The Roles of Sleep in Memorisation of the Quran

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Abstract: *Sleep is a fundamental biological process essential for physical and cognitive well-being, playing a crucial role in memory consolidation, emotional regulation, and overall brain function. Nevertheless, very limited research has been conducted on how sleep affects the memorising of the Quran, despite its importance. The objective of this study is to review the role of sleep in memorising the Quran. This study utilised a review analysis method to study the relationship between sleeping and the memorisation of the Quran. The review analysis indicated that sleep plays several roles in memorising the Quran, include: (a) improved Quran memorisation with quality sleep; (b) daytime naps enhance memorisation performance; (c) reduced stress and anxiety through Quran memorisation and sleep; and (d) spiritual practices and sleep hygiene boost memorisation. In conclusion, this study confirms that adequate sleep plays an important role in the cognitive processes required for learning and remembering religious texts efficiently. This review analysis calls attention to the need for more empirical studies investigating the relationship between sleep and Quranic memorisation.*

Keywords: sleep, memorisation, Quran, cognition, hifz

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1. Introduction

Sleep is a fundamental biological process essential for physical and cognitive well-being, playing a crucial role in memory consolidation, emotional regulation, and overall brain function. Sleeping consists of two main phases. There is dreaming sleep, also called REM sleep. This phase is the time people dream and do emotional processing. There is also NREM sleep; NREM sleep aids memory consolidation and neural restoration (Wu, 2023). Evidence indicates that sleep boosts learning and memory retention, but importantly, it also plays a crucial role in the functioning of the immune system and the regulation of the metabolism. Lack of sleep can cause harm to the mind and body. It can hurt the proper function of the brain, affect efficiency, and cause agitation. Sleep is equally important for learning and memory. It enhances the function of the immune system and the metabolic process (Reyes-Resina et al., 2021).

Nevertheless, very limited research has been conducted on how sleep affects the memorising of the Quran, despite its importance. Sleep improves memory retention by buffering new information. Studies have noted that during NREM sleep, the brain begins to stabilise and strengthen new information, which enhances declarative memory (Chen et al., 2024).

Furthermore, the research indicates that sleep-dependent memory consolidation happens for selected memories only (Li, 2023). Because memorising the Quran is highly structured and repetitive, understanding how sleep optimises its effectiveness in this process can provide useful information about strategies that students or scholars can use. This study demonstrates that sleep can serve as a valuable tool for aiding Quranic memorisation. In fact, it is possible to schedule it accordingly for optimal sleep performance for memory retention.

The objective of this study is to review the role of sleep in memorising the Quran. There are tremendous benefits to this study, which can help students and scholars optimise their learning and increase their memory and recall of the Quran. It has been shown that sleep is an important part of consolidating memories, especially declarative memories that keep the structure and exact words of stimuli, like Quranic verses (Shukri et al., 2020). Research shows that sleep strengthens weakly learnt memories. This information is useful for Quranic learners, as they often forget large segments of text (Baena et al., 2020). Furthermore, sleep-dependent memory consolidation is more effective when done before a sleep session. Hence, it adds more credence to the argument of establishing a prior structure for Quranic memorisation before one's sleep session (Wernette & Fenn, 2024). When people understand these mechanisms, they can develop evidence-based learning schedules that will help them learn more efficiently without overstressing the cognitive load and creating frustration.

2. Literature Review

Sleep is vital for cognitive functions, especially memory, but the mechanism through which memory formation occurs is not clear. Sleep is important for encoding, processing, and retaining new information. Studies have shown that slow-wave sleep (SWS) during non-rapid eye movement (NREM) sleep is essential for stabilising and strengthening declarative memory, like memorisation tasks (Ghorbani & Marshall et al., 2020). Rapid eye movement (REM) sleep is also linked to reorganising and integrating memories, making it an important neuromodulatory factor for better-recalling things learnt (Frazer et al., 2021). Research has shown that deprivation from sleep affects the capacity for cognitive flexibility and problem-solving, which is essential in learning and retaining the Quran. Thus, it is important to sleep at the same time every night to remember things better.

Memorising the Quran requires a lot of thinking and repeating, reciting, and understanding. Research shows that getting enough sleep can help humans memorise and recall Quranic verses better by improving memory consolidation processes (Ma & Li, 2023). In addition, organised methods of memorisation, like reciting Quranic verses before sleep, have been found to enhance retention and recall effectiveness (Gasparello et al., 2024). Studies show that by filtering out the noise, sleep allows a learner to focus on what is important in a Quranic verse. Additionally, one of the benefits of deep sleep is enhanced processing of language, which can help with pronunciation and recitation techniques.

