INTERNATIONAL JOURNAL OF EDUCATION, PSYCHOLOGY AND COUNSELLING (IJEPC)

www.ijepc.com

GAE

GLOBAL ACADEMIC EXCELLENCE

IDENTIFYING COPING MECHANISMS TO OVERCOME SLEEP DISTURBANCE AMONG THE ELDERLY

Divanee Chandrasegar[1], Siti Nordarma Ab Rahman[2*], Nor Shafrin Ahmad[3]

[1] Department of Account, Universiti Sains Malaysia, Malaysia
   Email: divanee@usm.my
[2] Department of Account, Ministry of Health Malaysia, Putrajaya, Malaysia
   Email: sitinordarma@gmail.com
[3] Department of Account, Universiti Sains Malaysia, Malaysia
   Email: sham@usm.my
[*] Corresponding Author

Article Info:

Abstract:

Sleep disturbances are a prevalent issue among the elderly, significantly affecting their quality of life, cognitive function, and physical health. This study utilized the Nominal Group Technique (NGT) to identify and rank effective coping strategies for managing sleep disturbances. Structured discussions were conducted with a panel of experts and elderly individuals who had experienced sleep disturbances. The findings highlighted that physical comfort and environmental adjustments were the most effective strategies. The use of supportive pillows and mattresses (95.24%) and avoiding excessive water intake before bed (95.24%) ranked as top priorities. Other highly rated strategies included reducing light exposure (90.48%), maintaining a cosy sleeping environment (80.95%), and relaxation techniques such as aromatherapy (85.71%). While behavioural changes such as mindfulness meditation (71.43%) and avoiding caffeine before bed (71.43%) were recognized as beneficial, they were ranked lower due to challenges in adherence. The study underscores the importance of a multifaceted approach integrating lifestyle, psychological, and physical interventions to improve sleep quality. The study provides evidence-based recommendations for policymakers, healthcare professionals, and caregivers to develop personalized sleep intervention plans for older adults. Future research should explore digital health interventions, long-term effectiveness, and policy-driven solutions to further enhance sleep management among the elderly.

Keywords:

Coping Mechanisms, Elderly, Geriatric Health, Nominal Group Technique, Sleep Disturbances, Sleep Interventions

Introduction

Malaysia is undergoing a significant demographic shift towards an aging population due to advancements in healthcare, education, and socioeconomic conditions. The proportion of individuals aged 60 and above has more than doubled, from 1 million in 1991 to 2.2 million in 2010, and is projected to reach 7 million by 2040, constituting 17.6% of the total population (Rashid et al., 2014). This demographic transformation presents both opportunities and challenges, particularly in healthcare and social support systems, as older adults face an increased risk of age-related health conditions, including sleep disturbances (Tey et al., 2015). Sleep disturbances are a prevalent yet often overlooked issue among the elderly, significantly affecting their overall health, cognitive function, and quality of life. Changes in circadian rhythms lead to earlier sleep onset and wake times, alongside disruptions in melatonin secretion, body temperature regulation, and cortisol levels (Li et al., 2018). Additionally, age-related sleep disorders such as insomnia, sleep apnea, and restless legs syndrome further contribute to sleep impairment and daytime dysfunction (Rodríguez et al., 2014).

In Malaysia, research has highlighted a growing concern regarding sleep quality among older adults, particularly in relation to chronic illnesses, medication use, and psychosocial factors (Neikrug & Ancoli-Israel, 2009). The biological, psychological, and environmental determinants of sleep disturbances underscore the need for holistic interventions beyond pharmacological treatment. Poor sleep quality has been linked to cognitive decline, increased fall risk, and reduced ability to perform daily activities (Bloom et al., 2009). Furthermore, chronic pain conditions such as osteoporosis can exacerbate sleep problems, making non-pharmacological strategies essential for improving sleep health. Research suggests that interventions such as maintaining proper sleep hygiene, engaging in physical activities, and practicing relaxation techniques like yoga and meditation can significantly enhance sleep quality among the elderly (Sagayadevan et al., 2016). Addressing sleep disturbances in Malaysia's aging population requires a multidisciplinary approach involving healthcare professionals, including physicians, nurses, sleep specialists, and mental health practitioners.

