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Published PDF deposited in Coventry University's Repository

Original citation:

Pienaar, PR, Bosma, A, Rae, DE, Roden, L, van Mechelen, W, Lambert, EV & Boot, CRL 2023, 'Barriers and facilitators to participation, and key components of sleep health programmes: perspectives for the corporate work environment', Journal of Occupational and Environmental Medicine, vol. (In-Press), pp. (In-Press).

<https://doi.org/10.1097/JOM.0000000000002991>

DOI 10.1097/JOM.0000000000002991

ISSN 0148-7191

ESSN 0096-5170

Publisher: SAE International

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Barriers and facilitators to participation, and key components of sleep health programmes: perspectives for the corporate work environment

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Funding Sources: None declared.

Conflict of Interest: Cécile Boot, Dale Rae and Laura Roden have no competing interests to declare. Paula Pienaar declared that she was employed by Health Partners during the study; Astrid Bosma declared that she was employed by CAOP during the study; Willem van Mechelen declared that he was shareholder of company Evalua during the study. All three organisations Health Partners, CAOP and Evalua were not involved in this study and were not involved in this manuscript.

Acknowledgments, including all sources of support: The authors sincerely thank the participants who participated in this study amid the challenges of the COVID-19 pandemic.

Specific author contributions: : C.B and PRP contributed to the concept and design of the study; PRP facilitated the interview sessions. PRP and AB independently coded the transcripts. PRP and AB compared and discussed initial codes until consensus was reached, to ensure consistency of the analytical process. All authors reviewed, read and agreed to the final version of the manuscript.

Ethical Considerations & Disclosure(s): The study was approved by the University of Cape Town's Human Research Ethics Committee and all participants provided written informed consent upon agreeing to take part in this study.

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Abstract

Objective: To explore the barriers and facilitators of participation and key components for sleep health programmes designed for corporate work environments.

Methods: Semi-structured interviews with corporate executives and occupational medicine specialists in the decision-making and management of workplace health promotion programmes (WHPP) within their companies were held before and during COVID-19. Interviews were transcribed verbatim and analysed using thematic content analysis to identify themes.

Results: Barrier and facilitator themes emerging from the data include sleep health awareness; work culture; work-family balance and confidentiality. Key components for sleep health programmes included: identifying the need for a programme; incorporating sleep health risk screening to WHPP and promoting sleep health by raising awareness thereof.

Conclusion: The identified barriers and facilitators to employee participation and key components of an ideal sleep health programme provide guidance for further WHPP.

Keywords: health promotion programmes, sleep health, workplace, employee perspectives, qualitative research

SMART Learning Outcomes

After reading our study, the reader will be able to:

1. Distinguish how employees in corporate executive positions would benefit from optimising their sleep health and value that their influence has the potential to promote the inclusion of sleep into workplace health promotion programmes within their organisation.
2. Describe and recognise barrier and facilitator themes such as sleep health awareness, work culture, work-family balance and confidentiality for consideration when aiming to encourage participation in sleep health programmes within a corporate work environment.
3. Identify potential key components that could facilitate the development and implementation of a sleep health programme designed for the corporate work environment.

Introduction

While the negative consequences of poor sleep health (insufficient sleep duration and poor sleep quality) on physical and mental health have been well described ^{1,2}, more recently the effects on workplace performance have come to light. In addition to the medical ^{3,4} and psychological consequences ⁵ of chronic poor sleep health, the social and occupational functioning of working adults can also be impacted. Studies from many countries have found that employees often work after a night of poor sleep ⁶⁻⁸. Poor sleep health has thus been shown to be particularly problematic to employees within managerial positions where it has been reported that 40.5% get less than 6 hours of sleep ⁹. This too may lead to a variety of cognitive deficits, including an inability to maintain attention, decreased alertness, delayed reaction time, altered emotional and information processing, and a general inability to think clearly ¹⁰. Moreover, it has been recognised that well-rested employees are less absent from work, perform better when at work, make better decisions, and interact more positively interpersonally ¹¹⁻¹³. From an economics perspective, there is evidence suggesting that healthy employee sleep and corporate success are directly correlated, and consequently, it has been proposed that business leaders seek ways to translate this research into work policies to not only improve employee health, but also to improve their own financial bottom lines ¹⁴. Considering the negative impact of poor sleep on the health and work performance of employees, and that it evidently comes at an economic cost to organisations, it is vital to provide effective support with solutions to help prioritize good sleep habits.

Unfortunately, the positive impacts of good sleep health on work performance are often underappreciated by employees in managerial or leadership roles. Pressure to meet challenging performance objectives drives these employees to extend work hours or to create unrealistic work schedules, often favouring perceived productivity gains of additional work

time over productivity losses due to impaired sleep¹². As such, sleep health is not widely prioritized in organisational policies and practices¹⁵. The role of workplace culture has also been found to impact on employee sleep. There is evidence to show that a workplace culture consisting of high work demands, especially for employees at management level, may indirectly impact sleep via extended work hours and elevated job stress¹⁶. Corporate executives are a particular demographic group engaged in a high-pressure work culture, and with their level of responsibility and demanding work commitments. It is not surprising that they may struggle with time availability, often resorting to extended work hours at the expense of adequate sleep. Many companies have adopted Workplace Health Promotion (WHP) Programmes targeting health-risk behaviours such as poor nutrition, physical inactivity, smoking or alcohol consumption as a means to reduce risk for non-communicable diseases or mental health disorders^{17,18}. Programmes that promote sleep health, however, are still lacking or are limited, despite strong evidence for the relationship between insufficient sleep and adverse physical and mental health outcomes^{19,20}. Additionally, the success of programmes focussing on lifestyle behaviours are often limited by low participation rates and lack of adherence^{21,22}. In response to these challenges, and to enhance the sustainability of behaviour change, previous research on the success of WHP programmes indicated that employees should be involved in the planning and implementation processes²³. As such, the role of corporate executives is vital in contributing to the adoption and successful implementation of WHP programmes within their organisation, as they hold the decision-making power in approving such health strategies throughout their business. Further, as business leaders, their involvement in the organisation's health promotion planning, policies and practises mean that their knowledge and past experience hold value in developing and enhancing a successful sleep health programme.

