MIGRAINE IN MIDDLE AGE: CAUSES, TREATMENT AND WAYS TO PROLONG REMISSION

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Abstract. This thesis examines the causes, treatment methods, and strategies to prolong remission of migraine in middle-aged adults. The main triggers and risk factors of migraine were analyzed, effective therapeutic approaches were identified, and methods for extending remission through lifestyle optimization were proposed. The study provides practical recommendations for improving patient well-being and managing migraine effectively.

Introduction. Migraine is a prevalent neurological disorder that significantly affects the quality of life of individuals, particularly in middle age, a period characterized by increased professional responsibilities, family obligations, and physiological changes that may exacerbate susceptibility to headache disorders. Middle-aged adults often experience a combination of hormonal fluctuations, stress, lifestyle factors, and comorbidities that contribute to both the frequency and severity of migraine attacks. Understanding the etiology of migraine in this population is critical, as it encompasses a complex interplay of genetic predisposition, environmental triggers, dietary influences, sleep disturbances, and psychosocial stressors. Despite advances in pharmacological and non-pharmacological interventions, many patients continue to experience recurrent episodes, underscoring the importance of identifying effective treatment strategies and methods to prolong remission. This thesis aims to provide a comprehensive analysis of the underlying causes of migraine in middle age, evaluate the current therapeutic approaches including acute and preventive treatments, and explore lifestyle modifications and evidence-based strategies that may extend remission periods. By addressing both medical and behavioral aspects, this research seeks to contribute to the optimization of migraine management, improve patient outcomes, reduce the burden of disease, and offer practical guidance for healthcare providers and patients in achieving sustained relief and enhancing overall well-being during a stage of life marked by numerous physiological and psychosocial challenges. The study emphasizes an integrated approach that combines medical treatment, preventive measures, and individualized lifestyle interventions, highlighting the necessity of early diagnosis, patient education, and continuous monitoring to minimize the impact of migraine and improve long-term health outcomes.

Literature review. Migraine in middle-aged adults has been widely studied due to its significant impact on productivity, quality of life, and overall health, yet the multifactorial etiology and diverse treatment responses present ongoing challenges. [1] highlights that genetic predisposition plays a crucial role in migraine development, with family history significantly increasing susceptibility, while environmental triggers such as stress, sleep disturbances, and dietary factors can precipitate attacks. Hormonal fluctuations, particularly in women during perimenopause, are also identified as critical contributors to migraine frequency and intensity, indicating that age and sex-specific factors must be considered in both prevention and management strategies. [2] emphasizes the importance of a comprehensive treatment approach that combines pharmacological therapies, including acute medications such as triptans and preventive drugs such as beta-blockers and antiepileptic agents, with non-pharmacological interventions like cognitive-behavioral therapy, relaxation techniques, and lifestyle modifications. Studies reviewed suggest that adherence to individualized treatment plans can significantly reduce the frequency and severity of attacks, enhancing patients' capacity to maintain daily functioning. [3] further explores the role of lifestyle interventions in prolonging remission periods, identifying regular sleep patterns, consistent physical activity, hydration, and avoidance of dietary triggers as effective strategies. Additionally, mindfulness and stress management programs have been associated with decreased migraine burden, highlighting the interaction between psychological factors and neurological outcomes. [4] examines recent advancements in digital health technologies for migraine management, including mobile applications for tracking symptoms, triggers, and treatment efficacy, which provide patients and clinicians with real-time data to optimize interventions and support self-management. This evidence underscores the shift towards personalized medicine, where treatment and preventive measures are tailored according to individual risk profiles, trigger patterns, and response to therapy. [5] also stresses the importance of long-term follow-up and patient education, noting that continuous monitoring, awareness of early warning signs, and proactive engagement with healthcare providers are essential for sustaining remission and preventing chronicity. Collectively, these studies provide a comprehensive understanding of migraine in middle age, highlighting the interplay of genetic, hormonal, lifestyle, and psychological factors, while emphasizing evidence-based strategies for effective treatment and prolonged remission.

Research methodology. This study employed a mixed-methods research design to investigate the causes, treatment options, and strategies for prolonging remission of migraine in middle-aged adults, combining both quantitative and qualitative approaches to obtain a comprehensive understanding of the phenomenon. The quantitative component involved a cross-sectional survey conducted among 150 middle-aged participants, aged 35 to 55 years, who had been clinically diagnosed with migraine by certified neurologists. Participants were recruited through healthcare centers, outpatient clinics, and online migraine support communities, ensuring a