By integrating cognitive-behavioral strategies, lifestyle modifications, and social support mechanisms, it is possible to develop sustainable coping strategies that promote better sleep among older adults (Rashid et al., 2012). This paper explores the coping strategies that can help mitigate sleep disturbances in elderly individuals, providing evidence-based recommendations to enhance their overall well-being and quality of life.

Literature Review

Sleep disturbances are a prevalent issue among the elderly, significantly affecting their overall health, cognitive function, and quality of life. Research indicates that sleep disorders in aging populations result from a complex interplay of biological, psychological, and environmental factors. The biopsychosocial model serves as a comprehensive framework for understanding these multifaceted sleep disturbances, emphasizing the interconnected role of physiological changes, mental health conditions, and external influences (Bloom et al., 2009). Addressing these challenges holistically through cognitive-behavioral strategies, lifestyle modifications, and supportive interventions has been shown to enhance sleep quality and well-being.

Aging is strongly associated with alterations in sleep architecture, increased comorbidities, and medication side effects, all of which contribute to sleep disturbances (McCall, 2004). Physiological changes in sleep patterns, such as reduced deep sleep and increased nighttime awakenings, often lead to insomnia and fragmented sleep among older adults (Scocco & Nassuato, 2017). Additionally, chronic conditions such as osteoporosis, arthritis, and cardiovascular diseases further exacerbate sleep problems due to pain-related awakenings and discomfort (Fragoso & Gill, 2007). Research has also linked persistent sleep disturbances to cognitive decline, an increased risk of dementia, and a heightened vulnerability to multiple chronic conditions (Bloom et al., 2009). Given these findings, addressing the physiological aspects of sleep disturbances is crucial for promoting long-term sleep health in older populations.

Mental health plays a crucial role in sleep regulation among the elderly. Dysfunctional sleep beliefs, heightened anxiety, and depression contribute to chronic insomnia and poor sleep outcomes (Fragoso & Gill, 2007). Older adults who experience psychological distress, loneliness, and social isolation are at a higher risk of developing persistent sleep disorders. Studies suggest that cognitive-behavioral therapy for insomnia (CBT-I) is an effective, evidence-based intervention for improving sleep patterns and reducing dependence on medication (Tatineny et al., 2020). Furthermore, digital interventions, including mobile health applications and teletherapy, have demonstrated promising results in enhancing sleep quality and providing accessibility to psychological support for older adults. Group-based interventions, such as guided meditation and relaxation techniques, also contribute to better emotional regulation and improved sleep outcomes (Leung et al., 2018).

External factors such as poor sleep hygiene, irregular sleep schedules, and limited exposure to natural light can negatively impact sleep among older adults. Studies highlight that modifying these lifestyle habits plays a crucial role in managing sleep disturbances. Engaging in regular physical activity, such as yoga and aerobic exercises, has been shown to improve sleep quality and reduce sleep latency (Bloom et al., 2009; McCall, 2004; Fragoso & Gill, 2007). Additionally, maintaining consistent sleep-wake schedules, minimizing caffeine and alcohol intake, and creating a conducive sleep environment contribute to better sleep outcomes. Structured community-based interventions, such as sleep education programs and structured physical activity routines, have been effective in promoting better sleep hygiene and sustainable sleep improvements among older adults (Neikrug & Ancoli-Israel, 2009). Healthcare providers should integrate cognitive-behavioral strategies, non-pharmacological interventions, and supportive social mechanisms to develop sustainable coping strategies for older adults. Collaborative efforts involving nurses, sleep specialists, psychologists, and community caregivers can further enhance the effectiveness of sleep interventions. Future research should continue to explore integrative approaches that combine biological, psychological, and environmental strategies to support older adults in achieving sustainable and restorative sleep health.

