Jordan Journal of Nursing Research,
DOI: https://doi.org/10.14525/JJNR.187

Jordan Journal of Nursing Research

https://jjnr.just.edu.jo/jjnr

Autonomous Sensory Meridian Response (ASMR) as a Non-Pharmacological Nursing Intervention to Improve Sleep Quality: A Narrative Literature Review (2021-May 2026)

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ARTICLE INFO

Article History:
Received: March 27, 2026
Accepted: July 15, 2026

ABSTRACT

Background: Sleep disturbance remains a common problem affecting physical and psychological health. Recently, Autonomous Sensory Meridian Response (ASMR) has gained attention as a non-pharmacological approach that may promote relaxation and improve sleep quality through auditory and visual stimulation. ***Purpose*:** This study aimed to explore and synthesize current evidence on the effectiveness of ASMR as a non-pharmacological nursing intervention to improve sleep quality. ***Methods*:** A narrative literature review was conducted using articles published between 2021 and May 2026. Relevant studies were identified through academic databases and screened based on inclusion criteria focusing on ASMR, sleep quality, and relaxation outcomes. Selected articles were analyzed thematically to identify patterns and key findings. ***Results*:** The review suggests that ASMR may support sleep initiation and subjective sleep experience, primarily through relaxation-related mechanisms and reduced physiological arousal. Some studies reported that individuals used ASMR before bedtime to facilitate falling asleep; however, evidence regarding sleep continuity, sleep efficiency, sleep duration, and insomnia symptoms remains limited and inconsistent. The available evidence is promising, but constrained by heterogeneous study designs, small sample, and limited clinical research. ***Conclusion*:** ASMR may support sleep initiation and subjective sleep experience as a complementary non-pharmacological approach. However, evidence remains insufficient to confirm its effectiveness for overall sleep quality or sleep disorders. ***Implications for Nursing*:** Nurses may consider ASMR as a complementary pre-sleep relaxation strategy within sleep hygiene education. Its use should be individualized according to patient preference and should not replace evidence-based treatment for insomnia or other sleep disorders.

Keywords: Autonomous sensory meridian response, Sleep quality, Non-pharmacological intervention, Nursing care, Relaxation therapy, Narrative review.

What does this paper add?

1. It highlights ASMR as an emerging non-pharmacological nursing intervention to improve sleep quality through relaxation-based mechanisms.
2. It synthesizes recent evidence (2021-2026) and identifies gaps in clinical research on ASMR and sleep outcomes.
3. It provides practical insight for integrating ASMR into nursing care as a simple, accessible approach for managing sleep disturbances.

Introduction

Sleep quality refers not only to sleep duration, but also to sleep initiation, sleep continuity, sleep efficiency, and subjective satisfaction with sleep experience (Edinger et al., 2021). Despite its importance, sleep disturbances remain highly prevalent, with recent evidence indicating that a substantial proportion of adults experience poor sleep quality and insomnia symptoms (Keikhaei et al., 2025). In clinical and community settings, inadequate sleep has been linked to increased stress, reduced well-being, and impaired daily functioning (Wu et al., 2024). These conditions present ongoing challenges for nursing practice, as nurses play a central role in assessing and managing patients' sleep problems (Alqaisi & Al-Ghabeesh, 2024).

Pharmacological therapies are commonly used to manage sleep disorders; however, their long-term use is often limited by side effects, dependency, and reduced patient adherence (Edinger et al., 2021). As a result, non-pharmacological approaches have gained increasing attention as safer and more sustainable strategies for improving sleep quality (Zhao et al., 2024). Among these approaches, sound-based and relaxation-oriented interventions have shown promising outcomes in promoting sleep and reducing insomnia symptoms (Mahady et al., 2023).