The importance of leadership to the success of wellness initiatives within organizations is widely acknowledged, but there remains relatively little research on the actual impact that their leadership may have in promoting employee sleep health. It has been demonstrated that employees regard leadership support based on the programmes and policies they provide. Also that if companies invest in wellness initiatives, these initiatives are acknowledged and recognised by employees ^{24,25}. As such, the actual participation of management, such as corporate executives, may demonstrate their commitment to employee health through ensuring that subsequent WHP programmes are acted upon in the workplace. Interviews with managers who play an integrative role of programme implementation, can provide valuable insights into the barriers and facilitators to employee participation in WHP programmes of organisations, along with what they would consider key components to include in such a programme. The outcome of such insights may therefore provide a foundation for developing an ideal framework of sleep health programmes, which ultimately can be adapted beyond the corporate setting into all segments of the business.

While these objectives may yield promising insight on sleep health management from organisational leaders, one cannot ignore the recent impact that the COVID-19 pandemic played for WHP programmes and sleep health in particular. Many studies have shown that sleep patterns and behaviours changed among the general populace worldwide during lockdown²⁶⁻²⁸, but studies considering specifically people in the corporate setting have not been carried out. Earlier studies on the effect of COVID-19 restrictions such as home confinement, showed that these were linked to sleep problems in employees ²⁹. While some studies showed an increase in sleep duration that may have been due to work flexibility and less commuting time ^{30,31}, others reported sleep disruption mainly due to increased stress and anxiety ³². Incorporating sleep health within WHP programmes during the period of COVID-

19-related restrictions therefore brought new challenges compared to pre-COVID-19 times. By exploring insights from the key players in WHP programme planning we may gain a better understanding of perspectives on sleep health within a corporate setting.

This qualitative study aims (i) to explore perceived barriers and facilitators of participation in a sleep health programme for corporate executives and (ii) to gain insight from corporate executives and occupational medicine specialists around key components of an ideal sleep health programme that could be implemented as part of a WHP programme. Owing to the COVID-19 pandemic and associated lockdown that took place during data collection, the study was adapted to include a third aim: to re-interview participants after the first wave of the pandemic to determine whether insights and perspectives around a sleep health programme had changed.

Methods

Study design and setting

This study made use of a qualitative research design based on semi-structured interviews with senior business managers and occupational medicine specialists. This specific setting was chosen since corporate wellness programmes are exclusive to senior business managers who, together with occupational medicine specialists, are typically involved in the decision-making and management of WHP programmes within their companies. Accordingly, the present study utilised an illustrative case study design.

Initial interviews were conducted in-person before the first wave of the COVID-19 pandemic in South Africa (February – June 2020) and follow-up interviews took place remotely between the first, second and third waves of the pandemic (December 2020 – December

2021). The study was approved by the University of Cape Town's Human Research Ethics Committee and all participants provided written informed consent upon agreeing to take part in this study.

Participants and recruitment

Participants were recruited from a larger national executive health database consisting of health risk assessment (HRA) data as previously described³³. To be eligible for this convenience sample, participants had to be full time employees in senior or executive management positions and have participated in their workplace HRA. Moreover, occupational medicine specialists in the database had to be active in the service provision of such workplace HRAs and/or the implementation of WHP programmes. Participants were excluded if they were shift workers. Email invitations describing the aims and background of the study were sent to participants whom had their HRAs in 2018 or 2019. Those willing to participate were contacted via email to arrange a date and time most convenient for their interview. Recruitment was halted at the start of the pandemic, resulting in a total of 7 participants (2 men and 5 women) of which 5 were corporate executives (senior business managers) and 2 were occupational medicine specialists. To allow for longitudinal comparisons, the same participants were invited via email for a follow-up interview in 2020. Given the social distancing restrictions at the time, the consenting participants (n=7) were provided with the option to be interviewed telephonically or using Microsoft teams at a date and time most convenient for them.

Data collection

Where possible, two members of the research team were present during the interviews, which were audio-recorded using a digital sound recording device. The primary researcher (PRP)

facilitated the session by explaining the purpose of the study and by guiding the interview by using pre-determined, open-ended questions designed to elicit conversation around potential barriers to and facilitators of participation in a sleep health programme, perceptions regarding the need for a sleep health programme among corporate employees, and views on key components in an ideal sleep health programme. The questions used for the follow-up interviews were adaptations of the initial interview questions to allow for consideration of the impact of the COVID-19 pandemic on the previous responses, in relation to sleep health and WHP programmes. The complete question schedule used in both interviews is shown in the Supplemental Digital Content (<http://links.lww.com/JOM/B424>). The follow-up interviews were conducted using the Microsoft Teams© application, and in all interviews, the researcher and participant had their laptop camera switched on for a virtual face-to-face session. Both initial and follow-up interviews lasted no longer than 60 minutes and were conducted in English.