Methodology

This study was conducted in February 2025 in response to the increasing prevalence of sleep disturbances among the elderly, with a focus on Malaysia. The Nominal Group Technique (NGT) was used as the primary research methodology to facilitate structured discussions and generate expert-driven solutions. Participants were selected using the purposive sampling method, ensuring that only individuals who met the inclusion criteria took part in the study.

The researchers actively selected participants with expertise in geriatric health, sleep disorders, elderly care, and professionals who have handled cases of sleep disturbances. A total of seven specialists from various disciplines participated, including gerontology, psychology, and elderly care. Among them, six were elderly individuals (aged 60 and above) who had experienced serious sleep disturbances for at least four weeks, while one was a registered counsellor with experience in handling clients with sleep disturbances among the elderly. These experts were chosen from various Malaysian institutions to provide a diverse range of perspectives on sleep disturbances and coping mechanisms.

The NGT session was conducted in person at the Lominous Learning Centre, Kepala Batas Bertam, and a venue well-suited for focused discussions. This two-hour session allowed participants to collaboratively explore and propose evidence-based strategies for managing sleep disturbances in the elderly. The researchers facilitated a structured brainstorming session, guiding participants through identifying, discussing, and ranking coping strategies. Each expert contributed insights based on their professional background, which were then systematically compiled and ranked for effectiveness. The NGT approach ensured that the suggested interventions aligned with the study's objectives by fostering structured discussions and consensus-building. Through this method, the study successfully gathered expert opinions and formulated practical, evidence-based recommendations to improve sleep quality among the elderly in Malaysia. It is anticipated that the findings from this session will enhance elderly care strategies, promote better sleep hygiene, and contribute to overall health improvements for older adults.
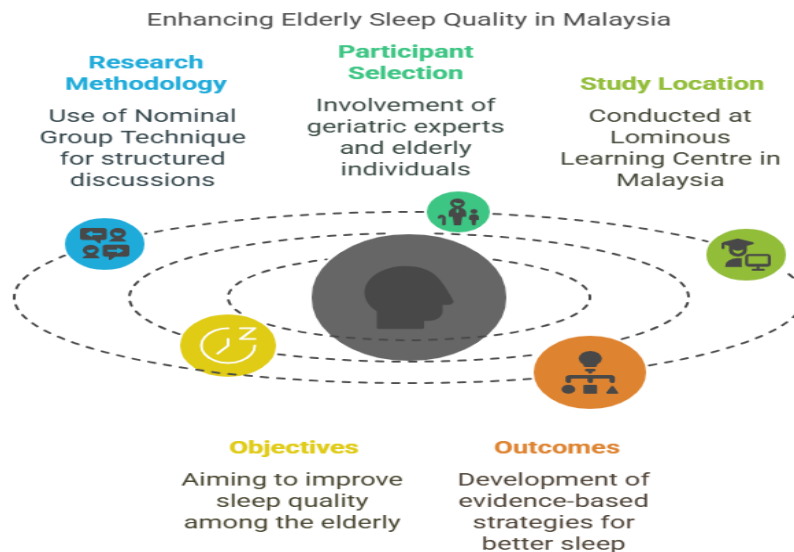

Figure 1: Overview of the Methodology on Sleep Disturbances among the Elderly

Approach to NGT

The Nominal Group Technique (NGT) is an effective tool for generating collective insights and resolving complex problems within groups. It offers a structured approach to gathering opinions, which helps to mitigate issues such as groupthink and individual dominance. The typical NGT process involves participants writing down their ideas individually before sharing them with the group in a round-robin fashion. A voting or ranking system is then used to prioritize the ideas after the group has discussed them. Although the approach has become popular in domains such as the social sciences, health, and certain educational settings, its

application in education is actually less widespread than in other domains. But according to the studies mentioned (O'Neil & Jackson, 1983; Lomax & McLeman, 1984; Lloyd-Jones et al., 1999; MacPhail, 2001), the method was effective in eliciting educational viewpoints or encouraging cooperative problem-solving between educators, students, and legislators.