Autonomous Sensory Meridian Response (ASMR) is a multi-sensory phenomenon characterized by pleasant tingling sensations and relaxation elicited by specific auditory or visual stimuli, such as whispering, tapping, brushing, and slow hand movements (Seifzadeh & Kostek, 2024). In the context of sleep, ASMR is commonly used before bedtime, because it may reduce physiological arousal and facilitate the transition from wakefulness to sleep. Users have reported that ASMR content may help them fall asleep more easily and improve their subjective sleep experience (Woods & Turner-Cobb, 2023). However, evidence regarding its effects across specific dimensions of sleep quality, including sleep initiation, sleep continuity, sleep duration, sleep efficiency, and subjective sleep satisfaction, remains limited and heterogeneous.

Although ASMR has gained popularity as a self-administered sleep aid, the available evidence remains fragmented. Existing studies have examined ASMR-related auditory stimulation, subjective sleep experiences, physiological relaxation, and sleep-related behaviors using diverse methods and populations. For example, qualitative findings indicate that some users employ ASMR content before bedtime to facilitate sleep initiation, whereas experimental evidence has reported mixed findings across sleep duration, sleep efficiency, and subjective sleep quality (Woods & Turner-Cobb, 2023; Wu et al., 2024). In addition, research on auditory sleep aids has suggested that sound-based interventions may support sleep initiation; however, the strength of evidence remains variable, because of differences in intervention characteristics, outcome measures, and participant populations (Yoon & Baek, 2022). This variation makes it difficult to determine whether ASMR improves specific dimensions of sleep quality or primarily supports sleep through relaxation-related mechanisms.

A focused synthesis is therefore needed to examine the available evidence on ASMR and sleep-related outcomes. Understanding the extent to which ASMR may support sleep initiation, subjective sleep quality, sleep duration, sleep efficiency, and insomnia-related symptoms may help clarify its potential role as a complementary non-pharmacological approach to sleep management. Recent studies have suggested that ASMR-related stimulation may be associated with improvements in sleep duration or sleep initiation in selected populations, although evidence regarding sleep efficiency and subjective sleep quality remains inconsistent (Wu et al., 2024). Accordingly, a focused review is needed to distinguish direct sleep-related outcomes from physiological relaxation and psychological responses that may only indirectly contribute to sleep.

Therefore, this narrative literature review was conducted to synthesize current evidence on the relationship between ASMR and sleep quality. The review focuses on sleep-related outcomes, including sleep initiation, subjective sleep satisfaction, sleep duration, sleep efficiency, and symptoms related to insomnia. Physiological relaxation and psychological responses are discussed only as potential mechanisms that may support sleep improvement.

Aims

This review aims to synthesize recent evidence on the potential effects of Autonomous Sensory Meridian Response (ASMR) on sleep quality and sleep-related outcomes, including sleep initiation, subjective sleep satisfaction, sleep duration, sleep efficiency, and symptoms related to insomnia.

Method

This study employed a narrative literature review design to explore and synthesize current evidence on the use of Autonomous Sensory Meridian Response

(ASMR) as a non-pharmacological nursing intervention to improve sleep quality. A narrative approach was selected to allow integration of findings from diverse study designs, including experimental, observational, and qualitative research, in order to provide a comprehensive understanding of the topic.

This narrative literature review was reported in accordance with the Scale for the Assessment of Narrative Review Articles (SANRA) recommendations and guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow framework for study selection.

The literature search was conducted across several electronic databases, including PubMed, Scopus, CINAHL, ScienceDirect, and Google Scholar. Literature searching was assisted using Publish or Perish software. Keywords were combined using Boolean operators and included: "ASMR," "Autonomous Sensory Meridian Response," "sleep quality," "insomnia," "non-pharmacological intervention," "nursing intervention," and "relaxation therapy."

Inclusion criteria were as follows: (1) peer-reviewed articles published between 2021 and May 2026; (2) studies indexed in major academic databases; (3) studies examining ASMR or ASMR-related auditory or audiovisual stimulation in relation to sleep initiation, sleep quality, sleep duration, sleep efficiency, insomnia symptoms, or subjective sleep satisfaction; and (4) full-text articles available in English.

Studies focusing exclusively on psychological outcomes, such as stress, anxiety, mood, emotional regulation, or general well-being, without reporting sleep-related outcomes were excluded from the primary synthesis. These studies were considered only when they provided relevant information regarding potential mechanisms underlying sleep-related effects.

