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Moving for Better Sleep: A Narrative Review of Exercise and Sleep Quality

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1. Round 1

1.1 Reviewer 1

Reviewer:

Introduction, Paragraph 1: The statement, "Sleep a fundamental pillar of human health significantly impacts physical and cognitive function while influencing the risk of chronic diseases," would benefit from a citation supporting these claims. Consider referencing foundational studies on sleep and health.

Materials and Methods, Search Method and Scope: The explanation of the search strategy would benefit from more detail on the specific search strings used in each database. This would enhance the reproducibility of your search method.

Materials and Methods, Search Method and Scope: The inclusion and exclusion criteria section would be improved by explicitly stating the criteria used to exclude studies focused solely on specific populations or clinical conditions. This ensures clarity on study selection.

Results, The Impact of Aerobic Exercise on Sleep Quality, Paragraph 1: The sentence, "Numerous studies have documented the positive effects of moderate-intensity aerobic exercise on sleep parameters," should provide a more quantitative summary of the findings, such as the range of improvements in sleep onset latency and efficiency.

Results, The Impact of Aerobic Exercise on Sleep Quality, Paragraph 2: In the description of the study by King et al. (2008), it would be useful to mention the sample size and the demographic characteristics of the participants to understand the scope of the findings better.



Results, High-Intensity Interval Training (HIIT) and Sleep: A Balancing Act, Paragraph 1: The claim, "Some studies suggest that HIIT can be beneficial for sleep," should be followed by a brief summary of these studies, including sample sizes, populations, and specific sleep outcomes measured.

Results, High-Intensity Interval Training (HIIT) and Sleep: A Balancing Act, Paragraph 2: The sentence, "Studies like the one by Bullock et al. (2020) suggest that exceeding recommended intensity levels or durations during HIIT sessions might have negative consequences for sleep quality," would be strengthened by providing specific details on these negative consequences.

Discussion, The Science Behind Exercise-Induced Sleep Improvement: A Multifaceted Approach, Paragraph 1: The statement, "Exercise promotes relaxation and reduces stress hormones like cortisol which can interfere with sleep," should include a citation from a study that specifically measures changes in cortisol levels due to exercise.

Future Research Directions, Paragraph 1: The sentence, "One area of focus will be figuring out the ideal exercise mix," should specify what is meant by "ideal exercise mix" and how future research might methodologically approach this investigation.

Future Research Directions, Paragraph 3: The claim, "Researchers will delve into how factors like exercise frequency duration and intensity influence sleep outcomes in various populations," would benefit from examples of specific research questions or hypotheses that could be tested.

Conclusion, Paragraph 1: The conclusion would be strengthened by reiterating key quantitative findings from the review, such as the range of improvements in sleep quality metrics associated with different types of exercise.

Author revised the manuscript and uploaded the updated document.

1.2 Reviewer 2

Reviewer:

Introduction, Paragraph 3: In the sentence, "Current research suggests that regular physical activity can considerably enhance sleep quality across various populations," it would be helpful to specify which populations are being referenced. This could provide clearer insight into the generalizability of the findings.

Introduction, Paragraph 4: The sentence, "Moderate-intensity aerobic exercise such as brisk walking cycling or swimming appears to be particularly beneficial for most populations," needs citations from studies that specifically explore these activities and their impact on sleep quality.

Results, The Impact of Aerobic Exercise on Sleep Quality, Paragraph 3: The claim, "Similarly Wang and Youngstedt (2014) observed a decrease in sleep onset latency in older women following a single session of moderate-intensity aerobic exercise," should include the magnitude of this decrease to convey the effect size.

Results, Exploring the Effects of Resistance Training on Sleep, Paragraph 2: The statement, "Kovacevic et al. (2018) conducted a systematic review of randomized controlled trials and found evidence suggesting that resistance training can reduce sleep onset latency," would benefit from specifying the range of sleep onset latency reductions reported.

Results, Exploring the Effects of Resistance Training on Sleep, Paragraph 3: The sentence, "The impact of resistance training on sleep efficiency the percentage of time spent asleep in bed is less clear," needs a more detailed discussion of conflicting findings to provide a balanced view.

Discussion, The Science Behind Exercise-Induced Sleep Improvement: A Multifaceted Approach, Paragraph 2: The claim, "Exercise elevates core body temperature and as our body temperature drops afterward it can signal sleepiness and prepare the body for sleep," would benefit from more detailed discussion of the thermoregulatory processes involved, including relevant citations.

Discussion, Exercise as a Sleep Remedy for Diverse Populations, Paragraph 1: The sentence, "Research suggests that the benefits of exercise on sleep extend to adults older adults adolescents and even individuals with specific health conditions," should include citations for each population mentioned to substantiate these claims.





Discussion, Exercise as a Sleep Remedy for Diverse Populations, Paragraph 3: The statement, "Research by Xie et al. (2021) suggests that exercise interventions are effective in improving sleep quality and reducing insomnia symptoms in adults," should include a brief summary of the study's methodology and key findings.

Discussion, Optimizing Exercise for Sleep: A Tailored Approach, Paragraph 1: The recommendation to "schedule exercise sessions earlier in the day to allow for your core body temperature to return to baseline before bedtime" should be supported with citations from studies examining the timing of exercise and its effects on sleep.

Author revised the manuscript and uploaded the updated document.

2. Revised

Editor's decision after revisions: Accepted. Editor in Chief's decision: Accepted.



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