Data analysis

Audio files were transcribed verbatim and thematic analysis was used according to Braun and Clarke to analyze the collected data ³⁴. Two researchers then independently coded the transcripts line-by-line in Microsoft Word (PRP coded all transcripts, AB coded 25% of the transcripts). The coding process was guided by interview topics, utilising a deductive approach. PRP and AB compared and discussed initial codes until consensus was reached, to ensure consistency of the analytical process. Next, codes were explored for similarities and discrepancies, ultimately grouping and combining codes into themes. After extensive discussions within the research team, themes were mapped onto a 'pre- 'and 'during' COVID thematic coding tree. Representative quotes from the interviews were added to illustrate the findings.

Results

Themes were identified within the two main topics of this study: (1) barriers to and facilitators of participating in a sleep health programme and (2) key components of an ideal sleep health programme designed to be implemented within the corporate work environment. An overview of the themes that emerged can be found in Table 1.

Barriers to and facilitators of participating in a sleep health programme

1. Lack of sleep health awareness

At the corporate level, the lack of awareness and guidance related to sleep health were considered barriers to participation in a sleep health programme. While the importance of sleep for general health was recognized, participants admitted that organisations did not prioritise the development and implementation of sleep health programmes, as they did not know how and where to begin. Further, it was evident from the interviews that despite the general knowledge around sleep health, appreciation of its significance for work performance and cognitive benefits was lacking. To resolve this, interviewees thought about how to overcome this barrier by indicating that it was vital to convey the link between adequate sleep and how it can optimize work performance, particularly to business leaders, as it would facilitate participation and make the business case for sleep health programmes.

Another barrier raised within the context of sleep health awareness was corporate executives denying having sleep problems or simply ignoring their sleep-related concerns, despite the recognition of experiencing exhaustion during the day at work. Participants felt that ‘lack of sleep’ was standard practice amongst corporate employees and that, although they could fall asleep at any opportunity, indicating their exhaustion, they denied needing any sleep support.

It was further mentioned that participation in a sleep health programme would be low if employees did not recognize or admit they battle with their sleep.

“So it would be really beneficial, and I think what happens and in my experience and talking with people in corporate environments is that they become so accustomed to these sleep habits that it's their new norm. And so, it becomes so much difficult to undo, they don't actually realise that the long-term effect of it is extremely bad for them.” (Pre-COVID-19, SI07A)

2. Demanding workplace culture

The workplace culture of organisations was perceived as a barrier to participation in a sleep health programme. Participants expressed that the work demands set at the managerial level may hamper participation in a sleep health programme. This barrier was relevant before and during the COVID-19 pandemic as it pertained to the stress-provoking and demanding management style adopted within the organisation. Workplace culture was governed by expectations of having to be available after hours and to complete work deadlines at short notice, resulting in high work pressure with challenging working days and a lack of time to prioritise sleep or adopt effective sleep management strategies.

“So, there may be expectations of ability, and reasonable availability, productivity driven you must be able to meet particular targets even if it's a weekend, or a Sunday, or at night.” (Pre-COVID-19, SI01A)

During COVID-19, these work expectations were further exacerbated due to the demanding expectations from clients which were experienced by managers across the corporate environment.

“And then also if you have very senior managers sending emails at all hours of the day, or night it kind of sets the tone for everyone else. So, yes there isn’t a verbal expectation, it’s not expressed that you need to be available all hours of the day, or night, or that’s how you should be working, but it’s kind of indirectly saying to everyone you know, that this is okay ...

“ (During COVID-19,SI05B)

In thinking about ways in which to overcome this barrier, some participants suggested that a change in work policies was needed to allow for more flexibility around work times. Given that they would be more likely to participate if a sleep health programme, or parts thereof, were made available during work hours, work flexibility was considered as a facilitator to participation and would make it easier for employees to prioritise sleep health. Likewise, employees felt that they would participate in a sleep health programme, provided that daily work meetings be reduced allowing for work to be completed during working hours, which in turn would allow more time for sleep support.

3. Work-life balance

According to participants before and during COVID-19, a proper balance between work hours and family time would be a pre-requisite and facilitate participation in a sleep health programme. In contrast, the lack of balance, with work taking over family time, was raised a barrier. This concern for work-life balance was expressed by emphasizing employees’ resistance to spending the limited available time after work hours on participation in a sleep

health programme. Instead, they would rather spend it on family and home responsibilities. This was particularly emphasized in an interview before COVID-19:

“So, it's difficult to get through the importance of it as a concept because you know, it's just "Get on with it and sleep." But it's also about work-life balance, something we don't have, and all that sort of thing.” (Pre-COVID-19, SI06A)

“... if it is more efficient, and they do all go on a program, and their sleep is improved perhaps more time at home, or family time...” (During COVID-19, SI07B)

Before the COVID-19 pandemic, most employees were expected to work from their office and as such, would have to wake up earlier to be at work on time, and leave the office later to avoid traffic and long commute times. Given this, many would restrict their sleep duration during their workdays. In contrast, during the pandemic when employees could work from home, this hindering factor was resolved. Yet, despite having the potential opportunity to lengthen their sleep duration, working from home too was accompanied by challenges. Participants felt that they experienced higher work demands and more stress having to combine work time and family care in a day, resulting in a lack of time and energy to invest in a sleep health programme.

As such, another work-related challenge during COVID-19 was related to the changes within the work environment during the pandemic (i.e., working from home). It was felt that the lack of in-person or face-to-face contact would make the implementation of a sleep health programme unfeasible or less likely to be effective and would complicate the monitoring process and inhibit employee participation.