The initial search identified 389 articles. After removing duplicates, 271 records remained. Title and abstract screening resulted in 82 potentially relevant studies. Of these, 31 full-text articles were assessed for eligibility, and 7 studies met the inclusion criteria and were included in the final analysis.

Data analysis was conducted using thematic synthesis. The process involved: (1) extracting sleep-related findings from each included study; (2) categorizing outcomes according to dimensions of sleep quality, including sleep initiation, subjective sleep quality, sleep duration, sleep efficiency, and insomnia-related symptoms; and (3) identifying potential physiological or psychological mechanisms that may explain sleep-related effects. To enhance rigor, the selection and analysis process was reviewed repeatedly to ensure consistency with the review aim.

Table 1. Study selection process

Stage of Selection	Number of Studies
Records identified (all databases)	389
After removing duplicates	271
After title/abstract screening	82
Full-text assessed for eligibility	31
Studies included in final review	7

Results

A narrative synthesis of the included studies identified three themes related to the potential role of ASMR in sleep quality: (1) sleep initiation and subjective sleep experience, (2) physiological relaxation as a mechanism supporting sleep, and (3) individual variability in sleep-related responses. Psychological outcomes were not treated as independent outcomes, because the primary focus of this review was sleep quality. Instead, psychological relaxation was considered a potential mechanism that may facilitate sleep.

1. Sleep Initiation and Subjective Sleep Experience

Several studies suggested that ASMR may support sleep initiation and subjective sleep experience. Individuals who used ASMR content before bedtime reported that it helped them relax and fall asleep more easily. Woods & Turner-Cobb (2023) found that student users described ASMR as a useful sleep aid, particularly when experiencing difficulty initiating sleep. Similarly, Wu et al. (2024) reported that pre-sleep ASMR exposure was associated with improvements in objective sleep duration among adolescents, although no significant improvement was observed in subjective sleep quality or sleep efficiency. These findings suggest that ASMR may be more relevant to sleep initiation and perceived sleep support than to all dimensions of sleep quality.

2. Physiological Relaxation as a Mechanism Supporting Sleep

ASMR may support sleep by reducing physiological arousal before bedtime. Experimental studies have shown that ASMR exposure can induce relaxation, reduce heart rate, and increase parasympathetic activity (Hozaki et al., 2025). Reduced physiological arousal may facilitate the transition from wakefulness to sleep, particularly among individuals who experience difficulty relaxing at bedtime. However, physiological

relaxation should be interpreted as a potential mechanism supporting sleep rather than as direct evidence of improved sleep quality.

3. Individual Variability in Sleep-Related Responses

The sleep-related effects of ASMR varied substantially across individuals. Some users reported that ASMR helped them relax and fall asleep, whereas others experienced minimal benefit. Individual responsiveness may depend on sensory sensitivity, trigger preference, prior experience with ASMR, and the type of auditory or audiovisual content used. Therefore, ASMR may be better understood as a personalized, complementary sleep aid rather than a universal intervention (Lee et al., 2022; Smejka & Wiggs, 2022).

Overall, the available evidence suggests that ASMR may support sleep initiation and subjective sleep experience, primarily through relaxation-related mechanisms. However, evidence regarding sleep continuity, sleep efficiency, sleep duration, and insomnia symptoms remains limited. The heterogeneity of study designs, outcome measures, and populations prevents firm conclusions regarding the effectiveness of ASMR as an intervention for sleep quality.

