

MEASURING WHAT MATTERS: HOW DO WE ASSESS SLEEP IN HIV CARE?

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Background

Despite medical advances, people living with HIV experience significant issues affecting health-related quality of life.¹ One such issue is poor sleep, which is linked with cardiovascular disease; diabetes; obesity; reduced immune function; impaired cognitive and motor function, which increases the likelihood of serious accidents; and poor mental health, including depression, anxiety, and suicidal ideation and behaviour.²⁻⁹ Although poor sleep quality is common in people living with HIV, understanding of how to identify sleep issues within clinical practice to improve outcomes for this population is lacking.¹⁰

Methods

A scoping review was conducted by searching Cinahl, Pubmed, Psycinfo and the grey literature. Inclusion and exclusion criteria were developed with data selection and charting undertaken by two reviewers using a qualitative content approach.

Results

60 of 2,932 retrieved articles met the inclusion criteria. Publication dates ranged from 1992 to 2021, with one third of papers published in 2020 and 2021 (n=17). More than half of studies were conducted in the US (n=35). Most were cross-sectional in design (n=48). 21,561 of the 25,904 participants across all studies were people living with HIV.

Identified themes were range of methods available to assess sleep, self-reported measures of sleep and objective measures of sleep.

Numerous different sleep measures were used (Table 1); the most favoured approach was Pittsburgh Sleep Quality Index (PSQI) (n=48). The variety of approaches used (n=18) meant a lack of consistency as to what aspects of sleep were explored and, in many cases, no explanation as to why the measure was chosen.

Table 1. Different screening methods for sleep identified during scoping review

| Screening method | Description |
|--|--|
| Self-report questionnaires | |
| Pittsburgh Sleep Quality Index (PSQI)¹¹ | <ul style="list-style-type: none"> 19-item measure covering 7 components of sleep: sleep quality, latency, duration, efficiency, disturbance, use of sleep medication and daytime dysfunction Each component scored 0–3, giving a total composite score out of 21; scores ≥5 indicate 'poor' sleeper Intended as screening tool rather than diagnostic measure, so asks about a range of different night-time symptoms related to different sleep problems, such as obstructive sleep apnoea, insomnia, restless leg syndrome Two people may screen as 'poor' sleepers but for entirely different reasons: one might have insomnia and another might have nightmare disorder |
| Epworth Sleepiness Scale (ESS)¹² | <ul style="list-style-type: none"> 8-item measure of daytime sleepiness; does not ask about sleep directly Not specific to any sleep condition, although often used as part of screening for obstructive sleep apnoea Respondents rate the likelihood they would 'doze' off when engaging in various daily activities Each item is scored 0–3, giving a total score out of 24; scores <10 are considered normal; the higher the score, the more severe daytime sleepiness |
| Insomnia Severity Index (ISI)¹³ | <ul style="list-style-type: none"> 7-item insomnia-specific measure Covers severity of insomnia symptoms, sleep satisfaction, impact of daily functioning, how noticeable to others, and level of distress caused Total score categorises respondents' insomnia as non-clinical, sub-clinical, moderate or severe |
| Self-report daily records | |
| Sleep diaries | <ul style="list-style-type: none"> Given to individuals to make a daily record of their sleep and other factors of interest Respondent typically records what time they went to bed, how long it took them to get to sleep, the number of times they wake after sleep onset, what time they wake up in the morning, and the time they get out of bed Can also include other information such as daytime naps, medications, and amount of alcohol and caffeine consumed Used to gain an idea of someone's sleep patterns and behaviours and work out measures such as average sleep |
| Objective physiological measures such as Actigraphy, Overnight oximetry and Polysomnography (PSG) | |

Implications for clinical practice

- In clinical practice, measures must be used as intended and with due clinical interpretation to avoid assuming that reported poor sleep quality is synonymous with insomnia or poor sleep hygiene.
- The way in which PSQI data was reported in studies gave no indication that researchers were considering which items participants had endorsed, so they were not discriminating between different types of problems and symptoms that might be causing poor sleep.
- Clinicians need to be more aware of the different types of sleep difficulties and disorders, consider the aspect of sleep about which they are concerned, and choose suitable tools to explore this.
- Healthcare professionals should become more aware of the comparison between different methods to assess sleep in people living with HIV rather than using the PSQI because that is what is traditionally used. That is not to say the PSQI does not have utility: sometimes service users and clinicians are unsure about what is causing poor sleep, so screening tools such as the PSQI and/or sleep diaries can be a useful starting point.
- The satisfaction, alertness, timing, efficiency and duration (SAT-ED) questionnaire¹⁴ or single question approach could be suitable alternatives.
- The key is that they are just a starting point, and that the next steps in providing care must be grounded in the clinical information gained.

Implications for future research

- Future research into the sleep quality of people living with HIV should be more specific about what aspect of sleep is being investigated and why, so methods and measurements regarding sleep are selected accordingly and the rationale behind this is explicitly explained.
- We need evaluations of alternative screening tools, including simpler tools such as the SAT-ED questionnaire or the single question approach.
- Research should be more inclusive and diverse when recruiting participants, so that findings are more generalisable to the larger population of people living with HIV.
- The gap between research and clinical research needs to be bridged so that findings translate into better care.

Summary and conclusions

- This review aimed to disentangle what is known from the current literature on how sleep is measured within HIV care.
- A number of different measures of sleep were used within the included publications, with the most favoured approach being the PSQI.
- Due to the variety of approaches used to measure sleep (n=18), there was a lack of consistency with regard to what aspects of sleep were being explored, and, in many cases, no indication of why the particular measure of sleep was chosen.
- Despite all 60 studies highlighting sleep issues, there was a lack of meaningful clinical recommendations as to how these findings could be used to improve outcomes for people living with HIV, highlighting a need for further research and evaluation of screening and assessment tools.
- Our results may help healthcare professionals consider the multivariant nature of measuring sleep to enquire effectively about sleep within HIV care.

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