The tune of the Quran alters sleep, which can help a learner perform better cognitively and thus attain full potential. According to Nurlela et al. (2024), listening to Quran recitation before bed will help the human body relax as well as experience less anxiety and easier sleep quality. Moreover, engaging in Quranic memorisation has been shown to improve mental health among individuals, which in turn enhances cognitive functioning and facilitates the learning process (Tarmuji et al., 2022). In addition, it was reported that lowered stress levels and improved emotional regulation due to Quran recitation may lead to better sleep efficiency. This evidence

indicates that sleep and Quranic memorisation have a cyclical relationship, where each element benefits the other.

In addition, the Quran acknowledges that sleep is necessary for mental and spiritual health. Islamic teachings state that learning and memorising are aided by sleeping and developing a routine around them. This assertion is further supported by recent studies about sleep-dependent memory consolidation (Kholiska et al., 2021). Scientific studies on worship and religious activities show that sleep strengthens links between the Divine and the cognitive realm. This information is also relevant for memorising the Quran. (Mahmoud & Saleh, 2023) Both Islamic teaching and science advocate for fortifying the need for enough sleep for beneficial learning capabilities. The learning and memorising processes require effort and rest. Further studies could look at how sleep affects each cycle in various stages of memorisation and understanding.

To summarise, sleep is important for memorising the Quran because it helps to put things people have memorised into memory and helps them keep focused. The association of sleep with cognition and the Quran is a reason that indicates the need for further research in this evidential practice of the Quran. By using formulated sleep schedules and memorisation approaches, the students and scholars of the Quran can improve their retention and recollection. Additionally, adding sleep-friendly study habits to the memorisation programmes could help maximise learning and ensure sustainability over time.

3. Methodology

This study utilised a review analysis method to study the relationship between sleeping and the memorisation of the Quran. The review analysis was conducted using five keywords: sleep, memorisation, Quran, cognition, and hifz. For high-quality and peer-reviewed articles, several databases have been used, such as PubMed, JSTOR, ResearchGate, SpringerLink, and IEEE Xplore. As for the inclusion criteria, studies that were: (a) written in English; (b) about sleep and memory consolidation; (c) about learning the Quran or about sleep from an Islamic perspective; (d) written in the past 5 years; and (e) peer-reviewed journal articles or systematic reviews were chosen. Studies unrelated to memory, or Quranic memorisation, and non-peer-reviewed sources were excluded.

The review process followed a systematic approach. The researchers carried out an extensive search of the selected databases using the stated keywords initially. Studies with relevant titles and abstracts were screened and duplicates were removed. Next, full-text articles were evaluated for eligibility for the inclusion criteria. An analysis of the selected studies was done to see the role of sleep in memory consolidation and its possible impact on Quran memorisation. Quranic memorising is a highly structured and repetitive process. It is a memory consolidation process that is dependent on sleep. In the end, the findings were reviewed more generally to identify commonalities, gaps, and futures. The detailed process of the review analysis is simplified into the figure below (Figure 1):
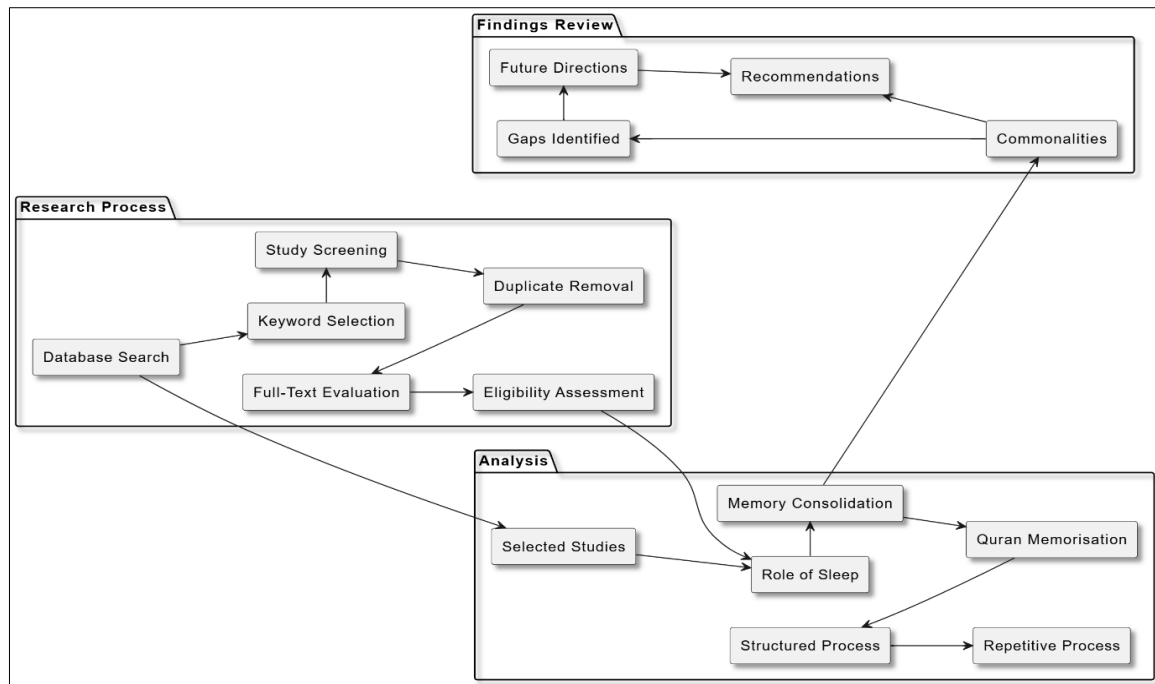
Figure 1: The Detailed Process of the Review Analysis.