Table 2. Summary of included studies and emerging themes

Author (Year)	Study Design	Population and Sample Size	Sleep-Related Outcome	Main Finding
Sakurai et al. (2021)	Experimental study	Healthy Japanese adults (n = 30)	Physiological relaxation before sleep	ASMR reduced heart rate and promoted relaxation, which may support sleep readiness.
Yoon and Baek (2022)	Narrative review	Studies of adults using auditory sleep aids	Not applicable	ASMR-related auditory stimulation was discussed as a possible aid for sleep initiation, although direct clinical evidence remained limited.
Woods and Turner-Cobb (2023)	Qualitative study	Female university students in the United Kingdom (n = 8)	Sleep initiation and subjective sleep experience	Participants described ASMR as a self-selected aid for falling asleep and improving subjective sleep experience.
Jespersen et al. (2023)	Systematic review and meta-analysis	Hospitalized patients across the included studies	Not applicable	Music-based sound interventions were associated with improved sleep outcomes; evidence was not ASMR-specific.
Fang et al. (2024)	Systematic review and component network meta-analysis	Critically ill patients across the included studies	Not applicable	Sound and darkness interventions improved sleep quality; findings were not specific to ASMR.
Wu et al. (2024)	Experimental study	High school adolescents (n = 60)	Sleep duration, sleep efficiency, subjective sleep quality	ASMR exposure was associated with improved objective sleep duration, but not significant changes in sleep efficiency or subjective sleep quality.
Khandelwal et al. (2025)	Systematic review	Hospitalized adults across the included studies	Not applicable	Sound-machine interventions may improve sleep, although evidence was heterogeneous and not ASMR-specific.

Discussion

This review suggests that ASMR may have potential as a complementary strategy to support sleep initiation and subjective sleep experience. However, the available evidence does not yet establish that ASMR consistently improves all dimensions of sleep quality. The most consistent findings relate to relaxation-related physiological responses, including reduced heart rate and decreased physiological arousal, which may facilitate the transition from wakefulness to sleep.

In terms of sleep outcomes, the available evidence suggests that ASMR may support sleep initiation and subjective sleep experience. However, current evidence remains insufficient to conclude that ASMR improves

overall sleep quality. Although several studies reported shorter sleep onset latency and improved subjective sleep experience, evidence regarding sleep continuity, sleep efficiency, and overall sleep quality remains inconsistent. Auditory-based stimulation, including ASMR, has been shown to shorten sleep onset latency and improve subjective sleep experience (Woods & Turner-Cobb, 2023; Yoon & Baek, 2022). Broader evidence on sound-based interventions also supports the effectiveness of similar approaches in reducing insomnia symptoms (Fang et al., 2024; Jespersen et al., 2023). However, some reviews note that although the results are promising, the current body of evidence remains limited and requires further validation through more rigorous study designs (Khandelwal et al., 2025).

Psychological responses to ASMR, such as perceived calmness, reduced stress, and improved mood, may be relevant to sleep only insofar as they reduce pre-sleep arousal (Greer et al., 2025; Leung & Romano, 2024). However, these outcomes should not be interpreted as direct indicators of sleep quality. In the present review, evidence for ASMR was stronger for relaxation-related experiences and sleep initiation than for sleep continuity, sleep efficiency, or objectively measured sleep quality (Lee et al., 2022; Smejka & Wiggs, 2022). Therefore, the potential role of ASMR should be understood primarily as a complementary pre-sleep relaxation strategy rather than an established intervention for sleep disorders (Abueva et al., 2025; Chen, 2026).

Despite these benefits, the effectiveness of ASMR is not universal. Individual differences play a significant role, with some individuals experiencing strong relaxation and sleep effects, while others report minimal response (Ortega-Balderas et al., 2025). For example, some participants reported intense tingling sensations and substantial relaxation, whereas others experienced little or no sensory response despite exposure to identical ASMR stimuli. This variability may be influenced by personal preferences, sensory sensitivity, familiarity with ASMR triggers, and potentially cultural factors that shape perceptions of auditory and visual stimuli. Furthermore, emerging approaches, such as combining ASMR with virtual reality, suggest potential for enhancing its effectiveness through multi-sensory engagement (Kaleva & Riches, 2023). These findings indicate that ASMR should be considered a personalized intervention rather than a one-size-fits-all solution.

From a nursing perspective, ASMR offers a simple, low-cost, and non-invasive intervention that can be integrated into patient care. Nurses can incorporate ASMR as part of sleep hygiene education, particularly for patients experiencing mild sleep disturbances or stress-related insomnia. The use of ASMR aligns with holistic nursing care by addressing both physiological relaxation and psychological comfort (Hozaki et al., 2025). It may also serve as a complementary approach alongside other non-pharmacological interventions, reducing reliance on sleep medications.

