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Letter to the Editor

Assessing the Relationship Between Frailty, Physical Activity, and Sleep Quality Requires Objective Quantification of the Relevant Parameters

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Letter to the Editor

We read with interest the article by Nakhjiri *et al.* regarding a cross-sectional study on the association between sleep quality and physical activity or frailty syndrome in 150 hospitalized individuals aged over 60 ^[1]. The study found that three-quarters of the patients suffered from sleep disturbances, more than half were physically active, and 42% were classified as frail ^[1]. No association was found between sleep quality and frailty syndrome; however, sleep quality improved with increased physical activity ^[1]. Although the study is interesting, several points warrant further discussion.

A first point is that the tests used (PSQI, CHAMP, TFI) have various drawbacks. The PSQI relies entirely on the patient's memory and subjective assessment regarding the past month; results often do not align with objective measurements such as polysomnography; the test is designed more as a screening tool than for diagnosing insomnia or circadian rhythm disorders; the one-month assessment period fails to capture night-to-night sleep variability; the PSQI does not adequately assess nightmares, light sleep, hypersomnia, or prolonged sleep inertia; and cultural or contextual biases may occur ^[2]. Limitations of the CHAMPS score include: respondents tend to overestimate frequent or socially desirable activities; older participants sometimes struggle to accurately report the frequency and duration of weekly activities; absolute caloric expenditure can only be estimated imprecisely; minor or short-term changes in physical activity are not captured; and reliability is limited when measuring light physical activity and sedentary behaviors ^[3]. Disadvantages of the TFI are that it relies exclusively on subjective reports, is susceptible to under- or over-reporting of mood symptoms or cognitive impairments, is limited by the patient's memory and perception, does not capture chronic pain, and aggregates social and physical aspects into a single total score.

A second point is that frailty syndrome was not defined ^[1]. What criteria were used to diagnose frailty syndrome in a patient? Was frailty assessed solely using the TFI? At what reference value was frailty syndrome diagnosed?

A third point concerns the classification of the CHAMPS score, which was based on overlapping cut-off values ^[1]. According to the methods section, a value of 1 represented both an inactive lifestyle and low-level physical activity ^[1]. A score of 3 signified both low-level physical activity and simultaneously moderate physical activity. This classification is contradictory and requires clarification.

A fourth point is that frailty is not necessarily linked only to sleep quality but also to numerous other factors. These include acute or chronic illnesses, current medication, nutrition, water quality, hydration status, personality type, genetic predisposition, life events, and psychological state. Unless these factors are included in the analysis, attributing frailty solely to sleep disturbances may be misleading.

Finally, it should be clarified whether the study examined sleep quality within the hospital or whether patients assessed their sleep quality outside the hospital. This distinction is crucial, as sleep in the hospital can be impaired by stress, pain, alarm sounds, light, unfamiliar beds, anxiety, or an altered daily routine.

Declarations

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