The use of a review analysis method offered many benefits. The relationship between sleep and Quranic memorisation is known, and the review allowed the researchers to synthesise existing knowledge on the topic. This method also revealed gaps in the literature, such as the lack of empirical studies that directly address Quranic memorisation and sleep, which may inform future research. It also gave a solid foundation for making recommendations based on evidence for students and scholars who are memorising the Quran about how important sleep is for improving brain function.

4. Results and Discussion

The review analysis indicated that sleep plays several roles in memorising the Quran, include (Figure 2): (a) improved Quran memorisation with quality sleep; (b) daytime naps enhance memorisation performance; (c) reduced stress and anxiety through Quran memorisation and sleep; (d) spiritual practices and sleep hygiene boost memorisation.
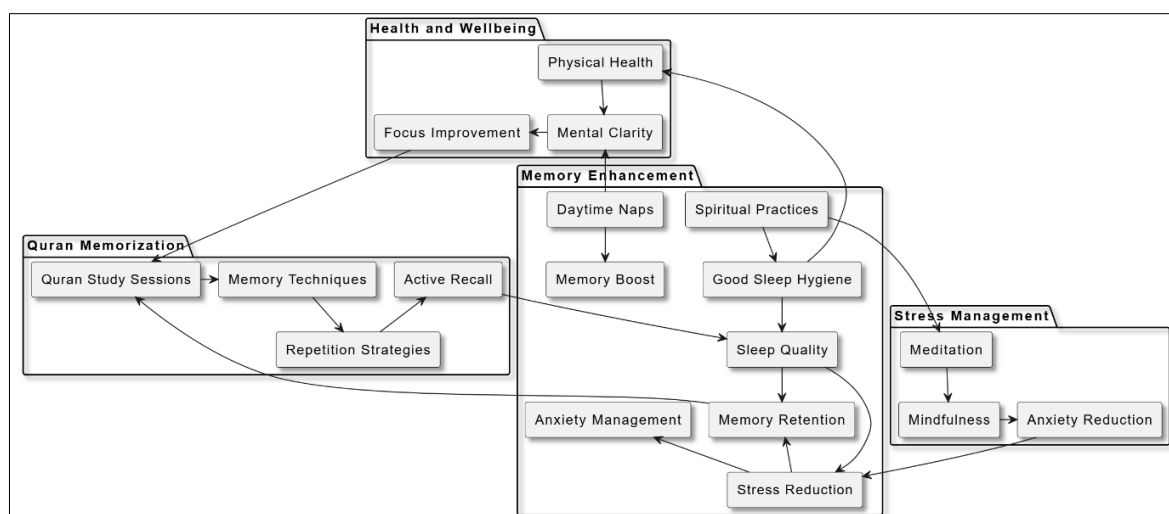
Figure 2: Framework of the Roles of Sleep in Memorisation of the Quran.

(a) Improved Quran Memorisation with Quality Sleep

There is a relationship between sleep and Quranic memorisation that memory consolidation can help understand. Studies have shown that slow-wave sleep contributes significantly to the enhancement of episodic memory, helping to better retain complicated material (Song, 2023). Sleep quality, which includes sleep duration and sleep efficiency, has been repeatedly noted to directly impact cognitive performance and memory retrieval. Thus, one who sleeps and rests better may be possibly better at Quran memorisation (Huang, 2023.) Sleeping without interruption helps the brain process, store, and integrate the new information better as well as strengthen what's learned. Consequently, a good night's sleep is essential for better memorisation of the Quran.