“ I think it's harder to implement it remotely, so I think that is a barrier too, because employers have probably got less control over their employees' routines when they are working remotely ...” (During COVID-19, SI03B)

Technology was also implicated in the interference of work-life balance and hinder participation in a workplace sleep health programme. Before COVID-19, the use of technology was associated with a generational gap in that older employees were not keen to participate in a programme if it were too digitalized.

“It depends on the person I think sort of younger people probably like, who are more sort of on their phones would probably take in up better, but then I mean, I've got some older patients who I think you'd end up causing more stress by giving them a sleep app. It's a generational thing I think.” (Pre-COVID-19, SI03B)

During COVID-19, participants reported that organisations struggled with the use of, and access to, technology and online systems, which were required at the time. Therefore, several respondents felt that this could further complicate the implementation of and participation in a sleep health programme that could be provided online. Additionally, it was pointed out that it would be ineffective to provide online support, as it would not reach all employees, or fail to entice those who do not have adequate technological skills.

“ So yes, I was saying that I think for me what was the barrier was mainly, you know, the technology that we had to use at the time....” (During COVID-19, SI02B)

A different view regarding online support was given by a few participants, however, whereby it could support work-life balance and facilitate participation. Specifically, participants felt that easy-to-use mobile apps and virtual interventions would provide a novel and welcoming angle on which to introduce an online approach to sleep health programmes within the organization. As such, this option would allow employees to access a sleep health programme at times most convenient to them, thus facilitating work-life balance.

“I would think that you could, every second day get together on Zoom, and you would chat about your week, or couple of days that...it would be interesting first of all, to get them to mark their pattern of their sleep, and then you could sort of link up with them to find out how things had changed, then you'd convince them that maybe they needed a sleep thing... “
(During-COVID-19, SI07A)

4. Confidentiality

The issues of privacy and confidentiality were raised before and during COVID-19, as participants felt participation in a sleep health programme would only be viable if full anonymity were guaranteed. Those who perceived lack of confidentiality as a barrier to participation were fearful that the organisation's wellness services may recognize and target them, and that their jobs may be jeopardized as a result. More specifically, they were concerned that their acknowledgment of poor sleep and its effect on their job performance may expose them as being vulnerable, weak and unable to cope with their work demands, ultimately threatening their credibility as business leaders. Another angle was given during COVID-19, where it was felt that online group meetings that discussed sleep health would deter employees from raising their sleep concerns due to the lack of anonymity.

“Very, very senior managers saying like “I will not call in, because who's going to see my file and who's going to know?” So, we're quite fine with calling in about a contract or some kind of legal issue, that's OK, “I don't mind giving you my ID number and you knowing who I am.” But when it gets to the more personal things, definitely not OK with accessing what's available.” (Pre-COVID-19, SI05A)

“There is such insecurity around will it show my manager that I'm weak, and they don't need me, and they can replace me, I've got to hold on to this job that you know, the job market is, so tough, and it just gets, so yeah, so confused, and they are not making good decisions, because they have not slept.” (During COVID-19, SI04B)

Key components of an ideal sleep health programme

1. Identifying the need for a sleep health programme

Given the lack of awareness around the effects of sleep on health and workplace performance at the organizational level, the need for a sleep health programme is not self-evident. Two different approaches to identify the need for a sleep health program were raised. Firstly, the occupational medicine specialists in the group suggested doing a ‘needs assessment’, which involves the steps prior to WHP screening and implementation. Secondly, the corporate executives in the group proposed identifying the need for a sleep health programme within the organization based on the lack of sleep health support for employees with sleep problems.

Occupational medicine specialists felt that through a needs assessment, the organisation would emphasise the necessity for such a sleep health programme, and by demonstrating the potential benefits, there would be a greater likelihood of influencing those in management to invest in sleep health.

“So, there is a whole range of stuff in that primary preventive space it's enabling, it's shifting, it's engaging, it's motivating, so that's essential that's a groundwork that's got to be there, and of course part of the needs in that, is to convey that there is a need, the degree of need, and set the scene for intervention.” (Pre-COVID-19, SI01A)

Further, corporate executives interviewed were adamant that employees needed a health programme specific to sleep, as there was inadequate focus on sleep health, nor any process or support they could follow for their sleep concerns. Therefore, they anticipated that employees would value such a programme if provided by their organisation.

“I think employees would just grab it [added by the authors: sleep health program] and run with it I can tell you that.” (Pre-COVID—19, SI02A)

During COVID-19, occupational medicine specialists and corporate executives within the sample felt that a sleep health programme was needed as no emphasis was given to sleep health. Instead, it was only addressed indirectly through topics on mental health and general fatigue.

“ So let me think about the corporate, where mental health and fatigue generally certainly have reached the general conversations at corporate, either by way of online talk sessions or by way of communications. Perhaps not as directly do they talk to sleep, let me say. Typically, it's more around fatigue itself and stress and the demands of working from home, work-life balance difficulties. So sleep perhaps is implied there, but not perhaps as visible as it could be, as a specific component of the fatigue equation.” (During COVID-19, SI01B)

“I think it’s almost more important than it was before when we were having our normal way of life if you want to put it that way. I think we are desperate for better sleep, or good quality sleep now...” (During COVID-19, SI05B)

2. Sleep health risk screening

Both before and during COVID-19, participants felt that there was a requirement for identifying signs of daytime fatigue from lack of sleep, and symptoms of poor sleep, by a process of sleep health risk screening. Occupational medicine specialists gave their perspective from an organizational level, which involved large scale screening procedures allowing for groups of employees to be stratified based on data collected about their sleep health status (e.g. sleep duration, sleep quality). The remaining participants reflected on sleep health risk screening at employee level with reference to identifying individual employees and providing them with the sleep health support they would need. Yet in both instances, the shortage of sleep-specific screening to detect poor sleep health was made evident. During COVID-19, interviewees felt that sleep health risk screening and the appropriate management for those affected, be mandatory or at least prioritised. The suggestion from some participants during follow-up interviews was that in response to sleep health risk screening, employees could have access to an online consultation regarding their sleep health risk.