The method employed in this study follows a highly structured five-step process:

1. Independent Idea Generation: Participants individually generate responses to a given prompt without external influence.
2. Round-Robin Sharing: Each idea is presented sequentially, ensuring equal participation, without immediate discussion or critique.
3. Clarification and Categorization: Participants refine, clarify, and group similar ideas to establish thematic consistency.
4. Priority Ranking: Participants independently vote to determine the most critical ideas.
5. Structured Rating Process: A five-card rating system is implemented to ensure objective prioritization, minimizing inconsistencies in scoring.

In the initial phase of the study, team members engaged in brainstorming potential strategies to enhance community health. The researcher actively facilitated the session, guiding participants through the structured process. Each participant privately recorded their thoughts on a sheet of paper. Following the brainstorming session, all responses were compiled and displayed on a shared screen, enabling participants to review and clarify their contributions. Overlapping ideas were refined to ensure conceptual clarity. To maintain an objective prioritization process, a five-card rating system was introduced in the final phase. Each participant received five color-coded cards marked with star ratings from one to five, ranking their top five ideas accordingly. While the traditional Nominal Group Technique (NGT) allows for numerical ranking of multiple ideas, previous studies have identified inconsistencies when participants assign identical scores to multiple concepts. By refining the rating process, this study ensured a systematic and unbiased selection of key proposals. The structured approach ultimately facilitated the development of a clear and actionable strategy for addressing sleep disturbances among the elderly.
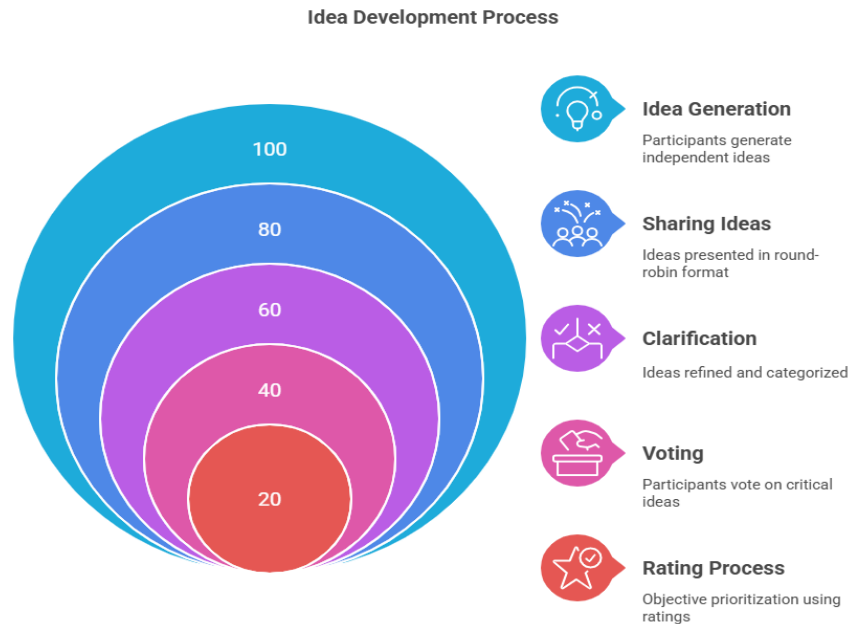
Figure 2: Five Basic Steps NGT

Data Analysis

The analysis of the Nominal Group Technique (NGT) data revealed key coping strategies for sleep disturbances among the elderly, ranked based on participant consensus. The most highly prioritized strategies, with 95.24% agreement, were using supportive mattresses and pillows and avoiding excessive water intake before bedtime, emphasizing the importance of physical comfort and minimizing night time disruptions. Other strategies receiving strong support, scoring above 85%, included using dark curtains to reduce light exposure (90.48%), sharing concerns with family or friends to alleviate emotional distress (90.48%), reducing the intake of heavy or spicy foods before bedtime (85.71%), and aromatherapy with essential oils like lavender to promote relaxation (85.71%). These findings highlight the significance of environmental adjustments and emotional well-being in improving sleep quality. Meanwhile, strategies such as mindfulness meditation (71.43%), avoiding caffeine and nicotine before bedtime (71.43%), and engaging in light physical activities like yoga or tai chi (76.19%) were ranked lower but still deemed suitable. The lower ranking of behavioural interventions suggests that elderly individuals may prioritize immediate, tangible solutions over practices requiring sustained effort. Overall, the data underscores the need for a holistic approach to managing sleep disturbances, combining physical comfort, environmental modifications, dietary regulations, and emotional support to enhance sleep quality among older adults.

