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An industry case study of 'stand-up' and 'sleepover' night shifts in disability support: Residential support worker perspectives

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ABSTRACT

Purpose: Residential support workers (RSW) engage in overnight "sleepover" shifts as well as more traditional "standup" night shifts. While research has investigated the consequences of night and on-call work for sleep in other industries, the sleep of RSW has not been evaluated.
Method: In a single-provider case study, six employees completed the Pittsburgh Sleep Quality Index (PSQI), the Depression Anxiety Stress Scale (DASS), a 2-week sleep diary, and a 30 min interview, and four also completed the Shirom-Melamed Burnout Measure (SMBM).
Results: Participants reported sleep of poor quality, low-mild DASS scores, and evidence of SMBM scores that were elevated relative to norms. Sleep was significantly lower ($p < 0.01$) following "standup" shifts (mean = 4.1, SD = 1.8 h) and during "sleepover" shifts (mean = 5.6, SD = 2.0 h) compared to non-shift nights (mean = 7.3, SD = 2.3 h). Interviews suggested that sleep fluctuates with level of patient care, colleague assistance, stress, and the quality of the sleeping environment (including bed comfort, light, noise and perceived safety).
Conclusions: Findings suggest that this group have sleep that is insufficient and of poor quality and that they may be at risk of burnout. Consideration of ways to optimise sleeping conditions at work (e.g. through noise or stress reduction) would be beneficial. Research in this area has the potential to facilitate improvements in health and safety in this growing industry.

1. Introduction

Increasing demand for 24 h services means that many people work long and irregular hours, often with little sleep (Rajaratnam and Arendt, 2001). Sleep is central to our ability to function. In the short term, sleep loss can result in performance impairment, reduced efficiency and increased likelihood of incidents and accidents (Rajaratnam and Arendt, 2001; Akerstedt, 1990; Åkerstedt, 2003). In the longer term, research suggests that chronic sleep loss and disruption to daily rhythms may be associated with burnout and other health issues (Akerstedt, 1990; Costa, 2010; Härmä and Kecklund, 2010; Knutsson, 2003). In recognition of this, managing workplace fatigue is a critical part of operational safety-management.

There has been a dedicated arm of research investigating night shifts, which has established that they are typically associated with sleep of reduced quantity and quality, and negative flow-on effects for performance and safety (Akerstedt, 1990; Dorrian et al., 2008; Muecke, 2005). More recently, studies, particularly among physicians and nurses, have demonstrated that on-call work, which does not always require provision of medical advice or treatment, is also associated with sleep loss (Dru et al., 2007; Ferguson et al., 2010; Gander et al., 2008).

However, there is another category of overnight employment that has not received as much scientific attention from a sleep perspective. The aged care and disability support industries have a substantial proportion of their workforce engaged in overnight "sleepover" shifts. Typically, these occur in specially designed group housing, with clients with varying clinical profiles, and involve a residential support worker (RSW) who assists with late afternoon/evening duties including dinner. Then, when clients are asleep, workers are expected to sleep too, until their work resumes for another 3–4 h in the morning. The amount of sleep workers achieve under these conditions has not been systematically investigated. This is important because there are many aspects of the role

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that can have critical implications for safety. For example, RSW are responsible for administering medications, recording health and behaviour-related information in paperwork for handover between carers, and driving clients to appointments as well as driving to and from work themselves. In this way, impairment can affect the safety of their clients, themselves and the general public on the roads.

Research suggests that residential care workers on all shift types, including sleepover and more traditional night shifts (colloquially referred to as "standup" shifts), are vulnerable to high levels of stress, exhaustion and burnout (Weinberg et al., 1983; Rose et al., 1998). This research also highlights the variability across residential care facilities in terms of stress levels, which are influenced by a number of factors including demands on staff, level of care required by clients and quality of staff interactions (teamwork) (Rose et al., 1998).

As a broader context to some of these issues, with the new National Disability Insurance Scheme, a government healthcare scheme for people with a disability, which began its rollout in Australia on July 1, 2013 (NDIA, 2014; AVANA, 2013), it is likely that there will be increasing requirements on the disability care workforce. This may involve balancing more flexible delivery of services, and higher wages for employees in an increasingly professionalized workforce, in order to maintain quality care for people with disabilities. At the same time, the sector will be managing an increased client-base with increased client choice. The new administration systems, client management processes, and funding arrangements will not only influence service delivery, but also training needs of the workforce (AIHW, 2015). These changes are occurring in an already-growing sector. In the decade 2004–2014, employment in residential care services in Australia expanded by 20%. At the same time, there is a critical workforce shortage, with a number of factors, including low wages, contributing to difficulties in retention (AIHW, 2015). Given the relationship between sleep, exhaustion, stress and burnout (Dorrian et al., 2008; Rosen et al., 2006), investigating the sleep of this group of workers is both important and timely.