“... any sort of occupational health program there would be sort of a screening aspect to it, kind of you know, screening out people who are at risk you know. Do a risk assessment of the employees, and look at who, which employees are at risk of sleep problems, and then kind of, implement any interventions which might mitigate those problems.” (Pre-COVID-19, SI03A)

“So, I would enforce it to start with, so that people also get to understand that they shouldn't be afraid of something like this, that it's actually in their best interest and also support them in whatever are the outcomes you know. If it is that they need to get booked off for a week because they are depleted whatever it is, and that it should be understood that it's part of remote working, it's part of working in a pandemic, and yeah, I think I would just do something, that's what I'm saying.” (During COVID, SI03B)

In contrast to the responses that online screening and virtual sessions would facilitate the sleep health risk screening process, some respondents felt that employees would benefit more from a sleep health risk screening process if it included a face-to-face consultation with a healthcare provider. Collectively, the general feeling was that sleep health risk screening be conducted in conjunction with a feedback session. Irrespective of when interviews took place, participants felt that a workplace sleep health programme would require an individualized approach to meet employees' needs based on their health screening.

3. Raising sleep health awareness and education

At both interviews, before and during COVID-19, respondents felt that raising sleep health awareness within the organisation, starting with the managers was critical. At the managerial level, there was indeed acknowledgment that corporate executives understood the importance of adequate sleep for general well-being, but how it could improve their work performance as business leaders was unclear to them. Furthermore, this could be extended into education, as participants explained that corporate executives needed education around strategies that would enable them to identify when their sleep is problematic so that they would know when to seek support and how to restore their sleep health. During the follow-up interviews,

participants also spoke of educating employees on ways to manage sleep patterns and create structure to their days.

“So, first of all we don't actually know how big the impact is, so I'm not actually clear unless someone admits to me that they can't sleep, or they don't, sleep, or they're tired, and other than you know observation ... so it's around an awareness program making people understand what it is, and then making people comfortable enough to say well yes maybe this does affect them, and then interventions to help them with that balance, so I mean that will actually be multi-pronged, it will be on education, and awareness..” (During COVID-19, SI06B)

“ I think there's always a need for sleep education and I think especially now when people's routines are, so out of sync. They would definitely benefit from some education around sleep, and the importance of it.” (During COVID-19, SI03B)

Discussion

This study explored the barriers to and facilitators of participation in a sleep health programme and key components required for designing such a programme, both before and during the COVID-19 pandemic. At both timepoints, the overarching themes emerging with respect to barriers and facilitators included sleep health awareness, work culture, work-life balance and confidentiality. Specifically, the lack of sleep health awareness among employees was regarded a barrier to participation. Moreover, the demanding work culture, lack of work-life balance and insecurities regarding confidentiality were perceived barriers that would discourage employees from participating in a sleep health programme provided by their workplace.

When asked to conceptualise an ideal sleep health programme, the following themes emerged: identifying the need for a sleep health programme; incorporating sleep health screening into HRAs, and promoting sleep health awareness through education. There were no striking differences in the perspective of participants before and during COVID-19 as at both timepoints they felt that sleep health was not prioritised and consequently no sleep support systems were available for employees in need thereof.

A barrier for participating in a proposed sleep health programme both before and during COVID-19, was the work pressure experienced in what was perceived to be a demanding workplace culture. The organisation's 'corporate culture', characterised by high work demands and time constraints, was considered as a factor that would hinder uptake and participation in a sleep health programme. Since our participants provided input from a corporate setting of a predominantly male demographic, the given corporate culture is in line with similar groups described in the literature. For example, there is evidence that in male-dominated industries, this demanding work culture perpetuates a masculinized culture by promoting conformity to longer work hours. As such, the time constraints found to hinder participation in our study suggests that, similar to previous studies, working overtime is normalized and an obligation to work additional hours "for the team", often comes at the expense of healthy sleep habits ³⁵. Another study exploring barriers to participating in WHPs found that time constraints which would limit participation were evident among employees who showed a preference to keep work and private life separate. A possible solution proposed in the literature was to enable participation in the educational aspects of a sleep health program during work hours, thereupon keeping the private life separate from work-related activities ³⁶.

The lack of work-life balance was another barrier that could discourage participation in sleep health programmes. With new work structures adopted during COVID-19, additional strain was placed on work-life balance. This new way of working included working from home, which was mandatory during national lockdown, and which posed new challenges that impacted on employees' daily routines and priorities. As a result, working overtime left little time for any additional commitments, including participation in sleep health programmes. Another important finding was the ongoing availability and communication between employees due to the use of online and digital technology during COVID-19. The constant connectivity was found to interfere with the boundaries between work and home time, leading to the encroachment of work into family time. This finding is in line with another study showing that during COVID-19, work-related technology-use during home confinement and outside of working hours caused greater work-family conflict ³⁷. Consequently, the new work environment with its altered daily routines and ongoing connectivity after work played vital roles in creating resistance to welcoming a sleep health programme. The greater emphasis on work-life balance during COVID may indicate a sense of shifting priorities to value family over work, especially in times of distress. Nevertheless, as employees have recently returned to the office, or adopted a hybrid model for work, the restored work structure and schedules may provide a revived interest in protecting their sleep, thus increasing the likelihood of participating in a workplace sleep health programme. To further explore this, additional studies would provide clearer insight.