Findings

Items / Elements	V1	V2	V3	V4	V5	V6	V7	Total item score	Percentage	Rank	Consensus
Maintain a Consistent Sleep Routine	2	3	2	2	2	3	3	17	80.95	4	Suitable
Practice bedtime rituals such as reading, Zikir, or listening to soothing music.	3	3	3	1	2	2	2	16	76.19	5	Suitable
Optimizing the Sleep Environment	3	2	3	2	2	2	3	17	80.95	4	Suitable
Use dark curtains to reduce the light in the room.	3	3	1	3	3	3	3	19	90.48	2	Suitable
Make sure the room temperature is comfortable (around 24-26°C).	3	2	2	3	3	2	2	17	80.95	4	Suitable
Use mattresses and pillows that support comfort.	3	2	3	3	3	3	3	20	95.24	1	Suitable
Controlling Eating and Drinking Before Bed	3	3	3	2	2	1	2	16	76.19	5	Suitable
Avoid caffeine and nicotine at least 4-6 hours before bedtime.	3	3	2	3	1	2	1	15	71.43	6	Suitable
Reduce your intake of heavy or spicy foods before bedtime.	3	3	2	3	2	3	2	18	85.71	3	Suitable
Avoid drinking large amounts	3	3	2	3	3	3	3	20	95.24	1	Suitable

of water before bed to reduce the disturbance to the toilet at night.											
Deep breathing exercises.	3	3	2	1	2	2	2	15	71.43	6	Suitable
Light exercise such as walking, yoga, or tai chi in the morning or evening.	3	3	2	2	2	2	2	16	76.19	5	Suitable
Sharing problems with family members or friends to reduce emotional burden.	3	3	2	2	3	3	3	19	90.48	2	Suitable
Mindfulness meditation to reduce anxiety before bed.	2	3	2	3	2	1	2	15	71.43	6	Suitable
Aromatherapy – Using essential oils such as lavender that have been shown to help with sleep.	2	3	2	3	3	2	3	18	85.71	3	Suitable
Avoid the use of electronic devices before bed. Reduce the use of mobile phones, TVs, or tablets at least 30-60 minutes before bedtime.	3	3	2	2	1	2	3	16	76.19	5	Suitable

Table 1: The Nominal Group Technique (NGT) Data of a Key Coping Strategies for Sleep Disturbances among the Elderly

The Nominal Group Technique (NGT) was used to brainstorming and prioritize interventions for treating sleep disturbances in the elderly. The study divided these interventions into three categories: sleep environment optimization, behavioural and lifestyle adjustments, and emotional well-being strategies. Participants assigned scores to each intervention, which were then converted into percentages to determine its priority. A minimum threshold of 70% was set to ensure that only the most effective strategies were recommended. The most effective interventions were found to be using supportive mattresses and pillows (95.24%) and avoiding excessive water intake before bedtime. These findings emphasize the importance of physical comfort and reducing night time disruptions in enhancing sleep quality.

Other highly rated environmental changes included using dark curtains to reduce light exposure (90.48%), keeping a comfortable room temperature (80.95%), and optimizing the overall sleep environment (80.95%), highlighting the importance of a well-regulated sleep environment. Behavioural and dietary changes also received widespread support. Reducing heavy or spicy foods before bedtime (85.71%) and practicing aromatherapy with essential oils such as lavender (85.71%) were identified as preferred relaxation techniques, implying that sensory and dietary factors have a significant impact on sleep quality. Additionally, bedtime rituals such as reading, Zikir, or listening to soothing music (76.19%), as well as light exercises such as walking, yoga, or tai chi (76.19%), were found to be effective in promoting relaxation before sleep. On the other hand, several behavioural modifications were ranked relatively lower. The least effective therapies were deep breathing exercises (71.43%), avoiding coffee and nicotine 4–6 hours before bed (71.43%), and mindfulness meditation (71.43%). Despite their advantages, some tactics particularly those that call for sustained dedication may be harder for senior citizens to embrace.