Another vital factor to think about is the emotional and physical benefits of enough sleep. Having sleep problems or issues can cause high-stress levels, which can affect the cognitive functions of individuals and the processes of memory (Mosini et al., 2024). Recent studies also show that impaired sleep quality and chronic sleep deprivation are correlated with poorer recall of learnt material, highlighting yet another instance where sleep plays a role in the ability to memorise the Quran (Sundarakumar et al., 2023). Sleep helps manage emotions and reduces anxiety and mental fatigue that may otherwise affect memory. Adequate rest helps the learner be more serene while memorising the Quran, leading to more effective retention (Sundarakumar et al., 2023).

Finally, deep sleep has been shown to help with memory consolidation, which helps new learning go from short-term memory to long-term memory. Sleep spindles and slow oscillations help reinforce traces of memory to ensure learning is retained (Petzka et al., 2021). According to Denis et al., 2020, sleep schedules and time off from studying contribute to better learning outcomes. Furthermore, research shows that sleeping shortly after learning can reinforce memory traces of what has been learnt. Thus, heeding the timestamps, strategically taking short naps, and sleeping after Quranic memorisation may improve learning efficiency.

(b) Daytime Naps Enhance Memorisation Performance

Studies have shown napping during the day can help significantly improve the consolidation of memory. As per research, short daytime naps (especially naps of up to 30 minutes) improve declarative memory without causing sleep inertia, an effective intellectual work and learning retention strategy (Poluektov et al., 2020). Naps also help stabilise new word retention, which points to the likelihood of recalling Quranic verses learnt before napping (Van Rijn et al., 2021). This feature is particularly useful for those who memorise extensively, as they may use their precious resources during short naps in the day. Moreover, naps do improve learning efficiency and can be an easy way to enhance Quran memory in children and adults alike.

Furthermore, daytime naps lower homeostatic sleep pressure, allowing the brain to function well throughout the day. Studies show that sleeping at night and napping during the daytime enhances long-term memory, improves learning efficiency, and doesn't harm any cognitive performance (Cousins et al., 2021). In addition, the studies state that taking a nap during the day helps the brain consolidate new information (Murata et al., 2022). Thus, students who take a nap regularly can improve their learning endurance, making lessons from the Quran more fruitful and sustainable. Moreover, naps help the learners get a cognitive reset and maintain focus without letting fatigue get to them during long study hours.

Moreover, the sleep spindles and slow-wave sleep that accompany naps have been noted to serve as a major mechanism to enhance the consolidation of memory. According to studies,

these sleep spindles that occur when people take their naps enhance their recognition memory (Farhadian et al., 2021). Another work revealed that even brief naps enhance a person's mnemonic discrimination – enabling them to distinguish and better recall specific details (Cellini et al., 2020) The implication of these findings is that having structured naps can be very helpful for individuals who are involved in memorising the Quran, as they will be able to differentiate between similar words better and retain them better in the long run. Additionally, naps can assist with problem-solving abilities and linguistic processing, which can enhance one's understanding and memorisation of the Quran (Harrison et al., 2021).

(c) Reduced Stress and Anxiety Through Quran Memorisation and Sleep

Memorising the Quran and sleep are effective tools to reduce stress and anxiety. They also offer psychological and physiological benefits. Studies indicate that people who recite and memorise the Quran are less stressed because sound, rhythmic reciting of the Quran lowers cortisol levels in the brain. In turn, this can improve the emotional regulation of the brain (Che Wan Mohd Rozali et al., 2022). Furthermore, sleep is key to helping reduce stress because it assists the brain in processing emotion and regulating emotion (Kurniawan et al., 2024). When people sleep properly and memorise the Quran, it helps them manage stress. This means that people will be able to maintain a preferred mental state while improving their functions. Furthermore, the act of reciting the Quran also has a spiritual effect to generate inner peace. Reciting the Quran and getting a beneficial night's sleep can therefore lessen emotional difficulties and anxiety.

Stress-free, quality sleep can make the difference between a sobering and an emotional experience when memorising the Quran. A slew of well-respected studies show that not getting enough shut-eye can crank up anxiety and make it difficult to focus on what people have already memorised (Dewi & Izzah, 2023) Conversely, having a structured pattern of sleep, especially one that includes sufficient deep sleep, can facilitate memory consolidation and enable a person to become more emotionally stable and, subsequently, manage stress effectively. When Quran memorisers get enough sleep, it can enhance their performance without stress, so they can study more effectively. In addition, the physical effects of sleep, like a lowered heart rate and blood pressure, will enhance the calming effect of reading the Quran (Mahardhika Sodiq et al., 2023).

