

Frequency of Tahajjud Prayer and Its Impact on Sleep Quality Among Elderly People in Karang Werda, Jember Regency

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ABSTRACT

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Background: The elderly experience a decrease in sleep quality, one of which is becoming easier to wake up at night. This can happen, among others, due to the habit of practicing the tahajjud prayer. The relationship between the frequency of tahajjud prayer and sleep quality in the elderly has never been studied before. Objectif: This study aims to explore the relationship between the frequency of Tahajjud prayer and sleep quality among elderly individuals at the Karang Werda Communication Forum in Jember Regency. Method: This type of research is descriptive analytic with a cross-sectional design. Samples were selected using purposive sampling and analyzed using the Spearman Rank Correlation method. Results: A total of 28 elderly people in this study were female (n=23; 82.1%), 60-64 years old (n=13; 46.4%), and not working (n=23; 82.1%). A total of 20 (71.4%) elderly practiced tahajjud prayer 6-7 times per week. 16 (57.1%) elderly had good sleep quality based on the result of PSQI. The Spearman correlation coefficient was -0.287 (p = 0.131), indicating no significant relationship. Conclusion: There is no relationship between tahajjud prayer frequency and sleep quality in the elderly at Karang Werda Communication Forum of Jember.

1. INTRODUCTION

As individuals enter old age, they undergo various degenerative changes that affect physiological functions, including the regulation of the circadian rhythm. These changes can accelerate the circadian cycle, making older adults more vulnerable to sleep disturbances. Common sleep-related issues among the elderly include longer sleep latency, a tendency to wake up earlier, and longer daytime naps compared to nighttime sleep. ¹ Older adults are also more likely to wake up during the night and have difficulty falling back asleep, often due to physical decline and the presence of comorbid. ²

However, not all nighttime awakenings in older adults are caused by sleep disorders. Some may be influenced by habitual religious practices, such as performing the tahajjud prayer during the last third of the night. Therefore, it is important to distinguish between pathological sleep disturbances and spiritually motivated nocturnal awakenings.

Tahajjud prayer is considered the most virtuous of the non-obligatory (sunnah) prayers after the five daily obligatory (fardhu) prayers. This act of worship is recommended based on the command of Allah SWT to the Prophet Muhammad SAW as stated in verse 79 of Surah Al-Isra' ³. The

time for performing tahajjud begins after the Isha prayer and continues until just before the Fajr (dawn) prayer. The optimal time for its performance is during the last third of the night, roughly between 2:00 a.m. and 3:00 a.m. Western Indonesian Time (WIB), and it is preferably performed after a period of sleep ⁴.

A study by Mahfuzah (2023)³ Suggests that the tahajjud prayer offers various physiological and psychological benefits, including improved sleep quality. Similar results were reported by Aoza and Purwanto (2019), who found that students who regularly performed tahajjud experienced better sleep quality than those who did not. Good sleep quality plays a crucial role in preventing sleep disorders.

However, most existing research has focused on younger populations and has not specifically examined the relationship between the frequency of tahajjud prayer and sleep quality among the elderly. Therefore, this study aims to explore the relationship between the frequency of tahajjud prayer and sleep quality among older adults who are members of the Karang Werda Communication Forum in Jember Regency.

2. METHODE

This study employed a descriptive-analytic design with a cross-sectional approach. Data collection was conducted in February 2024. The study population comprised elderly individuals who were members of the Karang Werda Communication Forum across six sub-districts in Jember Regency, Indonesia.

Sampling Procedure

Participants were selected using purposive sampling, based on predefined inclusion and exclusion criteria. A total of 28 respondents met these criteria and agreed to participate in the study.

Although the sample size is relatively small, it aligns with previous studies involving specific elderly populations in community settings (Jannah, 2016; Sihombing et al., 2022⁵). In future studies, larger samples are recommended to improve generalizability and statistical power.

Inclusion Criteria

Respondents were eligible for inclusion if they met the following criteria:

1. Aged 60 years or older (classified as elderly per WHO and Indonesian standards),
2. Practicing Islam,
3. Regularly performing Tahajjud prayer (defined as at least once per week),
4. Willing to provide informed consent to participate in the research.