Given that not all older persons may be equally open to changing their habits, our findings highlight the significance of tailored intervention strategies. The quality of sleep was also significantly influenced by emotional health. The importance of social support in managing sleep problems was shown by the high ranking of 90.48 percent for discussing worries with friends or family to reduce emotional discomfort. Furthermore, it was discovered that stress-reduction methods including aromatherapy and mindfulness meditation improved sleep quality, hence reaffirming the link between mental health and relaxation. In conclusion, the results validate that addressing sleep problems in the elderly requires an integrated approach. The most effective interventions integrate nutritional changes, environmental changes, emotional well-being techniques, and physical comfort. These revelations underscore the need for specialized interventions that address the physiological and psychological facets of sleep health, offering insightful advice to legislators, healthcare providers, and caregivers. By putting these techniques into practice, older persons can improve their overall health and sleep habits, which will improve their quality of life.

Discussion

The study's findings underscore the complexities of sleep disorders in the elderly, as well as the need for a comprehensive, multifaceted strategy to addressing this issue. The top-ranked therapies, such as using supportive mattresses and pillows (95.24%) and avoiding excessive water intake before bedtime (95.24%), show that physical comfort and reducing interruptions are critical for older persons. These findings are consistent with previous studies, highlighting the necessity of managing sleep surroundings to improve sleep quality.

Additional adjustments, such as utilizing dark curtains to limit light exposure (90.48%) and keeping a pleasant room temperature (80.95%), emphasize the importance of sleep hygiene and environmental factors in controlling sleep patterns. Behavioural and lifestyle changes were also identified as beneficial interventions, including limiting heavy or spicy food intake before bed (85.71%) and utilizing aromatherapy with lavender essential oils (85.71%). These data imply that dietary choices and sensory cues have a major impact on sleep quality. However, therapies that demand habitual behavioural adjustments, such as mindfulness meditation (71.43%), abstaining from caffeine and nicotine before bedtime (71.43%), and deep breathing exercises (71.43%), earned lower scores. This shows that, while such treatments have advantages, elderly people may find immediate and tangible changes more practical than long-term behavioural adaptations.

Another important component that has been found to affect the quality of sleep is emotional well-being. One of the most successful strategies was talking to family or friends about concerns (90.48%), demonstrating the close connection between sleep regulation and mental health. The results highlight the importance of social support and emotional relaxation strategies in fostering better sleep, as stress and emotional discomfort are well-established causes of sleep disruptions. Elderly people's sleep quality may be further improved by using psychosocial interventions that promote candid conversation and relaxation techniques. It is important to recognize certain limits even if these approaches have proven to be successful. Because the study was based on subjective evaluations, the ranking of techniques was impacted by individual preferences and experiences. Furthermore, although the Nominal Group Technique (NGT) enabled a methodical decision-making process, variables including cultural values, lifestyle choices, and medical problems might potentially influence how applicable these interventions are. Future studies should examine these tactics' long-term efficacy and evaluate their viability in a range of demographics.

Conclusion

This study indicates that treating sleep disorders in the elderly necessitates a comprehensive strategy that includes environmental changes, lifestyle changes, and emotional well-being techniques. The most effective therapies focus on improving physical comfort, optimizing sleep conditions, and managing food habits, but techniques that require behavioural changes may require additional assistance for successful implementation. These findings provide significant information for caregivers, healthcare professionals, and legislators, emphasizing the importance of individualized sleep intervention programs that target the requirements of older persons. Implementing these evidence-based practices can help senior people achieve healthier sleep patterns, increased well-being, and a higher quality of life in their later years.