Predictive coding refers to a neurological process in which the brain continuously anticipates incoming sensory information and adjusts its responses based on previous experiences. In the context of ASMR, familiar and soothing stimuli may generate feelings of comfort and safety, thereby promoting relaxation.

Cultural and religious contexts may also influence how individuals perceive ASMR content. Since many ASMR stimuli involve whispering, personal attention, and audiovisual cues, acceptance and effectiveness may differ across socio-cultural backgrounds. The absence of studies involving Arab or Middle Eastern populations highlights an important gap for future research.

The findings should be interpreted cautiously, because direct evidence on sleep quality remains limited. Most available studies used subjective reports, small samples, or indirect outcomes, such as relaxation and physiological arousal. Moreover, several sound-based studies included in the literature were not exclusively focused on ASMR, which limits the ability to attribute sleep-related effects specifically to ASMR. Future research should use standardized sleep measures, including sleep onset latency, sleep efficiency, sleep duration, and validated sleep quality instruments, to determine whether ASMR produces clinically meaningful sleep improvements.

Implications for Nursing

ASMR may be considered as a complementary pre-sleep relaxation strategy for individuals experiencing mild sleep initiation difficulties or bedtime arousal. Nurses may provide education regarding safe and appropriate use of ASMR content as part of sleep hygiene counseling. However, ASMR should not replace evidence-based treatment for insomnia or other sleep disorders. Nurses should assess individual preferences, sensory comfort, and the patient's response before recommending ASMR. Further clinical trials are

needed before ASMR can be incorporated into standardized nursing protocols for sleep management.

Study Limitations

This review has several limitations that should be considered when interpreting the findings. First, the narrative review design does not follow a fully systematic approach, which may introduce selection bias in the inclusion of studies. Although efforts were made to include relevant and recent literature, some studies may have been overlooked.

Second, the included studies showed considerable variability in research design, sample characteristics, and outcome measures, making it difficult to draw direct comparisons or generalize the findings. Many studies relied on self-reported data, particularly in assessing sleep quality and ASMR experiences, which may be subject to reporting bias.

Third, the current body of evidence on ASMR remains limited, with relatively few experimental and clinical studies available. Most studies were conducted on specific populations, such as students or young adults, which may limit the applicability of the findings to broader or clinical populations.

No formal quality appraisal tool was applied, because this study employed a narrative review design. Therefore, the methodological quality and risk of bias of included studies were not systematically assessed.

Furthermore, this review was not prospectively registered in databases, such as PROSPERO, which may limit transparency and reproducibility.

In addition, none of the included studies were conducted in Middle Eastern populations. Cultural values, family structures, and sleep-related practices may influence ASMR perception and effectiveness, limiting the generalizability of the findings across diverse cultural contexts.

Finally, individual differences in response to ASMR were not consistently addressed across studies, which may influence the overall effectiveness of this intervention. These limitations highlight the need for more rigorous, large-scale, and clinically focused research to better establish the role of ASMR in improving sleep quality within nursing practice.

Conclusion

The Autonomous Sensory Meridian Response (ASMR) may have potential as a complementary, non-pharmacological approach to support sleep initiation and subjective sleep experience. The available evidence suggests that ASMR may reduce physiological arousal and promote relaxation before bedtime, which could facilitate the transition from wakefulness to sleep.

However, evidence regarding other dimensions of sleep quality, including sleep continuity, sleep efficiency, sleep duration, and symptoms of insomnia, remains limited and inconsistent. Psychological benefits, such as reduced stress and improved mood, should be interpreted as possible mechanisms supporting sleep rather than direct indicators of sleep quality.

Further well-designed clinical studies using standardized and objective sleep measures are required to determine the effectiveness of ASMR as a sleep-focused nursing intervention.

Conflict of Interests

The authors confirm that there is no conflict of interests.

Funding or Sources of Financial Support

This study received no specific funding from any public, commercial, or non-profit organizations.

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