The lack of awareness of how sleep is specifically linked to work performance was regarded as a barrier among corporate executives. This was because participants felt that if those at managerial level knew how optimising sleep could improve their ability to perform more efficiently and effectively as business leaders, they would be more likely to participate and

invest in sleep health within their organisation. The ability to recognise and acknowledge one's own poor sleep patterns was considered as a start to raising sleep health awareness among corporate executives themselves. In contrast, self-denial of suboptimal sleep health would make it difficult for organisations to introduce a sleep health programme, as employees would not see the need to participate. This denial of having sleep health problems has been described previously to show that societal norms have encouraged the normalization of compromising sleep time for additional work time³⁵. Moreover, the barrier to participation due to lack of sleep health awareness may be different between corporate employees and employees in non-managerial roles. Managers may have easier access to knowledge on the importance of sleep on health outcomes, compared to employees without similar educational backgrounds or accessibility to health education. Nonetheless, it appears that managerial occupations are more likely to associate short sleep duration and irregular sleep patterns with work commitment and dedication. This too was reflected in a recent study exploring the perspectives of male employees on sleep, where working more and sleeping less was considered as a sign of machoism and stoicism for achieving greater work productivity³⁵. Despite the existing knowledge on general sleep health that managers may have, our findings indicated that organisations fail to dedicate efforts toward sleep health programmes due to the lack of knowledge and experience of developing and implementing such projects.

The confidentiality barrier implicated among the present corporate executive participants were related to being fearful that they would feel exposed. Specifically, that by choosing to participate in a sleep health programme, they may be considered to be less effective managers compared to their colleagues, thus risking their job. In a study of office employees, Klasen et al. (2021) found that 'privacy' was a perceived barrier to participating in a preventative strategy targeted at reducing long term sickness absence³⁸. The psychological stigma

attached to sickness absence was implicated as the reason for non-participation. This too may provide a plausible explanation within the present group as it is well-established that a bi-directional relationship exists between psychological well-being and sleep ³⁹. The corporate executives for whom sleep may be problematic, could feel marginalised, as having poor sleep may lead to the perception that they also require mental health support. Given this, overcoming the confidentiality barrier is an important step in improving participation. Providing employees with clear information on data security and privacy policies may help to ease their fear of participating.

Our findings showed that to develop an ideal sleep health programme, organisations are required to identify why it would be needed. This is in line with a statement made by Dawes et al. (2001) emphasising that to improve workplace health, companies should realise what is needed in order to create a baseline from which new workplace health schemes can be adopted ⁴⁰. The National Institute of Clinical Excellence (NICE) provides guidance on steps to conduct a WHP needs assessment and emphasises the involvement of all stakeholders in identifying health priorities within the organisation, and planning the health action necessary ⁴¹. Moreover, it is vital to conduct a needs assessment prior to programme implementation as it would increase employee participation rates and avoid barriers that otherwise would be missed ⁴². Accordingly, following the needs assessment, organisations are guided to develop appropriate health risk assessments. Given this, it should be noted that for interviews with occupational medicine specialists, particularly before COVID-19, their perspectives on developing an ideal sleep health programme were in the context of a WHP needs assessment at organisational level. Yet, when it was discussed by corporate executive participants, reference was made to assess the needs for a sleep health programme based on the sleep health of employees at an individual level. Specifically, it was emphasised that currently

those with sleep problems had no support or workplace sleep health management plan thus justifying the need thereof.

WHP programmes typically incorporate HRAs and biometric screening to stratify health risk based on the number of health risk factors present ⁴³. As such, HRAs are tools that can be used for risk identification, risk assessment, and risk reduction ⁴². Sleep health risk screening could therefore be the foundation upon which the need for a sleep health programme would be identified in the workplace setting. Subsequently organisations can identify and tailor strategies to support employees requiring sleep health management. Taken together, the implementation of such programmes begins with being aware of the importance of sleep health and identifying the need thereof which may be facilitated by sleep health risk assessments.

Methodological considerations

Having two successive interviews enhances credibility, as participants were able to reflect on their initial interview conducted prior to COVID-19. The longitudinal approach allowed for possible changes in the perspectives on sleep related WHP programmes resulting from the COVID19 lockdown and altered work environment. Further, the interviews were done in real time, in other words, in-person during initial interviews or online, using the camera for face-to-face communication during follow-up interviews. This made it possible to collect richer, more comprehensive information and context to responses, compared to gathering information through surveys or questionnaires. In addition, despite the COVID-19 restrictions that occurred during the study, all follow-up interviews were conducted online which was advantageous as it allowed for easier accessibility and flexibility of the interviews and allowed participants to be interviewed in their own chosen space. In favour of this study was

the focus on employees at management level and within the occupational health space. This provides a homogenous sample of corporate executives and occupational medicine specialists who came from a position of similar leadership responsibility, and that may have the decision-power to facilitate or support a sleep health management component to their existing WHP. Given the lack of previous literature highlighting the insight of organisational leaders in this regard, the results of the present study may guide future situations so that a better management of the sleep health of corporate employees can be disseminated.