Suggestions for Researchers in the Future:

Future research should explore the long-term impact of various behavioural, environmental, and psychological interventions in managing sleep disturbances among the elderly. While short-term studies offer valuable insights, tracking sleep patterns over extended periods would provide a clearer picture of the sustainability of these interventions. Additionally, comparing pharmacological and non-pharmacological treatments could help determine the most effective approaches for elderly individuals with different health conditions, particularly those with chronic illnesses or severe sleep disorders.

Expanding the research population to include diverse cultural, socioeconomic, and geographical backgrounds would offer a broader perspective on the factors influencing sleep disturbances in older adults. Lifestyle, diet, climate conditions, healthcare accessibility, and social norms all play a role in sleep quality. Studying how these variables interact in different regions could help tailor interventions to specific populations. Furthermore, including participants from both rural and urban settings would highlight potential disparities in sleep health and access to effective treatments.

As healthcare technology continues to advance, future studies should investigate the role of digital health solutions in elderly sleep management. Wearable sleep-monitoring devices, mobile applications, and virtual cognitive behavioural therapy (CBT-I) are promising tools that could bridge the gap between traditional and modern sleep interventions. Research should explore how older adults engage with these technologies and whether integrating them into elderly care programs is both feasible and beneficial. Another critical area for further study is the relationship between psychosocial factors and sleep disturbances. Emotional well-being significantly influences sleep quality, so understanding the impact of social support, loneliness, anxiety, and depression on elderly sleep patterns is essential. Collaborating with policymakers and aging organizations to develop evidence-based strategies such as community sleep education programs and caregiver support initiatives could lead to sustainable solutions for improving sleep health in aging populations. By addressing these research gaps, future studies can contribute to a more comprehensive understanding of elderly sleep disturbances and pave the way for improved health outcomes for the aging community.

Contributions of this Study:

With evidence-based suggestions to improve sleep quality and general well-being, this study provides insightful information about comprehending and treating sleep disturbances in the elderly. The study successfully prioritizes interventions based on expert consensus by employing the Nominal Group Technique (NGT), guaranteeing that the recommended tactics correspond with the real needs and experiences of older adults.

The results provide a comprehensive, multifaceted approach to sleep management by highlighting the significance of improving the sleep environment, modifying behaviour, and attending to emotional well-being. It identifies highly effective interventions, such as using supportive mattresses and pillows, regulating fluid intake before bedtime, and creating a sleep-friendly environment, that caregivers, healthcare professionals, and the elderly can implement themselves.

Furthermore, by ranking these interventions according to their effectiveness, the study provides a structured framework for improving sleep, allowing healthcare providers to tailor strategies to individual needs and create more personalized elderly care programs. From a theoretical standpoint, this study improves on earlier research by integrating a few psychological and health-related theories, including the Biopsychosocial Model, Cognitive Behavioural Theory of Insomnia, and Ecological Systems Theory. The study reinforces the intricate interactions between social, psychological, and physical factors that impact older adults' sleep patterns and advances scholarly knowledge of sleep disturbances using these frameworks. These findings support the larger area of geriatric health research and set the stage for future investigations into more specialized facets of sleep interventions. It is because this study provides evidence-based recommendations that can guide public health campaigns and senior care programs, it

has important policy implications. The results indicate that promoting non-pharmacological interventions and integrating sleep education into community healthcare programs can significantly enhance older adults' quality of life. This study promotes the creation of all-encompassing and long-lasting sleep improvement strategies by addressing the behavioural, emotional, and physical aspects of sleep health.