The focus on individuals who perform the Tahajjud prayer was based on the objective of assessing the impact of the *frequency* of this specific religious practice on sleep quality. Limiting the sample to Tahajjud practitioners helped control for religious behavior as a confounding factor and allowed for better assessment of frequency as a variable.

Exclusion Criteria

The following conditions were grounds for exclusion:

1. A clinical diagnosis of dementia (as it may affect cognitive ability to self-report and influence sleep patterns),
2. A history of diabetes mellitus (due to its potential to cause nocturia and disrupt sleep),
3. Current use of antihypertensive or diuretic medications, which are known to affect sleep quality through nocturnal awakenings or blood pressure-related symptoms.

These exclusions were intended to minimize confounding variables that could independently affect sleep quality, ensuring

a clearer analysis of the relationship between Tahajjud prayer frequency and sleep.

Study Variables and Instruments

Two primary variables were examined:

- Frequency of Tahajjud prayer per week, categorized into three groups:
 - 1–3 times
 - 4–5 times
 - 6–7 times
- Sleep quality, assessed using the Pittsburgh Sleep Quality Index (PSQI), a validated instrument developed by Buysse et al. (1988). The PSQI measures seven components:

1. Subjective sleep quality
2. Sleep latency
3. Sleep duration
4. Habitual sleep efficiency
5. Sleep disturbances of sleeping medication
6. Daytime dysfunction

A **global PSQI score** is calculated, ranging from 0 to 21, with lower scores indicating better sleep. Sleep quality was categorized as:

- **Good sleep quality:** PSQI < 6
- **Poor sleep quality:** PSQI ≥ 6

Data Analysis

Data were analyzed using both univariate and bivariate statistical techniques. The relationship between the frequency of Tahajjud prayer and sleep quality was tested using the Spearman rank correlation coefficient, suitable for ordinal and non-normally distributed data. All analyses were conducted using IBM SPSS version 25.

Ethical Considerations

This study received ethical approval from the Ethics Committee of the Faculty of Medicine, University of Jember, under approval number 2106/UN25.1.10.2/KE/2024. Participants were provided with detailed information regarding the study's purpose, procedures, and voluntary nature, and all gave informed consent before participation.

A total of 28 elderly individuals who met the inclusion and exclusion criteria were included as study participants. The sample characteristics were categorized based on gender, age, employment status, frequency of *tahajjud* prayer, and sleep quality assessment results. In terms of gender distribution, the majority of participants were female, comprising 23 individuals (82.1%). The most common age group was 60–64 years, accounting for 13 individuals (46.4%). Furthermore, 23 participants (82.1%) were unemployed.

Regarding the frequency of *tahajjud* prayer per week, 5 participants (17.9%) performed it 1–3 times, 3 participants (10.7%) performed it 4–5 times, and 20 participants (71.4%) performed it regularly 6–7 times a week. Sleep quality, assessed using the Pittsburgh Sleep Quality Index (PSQI), showed that 16 participants (57.1%) had good sleep quality, while 12 participants (42.9%) had poor sleep quality.

The results of the Spearman rank correlation test, as presented in Table 2, indicated a correlation coefficient of -0.287 with a significance value of 0.138 . This suggests that there was no statistically significant relationship between the frequency of *tahajjud* prayer and sleep quality among the elderly participants.

3. RESULTS AND DISCUSSION

Table 1. Characteristics of Elderly Participants

Characteristic	Number of Participants	Percentage (%)
Gender		
Male	5	17,9
Female	23	82,1
Age Range (years)		
60 – 64	13	46,4
65 – 69	7	25
70 – 74	8	28,6
Occupation		
Private employee	1	3,6
Retired	2	7,1
Land-owning farmer	2	7,1
Unemployed	23	82,1
Frequency of Tahajjud Prayer per Week		
1-3 times	5	17,9
4-5 times	3	10,7
6-7 times	20	71,4
Sleep Quality		
Good	16	57,1
Poor	12	42,9

Table 2: Spearman Rank Correlation between Frequency of Tahajjud Prayer and Sleep Quality (n = 28)