It is, however, important to acknowledge the small sample size within this study. The recruitment process was interrupted by the restrictions imposed during the COVID-19 pandemic. As such, we could only work with the sample size that we had when the pandemic started. Despite this, we were able to approach the same participants for a follow-up interview to which they all agreed, and by the end of the coding process, no new themes emerged suggesting that saturation had been reached. Furthermore, supporting evidence from a recent systematic review demonstrated that smaller sample sizes ranging from nine to 17 interviews are sufficient to be considered as effective for qualitative research, because of the ability to reach saturation⁴⁴. The need to adapt this study amid the pandemic provided a unique opportunity to explore any potential changes in insights around barriers, facilitators and key components of providing a sleep health programme before and during a pandemic. Also, despite collecting data from a convenience sample, participants were identified because of their role and influence within the workplace wellness division of their organisations and as such would play a pivotal role in the future of sleep health within their business. Nonetheless, the current study is explorative and provides preliminary insight from the WHP decision-makers. Given this, our findings may provide the foundation from which future workplace sleep health programmes can develop taken from those who have the impetus to

drive such projects. Lastly, with regards to transferability, the results describe the perspectives of corporate executives and occupational medicine specialists in South Africa. Although some findings might only apply within a South African context, themes pertaining to the normalisation of a demanding workplace culture and work-life balance within the corporate setting, may be transferrable to comparable settings worldwide.

Implications/recommendations

Valuable insights around provision of a sleep health component in WHP programmes have emerged from this qualitative study. The insights on the barriers and facilitators specifically have implications for practice and policy. Our findings showed the need to expand sleep health awareness of corporate executives by educating them on the importance of sleep, particularly with respect to their work performance. By achieving this, sleep health promotion in its entirety can be further expanded to the remaining workforce. As such, effective communication to underscore the vital impact of good sleep health in relation to optimising physical health, mental and work performance is recommended. Ensuring that business leaders and decision-makers within organisations understand the impact of sleep on health and work performance may lead to greater commitment in investing in sleep health management. For example, such communication to the decision-makers within organisations can emanate by presenting evidence to indicate that corporate environments which undermine sleep are harmful to the financial well-being of organisations. Further, educating the key players of WHP development on the importance of sleep for health and cognitive functioning is necessary by emphasising how poor sleep can have adverse short- and long-term effects^{12,45}. Therefore, the first step in contributing to better sleep outcomes for employees is for employers to recognise the importance of sleep and the adverse outcomes both for individuals and businesses stemming from insufficient sleep.

It is recommended that business leaders committed to supporting sleep health provide tailored worksite policies to maximize the potential for optimising and maintaining sleep health. In this way the business case for sleep health promotion can be emphasised within the corporate work environment and begin to shift the perception that lack of sleep equates to work dedication. Given this, a workplace culture that values sleep can be accomplished by implementing WHP programmes focussed on optimising employee sleep health, educating employees about sleep health, and raising awareness thereof. The evident workplace culture observed in the present study suggests that those in managerial roles may still feel that substituting sleep time for work translates to being a better leader. To shift this demanding culture towards valuing and supporting sleep health, it has been proposed that employers encourage sleep health through various practices including the expansion of employee WHP budgets to incorporate sleep health³⁵. Moreover, it is paramount for business leaders to be aware of the sleep needs of employees. For this, the business case for sleep health needs to be clear, and based on our findings, may be realised through the education of the decision makers within organisations.

WHP programmes which include HRAs and fatigue risk assessments should provide a more comprehensive assessment dedicated to sleep health where sleep duration, quality and sleep patterns are assessed. With sleep data collected during a sleep health screening, risk criteria can be calculated as per evidence-based sleep health guidelines. Having company sleep health data allows for the identification of employees who need further sleep health management, provides sleep health metrics to report on the sleep health status of the workforce, and allows for sleep health trends and management to be assessed over time. Currently, where sleep is concerned, occupational health practices cover workplace fatigue and typically focus on industries characterised by shift work, such as the railway industry,

flight crews, medical professionals, and truck drivers⁴⁶. However, it is vital to recognise that daytime fatigue and sleep concerns in non-shift work settings may stem from different factors, and thus require a different strategic approach when compared to shift workers. Additionally, we propose that the occupational health sector be more active to promote sleep health especially since it has been acknowledged in a systematic review of the literature that the lack of knowledge related to sleep health represents a ‘gap’ in the medical knowledge of occupational health doctors and nurses⁴⁷. Therefore, the comprehensive training and education of occupational health staff can enhance the sleep health risk screening process and sleep health management guidance accompanying it.

A sleep health programme should acknowledge the importance of a healthy work-life balance. Contrasting the compulsory home confinement which occurred during the pandemic, work flexibility which includes hybrid working and being given the choice from where to work, may allow some employees to manage their day more effectively. This arrangement may help employees balance their work and personal lives better, resulting in reduced stress levels, increased productivity and improved well-being⁴⁸. In the case of a pandemic, employers and supporting occupational healthcare professionals must be sensitive to individual employee needs or desires to alter work patterns to support work-life balance by considering family responsibilities and employee job demands. In this way, the barrier related to work-life imbalance may be overcome, encouraging employees to participate in a workplace sleep health programme.

Finally, one needs to consider that this study addresses the corporate work setting. As such, the involvement of corporate executives in the participation of a sleep health programme is highly encouraged and would demonstrate leadership support, which previously has been

recognized as an important construct influencing employee participation in WHP programmes⁴⁹. Having corporate executives participate in the sleep health programme would send out a message that management understands the importance of sleep health and is prepared to devote considerable time and resources to identify and address sleep health issues.

