of these experiences.¹⁶ Mindfulness is covered in detail in a separate article in this volume.

Relaxation strategies involve a series of mental or physical activities that can reduce physical arousal when done repeatedly.¹³ Some of these include variants of breathing exercises (e.g., diaphragmatic breathing), physical exercises (e.g., yoga), mental exercises (e.g., guided imagery) and active problem-solving approaches.¹⁷ People who are currently experiencing strong stress reactions are often advised to use relaxation strategies several times during the day to help cope better with their emotions and help to de-arouse the body. Even for people who are not experiencing significant life stressors, it is useful to set up a relaxing pre-sleep routine to increase para-sympathetic nervous system activation leading up to sleep. An example of a simple relaxation strategy includes abdominal or diaphragmatic breathing which is illustrated in Figure 1.

Table 2: Matching Behavioural Strategies to Aetiology

Factors	Behavioural Strategies	
Environmental Factors		
<ul style="list-style-type: none"> ▪ Too much clutter ▪ Too cold / too hot ▪ Too noisy 	Sleep hygiene	
Lifestyle Factors		
<ul style="list-style-type: none"> ▪ Caffeine overload / caffeine intake <6 hours before bedtime ▪ Overly long naps (> ½ hour) 		Sleep hygiene

Psychological Factors	
▪ Putting in too much effort to sleep	Mindfulness
▪ Strong emotions	
▪ Thinking a lot / worrying / ruminating	
▪ Clock watching when unable to sleep	
▪ Continue staying in bed if cannot sleep	Stimulus control
Physical Factors	
▪ (Chronic) pain	Medical consultation
▪ Obstructive sleep apnoea	
▪ Physical over-arousal	Relaxation strategies
Routine Factors	
▪ Inconsistent sleep-wake times across the days	Sleep hygiene
▪ Lack of pre-sleep wind-down routine	Relaxation strategies
▪ Sleeping overly long to make up for lost sleep	Sleep restriction

Figure 1: Diaphragmatic Breathing

- Sit down or lie down comfortably.
- Place both hands on your stomach (lower abdomen).
- As you inhale, allow your stomach to comfortably rise away from the spine.
This allows the diaphragm to come down fully and your lungs to expand fully.
- As you exhale, allow your stomach to fall towards your spine, gently pushing the air out of your lungs.
- Inhale and exhale in this manner slowly, filling your lungs fully without straining.
- Do this for 10 to 15 minutes. Use your hands as a feedback mechanism to help sense the movement in your abdomen.

Improving Sleep Hygiene

Sleep hygiene often involves the most commonsense strategies one can take to improve sleep.¹⁴ These include evaluating and modifying your sleep environment to make it maximally conducive for sleeping, avoiding naps to preserve limited sleep drive, reducing caffeine intake, and setting up a fixed sleep and wake time for all days of the week. Although sleep hygiene strategies appear straightforward, it is still necessary to plan how to adapt and introduce these strategies into one’s existing lifestyle and to coincide with one’s personal preferences. For instance, although sound occlusion can be achieved using ear plugs, people who find ear plugs uncomfortable may need to find alternative means to reduce noise, such as using tighter curtains or fixing curtains against doors.

Stimulus Control

Stimulus control management is based on the idea that

physical and mental associations form when we pair things together repeatedly.¹⁰ Most people with sleep difficulties, especially those who have difficulties initiating sleep, would spend more time in bed in an attempt to force themselves to fall asleep. When this fails, they experience increased frustration, which leads to mental over-arousal. Sleep initiation then becomes more challenging. With continued pairings of the sleep environment with frustration and wakefulness, the sleep environment would quickly trigger a sense of frustration and wakefulness instead of sleepiness and good sleep.¹⁰

Proper stimulus control for good sleep then involves going to bed only when there is sufficient sleepiness (i.e., the person feels like falling off to sleep or finds it hard to keep awake). If the person feels awake upon lying on the bed, he is advised to get away from the bed, engage in relaxation until drowsy before returning to bed. It is this repeated pairing of drowsiness with the sleep environment that ultimately conditions the sleepiness to be triggered in the body when exposed to the sleep environment.¹⁰ Less intrusive stimulus control interventions

can also be trialed. These can involve changing one's usual position in bed, changing bedrooms, changing beds or changing beddings. The idea is that the association formed between frustration or struggles with sleep and the bed may not have generalised to affect the whole sleep environment or other sleep environments.

Sleep Restriction

Sleep restriction is arguably the most intensive sleep-improvement exercise that one can engage in.¹⁵ It is most effective in helping increase depth of sleep and works on the premise that stretching out the duration of sleep actually results in poor distribution of one's limited sleep drive. People are coached to start by restricting their nightly sleep time to 5 hours for 1 week and to slowly extend that sleep time by 30 minutes each week until they find the most optimal number of hours of sleep needed for their situation.¹⁵ Initially, people undergoing sleep restriction have to contend with increased daytime sleepiness, but are often rewarded with deeper sleep as the exercise progresses across the weeks.

A SIMPLE COMBINATION SLEEP PROGRAMME

Several of the behavioural strategies highlighted in the sections above can be combined into a series of simple steps that PCPs who suffer from poor sleep can adopt. This can include the following instructions:

1. Set a consistent sleep and wake time that varies only by 1 hour if the need for variation arises.
2. Set up your environment to be as conducive to sleep as possible by managing the temperature, noise and brightness levels.
3. Prepare the body to wind down in the afternoon by restricting caffeine to the morning and avoiding naps that are more than 30 minutes long.
4. Set up and practice a relaxing pre-sleep routine which can include consuming light carbohydrates (e.g., bananas), and switching off computers and televisions which are too stimulating.
5. Go to sleep at the set bedtime. If sleep initiation is a problem, get out of bed and do relaxation exercises until sleepy and then go to bed.
6. If the person wakes up in the middle of the night and finds it hard to re-initiate sleep, repeat step 5.

It is important to keep this routine for 2 to 3 weeks for the body to form a new sleep habit.

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LEARNING POINTS

- Sleep difficulties and burnout are prevalent in primary care physicians in Singapore.
- Sleep difficulties and burnout mutually influence each other and perpetuate poor quality of life.
- From a behavioural perspective, sleep disorders are disorders of habit.
- Improving sleep involves adopting new health habits and various interventions that address behavioural and emotional habit formation.