This paper outlines the results of a mixed-methods case study, involving a quantitative data collection phase and an in-depth interview phase. The research investigated the way that residential support workers (RSW), working either stand-up or sleepover night shifts, organise their work hours and work duties, how much sleep they get at work and at home, and how they cope with this night work.

2. Method

2.1. Questionnaires and sleep diaries

Ethics approval for the study was obtained from the University of South Australia Human Research Ethics Committee (HREC). The study was advertised via emails from the researchers to employees of the participating organisation, and via flyers that were placed on noticeboards. There were no exclusion criteria. The only inclusion criterion was current employment as a residential support worker at the participating organisation. At the time of recruitment, employees (n = 6) completed a package of questionnaires, which included demographic information, the Pittsburgh Sleep Quality Index (PSQI) (Buysse et al., 1989), the Depression Anxiety and Stress Scale (DASS) (Henry and Crawford, 2005) and the Shirom-Melamed Burnout Measure (SMBM) (Melamed et al., 1999).

The PSQI contains eleven questions relating to usual sleep habits during the past month. Questions relate to sleep timing, reasons for and frequency of disturbed sleep, sleep quality, use of sleep aids, problems staying awake, difficulty maintaining enthusiasm, and partner reports of sleep disordered breathing or restlessness during sleep. Using standard scoring criteria, total sleep disturbance was calculated (range = 0–21) where higher scores indicate greater levels of sleep disturbance (Buysse et al., 1989). The PSQI provides a comprehensive indication of number and severity of sleep disturbances, has good internal consistency, reliability and construct validity, and is the most widely used measure of its type (Carpenter and Andrykowski, 1998).

The 21-item DASS requires participants to respond to a series of statements to indicate the degree to which they applied to them in the past week using 4-point response scales (0 = "did not apply to me at all"; 1 = "applied to me to some degree, or some of the time"; 2 = "applied to me a considerable degree, or a good part of the time"; 3 = "applied to me very much, or most of the time"). Questions relate to feelings of depression (e.g. I felt that I had lost interest in just about everything"), anxiety (e.g. "I found it difficult to relax"), and stress (e.g. "I found myself getting impatient when I was delayed in any way"). Using standard scoring criteria, scores were calculated for depression, anxiety and stress subscales (range = 0–42) where higher scores indicate greater levels (Henry and Crawford, 2005). The DASS is an extremely widely used measure with high internal consistency, construct validity and stable factor structure, and has been specifically validated for use in employees in occupational health care settings (Nieuwenhuijsen et al., 2003).

The SMBM is a 12-item questionnaire that investigates three dimensions of burnout (4-items per dimension): physical fatigue (e.g. "I feel physically exhausted"), emotional exhaustion (e.g. "I feel like my emotional batteries are dead"), and cognitive weariness (e.g. "I am too tired to think clearly"). Participants respond on 7-point likert scales to indicate how often they experience these feelings during working hours (1 = almost never, 2 = very infrequently, 3 = quite infrequently; 4 = sometimes; 5 = quite frequently; 6 = very frequently; 7 = almost always). Using standard scoring criteria, scores were calculated for emotional exhaustion, physical fatigue and cognitive weariness subscales (range = 1–7) where higher scores indicate greater levels (Melamed et al., 1999). The SMBM represents an alternative to the highly used Maslach Burnout Inventory (MBI), based on conservation of resources theory. It focuses on emotional exhaustion, physical fatigue and cognitive weariness. It has been demonstrated to have good psychometric properties, and a superior fit for factor structure compared to the MBI (Melamed et al., 1999; Shirom and Melamed, 2006).

Participants also completed a sleep diary for two weeks, where they recorded details of sleep timing and quality at home and at work. Sleep diaries of at least 7-days have been commonly used in sleep research for assessing sleep/wake behaviour (Dorrian et al., 2008, 2011), and have been shown to have good overall correspondence with more objective measurement techniques, with a tendency to overestimate sleep obtained (Sadeh, 2011).

2.2. Interviews

Employees also participated in a single phone interview (lasting approximately 30 min), where they were asked to describe a typical sleep-over or stand-up shift. They were then asked to describe a shift where their sleep was particularly good, then one where it was particularly bad. All interviews were conducted by the same researcher using a Critical Incident Technique (CIT) (Flanagan, 1954), which is a classic approach that has been used heavily in aviation research, and more recently health care research. It is particularly suited for studies that are focused on recall of specific events that may be classified in terms of their importance or impact and how much these examples of the event deviate from what would be considered typical. This was appropriate for the current