Conclusions

The perspectives from organisational leaders in the decision-making and planning process of WHP programmes provided valuable insight into barriers, facilitators and key components relating to workplace sleep health programmes, before and during the COVID-19 pandemic. For corporate employees to participate in a sleep health programme, organisations should re-evaluate their demanding workplace culture to embrace the importance of sleep health, which in some instances, may require a cultural change in organizational thinking. The significance of sleep health awareness is unrefuted and needs to incorporate the importance of sleep health for well-being and work performance. Equally important is the enhancement of HRAs to include sleep-specific sections which would identify those who need further sleep health management and provide baseline metrics for future programme evaluation. As such, we recommend that stakeholders, such as employers, business leaders and occupational health professionals who are involved in the development and implementation of WHPs, use this knowledge for the integration, development and implementation of sleep health into future WHPs.

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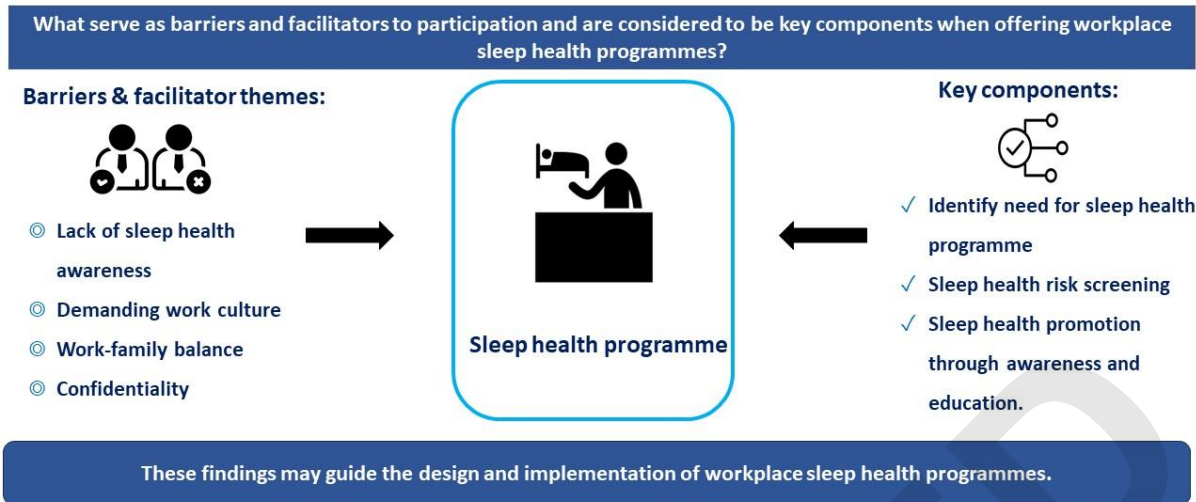
Table 1. Themes regarding the barriers to and facilitators of participation in a sleep health programme and the key components of an ideal sleep health programme.

Barriers to and facilitators of participating in a sleep health programme
1. Lack of sleep health awareness
2. Demanding workplace culture
3. Work–life balance
4. Confidentiality
Key components of an ideal sleep health programme
1. Identifying the need for a sleep health programme
2. Health risk screening
3. Education and raising awareness

Supplemental Digital Content: Interview guide of semi-structured interviews: (a) before COVID and (b) during COVID

1.
 - a. Are you satisfied with how sleep is promoted in the workplace?
 - b. Are you satisfied with how sleep has been promoted in the workplace during this COVID-19 pandemic and lockdown?
2.
 - a. What is your opinion on the role of sleep on work performance?
 - b. What is your opinion on the role of sleep on work performance during such a pandemic? Specifically, working from home/having a change in the work environment?
3.
 - a. In your experience, do you feel there is a need for sleep education or awareness amongst employees?
 - b. In your experience, do you feel there is a need for sleep education or awareness amongst employees during circumstances such as we are experiencing during the pandemic?
4.
 - a. What do you think is interfering with (employee's) having an optimal sleep pattern
 - b. What do you think is interfering with (employee's) having an optimal sleep pattern during the COVID-19 pandemic?
5.
 - a. Have employees come to you with sleep issues.
 - b. Have employees come to you with sleep issues during this time of the pandemic?
6.
 - a. What are your current strategies to managing employee fatigue?
7.
 - a. How does your workplace address sleep health?
 - b. How has your workplace addressed sleep health during the COVID-19 pandemic?
8.
 - a. In your opinion, what would you consider to be barriers and facilitators of a sleep health programme in the workplace?
 - b. In your opinion, what would you consider to be barriers and facilitators of a sleep health programme in the workplace during COVID-19?
9.
 - a. What do you think employees would like to know about sleep?

- b. What do you think employees would like to know about sleep during this time?
- 10.
- a. What would you like to get out of a sleep health programme or sleep product? What do you think employees would like to get out of it?
- b. What would you like to get out of a sleep health programme or sleep product? What do you think employees would like to get out of it during this period of the pandemic?
- 11.
- a. What would put you (them) off from participating in sleep health modules?
- b. What would put you (them) off from participating in sleep health modules during such a time?
- 12.
- a. What aspect of your own (employee sleep behaviour) sleep behaviour would you most want to change?
- b. What aspect of your own (employee sleep behaviour) sleep behaviour would you most want to change during this time?
- 13.
- a. Do you want to make a change that would help you get more sleep? Do you think employees would like to make changes that could help them improve their sleep.
- b. Do you want to make a change that would help you get more sleep, and do you think employees would like to make changes that could help them improve their sleep amid the COVID-19 pandemic?
- 14.
- a. How would you describe an ideal sleep health programme – what would work and how would you implement it if you could?
- b. How would you describe an ideal sleep health programme that could be provided to a workplace during a pandemic (incl. lockdown) – what would work and how would you implement it if you could?



Barriers and facilitators to participation, and key components of sleep health programmes: perspectives for the corporate work environment
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