Stress can disrupt sleep and negatively impact memory and mental health. However, memorising the Quran can help cope with these impacts. Studies show that reciting the Quran before sleep improves the quality and length of sleep by lessening wakefulness and calming the patient (Musyandi et al., 2024). In addition, night awakening is reduced, and sleep quality is significantly improved by the recitation of the Quran before sleeping (Musyandi et al., 2024). Thus, individuals who have sleep disorders due to stress may benefit from Quranic memorisation. This shows the importance of the Quran's memorisation coupled with the practice of sleep hygiene to create a routine that helps in cognitive and emotional achievements. Ultimately, if one sleeps regularly and recites the Quran, it enhances one's clarity of mind and anxiety, which subsequently affects one's health.

(d) Spiritual Practices and Sleep Hygiene Boost Memorisation

Memorising the Quran and sleeping well enhances memory and the power of the mind. In addition, various spiritual and religious practices help in improving memory. Research indicates that recitation and memorising the Quran as sources of spiritual engagement can induce relaxation and reduce cognitive stress, which in turn benefits learning and memory (Tassone et al., 2023). Additionally, excellent sleep hygiene, such as consistent sleep timings

or limiting blue light, improves episodic memory and overall cognition (Ashton et al., 2021). The verbal transferral of recitation of the Quran by participants and their memorisation formulations caused a decline in excitation phenomena of cognitive stress level, which ultimately plays a part in the processes for calculating performance data related to memorisation and learning. Furthermore, relaxing through spiritual practices before sleep also helps in improving the quality of sleep to enhance memory functions.

Research shows mindfulness-based activities can enhance one's cognitive power, which may exhibit a relationship between spirituality and sleep. Studies indicate that mindfulness techniques, similar to the meditative effect of Quran recitation, can improve sleep quality and enhance memory retention by reducing mental distractions and stress-related cognitive overload (Siegel, 2021). Moreover, restful sleep helps keep new information in the memory system. More specifically, new things learnt were found to be better remembered after a night's slow-wave sleep (Weighall & Kellar, 2023). Involvement in spiritual well-being, like Quran recitation coupled with healthy sleep patterns, can help the learners remember these with cognitive clarity too. Moreover, the soothing nature of structured spiritual engagement could reduce sleep disturbances, thereby aiding in more restorative sleep cycles.

Aside from the cognitive aspect, the combination of spirituality and sleep hygiene can enhance emotional stability, which is important for efficient memorising. Research is showing how sleep disruptions result in greater difficulty in regulating one's emotions, which, in turn, makes concentrating and memorising hard (Ohba & Sakaguchi, 2021). However, a repeated form of spirituality, like the Quran's memorisation, as a bedtime practice can be an effective natural way to regulate emotions, promote relaxation, and thereby contribute to sleep quality and learning (Rajaee et al., 2023). Building emotional resilience can enhance the focus and tenacity of learners, enabling them to memorise the Quran effectively. At the end of the day, the combination of sleep hygiene and proper spiritual practices helps in memory and overall peace of mind.

5. Conclusion

In conclusion, this study confirms that adequate sleep plays an important role in the cognitive processes required for learning and remembering religious texts efficiently. The findings show the importance of sleep, especially NREM sleep, for memory consolidation, which helps stabilise newly learnt information. This study has something to do with memorising the Quran because the task is structured and repetitive, which could benefit a lot from getting enough sleep. In addition to improving cognitive performance, sleep also affects emotional regulation, which is important to deal with the difficulties faced by learners when memorising (learning by rote) challenging texts, according to the review. Though various implications were evident, the literature review revealed a lack of empirical studies linking sleep patterns to Quranic memorisation. Future studies exploring this gap might help detailed knowledge of how specific sleep interventions can improve memorisation techniques. Furthermore, looking at how sleep quality can affect learning outcomes can help teach the right way to study the Quran.

This review analysis calls attention to the need for more empirical studies investigating the relationship between sleep and Quranic memorisation. Existing literature shows the role of sleep in consolidating memories and enhancing cognitive performance, but it lacks studies to examine its impact on Quranic memorisation. Future research must aim to curb this gap by developing strict, longitudinal studies that monitor the sleep patterns and memorisation outcomes of students and scholars engaged in this cognitive task, with a focus on the role of

different sleep stages, i.e., NREM and REM sleep, on retention of Quranic verses. Furthermore, research can investigate the short-term practical benefits or effectual napping and arrangement of sleep to enhance memorisation effectiveness, as well as the personal variation in sleep patterns regarding learning and recall by usage of subjective self-reported sleep logs and objective ones like actigraphy data.

Acknowledgements

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