		Frequency of Tahajjud Prayer	Sleep Quality
Frequency of Tahajjud Prayer	<i>Correlation coefficient</i>	1000	-.287
	Sig. (2-tailed)		.138
	N	28	28
Sleep Quality	<i>Correlation coefficient</i>	-.287	1.000
	Sig. (2-tailed)	.138	
	N	28	28

1. Gender Distribution and Religiosity Levels

The majority of respondents were female (82.1%). This aligns with data from Statistics Indonesia.⁶ (, which reported that the elderly female population in Indonesia is higher than the male population. Studies by Salsabila (2020)⁷, Sihombing et al. (2022)⁵, and Basri (2015)⁸ Found that women generally exhibit higher levels of religiosity compared to men. This may be attributed to their domestic roles and unique biological experiences, which contribute to spiritual development.

2. Frequency of Tahajjud and Sleep Quality

Most respondents performed Tahajjud regularly (71.4% performed it 6–7 times per week). However, the Spearman correlation analysis showed a weak negative relationship ($r_s = -0.287$) and was not statistically significant ($p = 0.138$). Technically, this value suggests that the more frequently one performs Tahajjud, the better their sleep quality tends to be. However, this relationship was **not statistically strong enough** to infer a causal link.

A study by Aoza & Purwanto (2019)⁹ Showed a significant difference in sleep quality between students who performed Tahajjud regularly and those who did not ($p < 0.05$). However, their study did not examine the frequency variable, and the different populations and methodologies make direct comparisons difficult. Similarly Saifullah, & Siti Hidayatus Sholehah. (2024), Fernanda et al,2024, found that a low intensity of Tahajjud prayer was associated with higher stress levels among students, where sleep disturbances were included as part of physical symptoms. Since stress contributes to sleep problems, **it may serve as a mediating variable** not measured in this study.^{1011 1213}

3. Social Conditions and Religious Activity Among the Elderly

A large portion of participants (82.1%) were no longer employed, consistent with the natural aging process that reduces physical capacity. Unemployed older adults often have more free time, which can be used for increased religious activities such as Tahajjud prayer, study circles, and reading the Qur'an.¹⁴¹⁵¹⁶ Silverstein and Bengtson (2018) stated that religiosity tends to increase with age as a form of psychosocial adaptation, including dealing with existential anxiety related to death.¹⁷¹⁸

Study Limitations

This study has several limitations, including:

- **Small sample size** (n = 28), which limits statistical power and generalizability.
- **Unmeasured mediating or moderating variables**, such as stress, depression, or chronic health conditions, that could influence sleep quality.
- **Religiosity was only measured by Tahajjud frequency**, without considering subjective spiritual experience or quality of worship.

4. CONCLUSION

Based on the data analysis, it can be concluded that there is no statistically significant relationship between the frequency of Tahajjud prayer and sleep quality among older adults in the Karang Werda Communication Forum in Jember Regency. This finding suggests that, within the context of this study, the frequency of Tahajjud prayer does not directly influence sleep quality in the elderly.

Although Tahajjud prayer involves waking up during the night—which theoretically could affect sleep patterns—this practice may be influenced by various other factors such as individual health status, daily physical

activity, emotional well-being, and other lifestyle habits, which were not controlled in this study. Therefore, it is important to interpret these results with caution.

Practical Implications:

- Health practitioners and caregivers should consider a holistic approach when addressing sleep quality in the elderly, focusing not only on spiritual practices but also on physical, psychological, and environmental factors.
- While Tahajjud prayer may not significantly impact sleep quality, it may still offer psychological and spiritual benefits that contribute to overall well-being and should be encouraged within a broader framework of healthy aging.

Recommendations for Further Research:

- Future studies should include a larger and more diverse sample size and consider other variables such as duration of sleep, sleep disturbances, and the presence of chronic illnesses.
- It may also be valuable to explore the relationship between other forms of religious practices or spiritual activities (e.g., recitation of Qur'an before bed, dzikir, or participation in congregational prayers) and sleep quality.
- Longitudinal studies could help clarify the long-term effects of night prayers on sleep and overall health in elderly populations.

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