References
Ahmad, N., Rahman, A. B., Jasman, N., Salleh, K. Z., Harun, S. N. F., Krishnan, M., & Johar, M. (2020). Usage of internet for health information seeking among elderly in Malaysia. *EPRA International Journal of Multidisciplinary Research (IJMR)*, p. 187. https://doi.org/10.36713/epra4422

Bloom, H. G., Ahmed, I., Alessi, C. A., Ancoli-Israel, S., Buysse, D. J., Kryger, M. H., Phillips, B. A., Thorpy, M. J., Vitiello, M. V., & Zee, P. C. (2009). Evidence-based recommendations for the assessment and management of sleep disorders in older persons. *Journal of the American Geriatrics Society*, 57(5), 761. Wiley. https://doi.org/10.1111/j.1532-5415.2009.02220.x

Fragoso, C. A. V., & Gill, T. M. (2007). Sleep complaints in community-living older persons: A multifactorial geriatric syndrome. *Journal of the American Geriatrics Society*, 55(11), 1853. Wiley. https://doi.org/10.1111/j.1532-5415.2007.01399.x

Leung, R., Naqvi, R., & Levy, B. (2018). Mindfulness-based cognitive therapy improves sleep quality in older adults with insomnia. *Journal of Clinical Sleep Medicine*, 14(5), 759-766. https://doi.org/10.5664/jcsm.7082

Li, J., Vitiello, M. V., & Gooneratne, N. S. (2018). Sleep in normal aging. *Sleep Medicine Clinics*, 13(1), 1–11. https://doi.org/10.1016/j.jsmc.2017.09.001

McCall, W. V. (2004). Sleep in the elderly. *The Primary Care Companion to The Journal of Clinical Psychiatry*, 6(1), 9. https://doi.org/10.4088/pcc.v06n0104

Neikrug, A. B., & Ancoli-Israel, S. (2009). Sleep disorders in the older adult – A mini-review. *Gerontology*, 56(2), 181. Karger Publishers. https://doi.org/10.1159/000236900

O'Neil, M.J.,&Jackson, L.(1983).Nominal group technique: a a process for initiating curriculum development in higher education. Studies in Higher Education, 8(2), 129-138

Raaj, S., Navanathan, S., Tharmaselan, M., & Lally, J. (2021). Mental disorders in Malaysia: An increase in lifetime prevalence. *BJPsych International*, 18(4), 97. Cambridge University Press. https://doi.org/10.1192/bji.2021.4

Rashid, A., Ong, E. K., & Wong, E. S. Y. (2012). Sleep quality among residents of an old folk's home in Malaysia. *PubMed. National Institutes of Health*. https://pubmed.ncbi.nlm.nih.gov/23922598

Rashid, S. A., Ghani, P. A., & Daud, N. (2014). Population trends in Malaysia: 1970-2010. *AIP Conference Proceedings*, 1635, 875. American Institute of Physics. https://doi.org/10.1063/1.4903686

Rodríguez, J. C., Dzierzewski, J. M., & Alessi, C. A. (2014). Sleep problems in the elderly. *Medical Clinics of North America*, 99(2), 431. Elsevier BV. https://doi.org/10.1016/j.mcna.2014.11.013

Sagayadevan, V., Abdin, E., Shafie, S., Jeyagurunathan, A., Sambasivam, R., Zhang, Y., Picco, L., Vaingankar, J. A., Chong, S. A., & Subramaniam, M. (2016). Prevalence and correlates of sleep problems among elderly Singaporeans. *Psychogeriatrics*, 17(1), 43. Wiley. https://doi.org/10.1111/psyg.12190

Scocco, P., & Nassuato, M. (2017). The role of social relationships among elderly community-dwelling and nursing-home residents: Findings from a quality of life study. *Psychogeriatrics: The Official Journal of the Japanese Psychogeriatric Society*, 17(4), 231–237. https://doi.org/10.1111/psyg.12219

Tatineny, P., Shafi, F., Gohar, A., & Bhat, A. (2020). Sleep in the elderly. *Missouri Medicine*, 117(5), 490. https://pubmed.ncbi.nlm.nih.gov/33311760/

Tey, N. P., Siraj, S. B., Kamaruzzaman, S. B., Chin, A. V., Tan, M. P., Sinnappan, G. S., & Müller, A. M. (2015). Aging in Malaysia: Progress and prospects. *The Journal of Aging Studies*, 35, 10-18. Elsevier. https://doi.org/10.1016/j.jaging.2015.07.001