diverse sample that reflects variations in gender, occupation, lifestyle, and comorbidities. The survey collected detailed information on demographic characteristics, medical history, frequency and severity of migraine attacks, potential triggers including dietary habits, sleep patterns, stress levels, hormonal changes, and medication use, as well as the effectiveness of both pharmacological and non-pharmacological treatments. Standardized instruments, including the Migraine Disability Assessment (MIDAS) questionnaire and a self-reported headache diary, were employed to quantify the impact of migraine on daily functioning, productivity, and quality of life. The qualitative component consisted of semi-structured interviews with a subset of 30 participants selected from the survey sample, aimed at exploring personal experiences, coping strategies, perceived triggers, and perspectives on remission and treatment adherence. The interviews were audio-recorded, transcribed verbatim, and analyzed using thematic analysis to identify recurring patterns, challenges, and strategies employed by individuals to manage migraine and prolong symptom-free periods. Data analysis for the quantitative portion involved descriptive statistics, correlation analyses, and multiple regression models to examine the relationships between demographic factors, lifestyle behaviors, treatment adherence, and migraine severity. Qualitative findings were triangulated with quantitative results to enhance validity and provide a nuanced understanding of the multifactorial nature of migraine in middle age. Ethical considerations were rigorously observed, including obtaining informed consent from all participants, ensuring confidentiality and anonymity, and receiving approval from the institutional review board.

1-Table. Frequency of migraine triggers among middle-aged adults

Trigger Factor	Number of Participants (n=150)	Percentage (%)	Description/Notes
Stress	98	65.3	Stress was reported as the most common trigger, including work-related and personal stress.
Sleep Disturbances	76	50.7	Irregular sleep patterns and insomnia contributed to migraine attacks.
Dietary Triggers	63	42.0	Common dietary triggers included caffeine, chocolate, and processed foods.
Hormonal Fluctuations	54	36.0	Mostly observed in female participants experiencing perimenopausal changes.
Physical Exertion	38	25.3	Intense exercise or sudden physical activity sometimes precipitated attacks.

This table presents the frequency and percentage of the most commonly reported migraine triggers among middle-aged adults in the study. The data highlights the multifactorial nature of migraine triggers and can inform personalized management strategies, including lifestyle adjustments and preventive measures

Research Discussion. The findings of this study provide significant insights into the complex interplay of factors contributing to migraine in middle-aged adults and underscore the importance of a multifaceted approach to treatment and remission maintenance. Quantitative data indicate that stress, irregular sleep patterns, dietary triggers, and hormonal fluctuations are among the most frequently reported precipitating factors, confirming the observations of previous research and emphasizing the need for individualized risk assessment and preventive strategies. The correlation analyses reveal that participants who adhered consistently to prescribed pharmacological regimens, including both acute and preventive medications, experienced significantly lower attack frequency and intensity, aligning with existing evidence that demonstrates the efficacy of combined therapeutic approaches in reducing migraine burden. Moreover, qualitative interviews shed light on the subjective experiences of participants, highlighting the critical role of lifestyle modifications, psychological coping mechanisms, and patient education in prolonging remission periods. Respondents reported that implementing structured sleep routines, engaging in regular physical activity, maintaining hydration, and avoiding known dietary triggers contributed to noticeable reductions in migraine occurrence, while mindfulness and stress management techniques facilitated better emotional regulation during prodromal or acute phases of migraine attacks. The integration of digital tools for symptom tracking was also found to enhance self-awareness and adherence, allowing participants to identify early warning signs and take timely preventive measures. Importantly, the study underscores that middle-aged adults often face unique challenges, such as balancing occupational responsibilities, caregiving duties, and physiological changes associated with aging, which can exacerbate migraine severity and complicate management. These findings suggest that treatment strategies must be not only pharmacologically sound but also adaptable to individual lifestyle and psychosocial contexts. Furthermore, the research demonstrates that continuous patient engagement, education, and personalized interventions are crucial for sustaining long-term remission, reducing the risk of chronic migraine development, and improving overall quality of life.

Conclusion. The study of migraine in middle-aged adults highlights the multifactorial nature of this neurological disorder, demonstrating that its occurrence and severity are influenced by a combination of genetic predisposition, hormonal fluctuations, lifestyle factors, stress, and comorbid health conditions. The research confirms that effective management requires a comprehensive approach integrating pharmacological treatments, preventive strategies, and individualized lifestyle modifications. Participants who adhered to prescribed medications and implemented structured routines, including regular sleep, exercise, hydration, and dietary control, experienced reduced frequency and intensity of migraine attacks, while stress

management and mindfulness practices further contributed to prolonging remission periods. The findings also emphasize the importance of patient education, continuous monitoring, and personalized interventions, which allow individuals to recognize triggers, respond proactively, and maintain long-term relief. Furthermore, the integration of digital health tools was shown to support symptom tracking and self-management, reinforcing the shift towards evidence-based, patient-centered care. Overall, this study provides practical insights for healthcare providers and patients alike, offering strategies to optimize migraine management, enhance quality of life, and sustain remission in middle-aged adults, ultimately demonstrating that a holistic, multi-dimensional approach is essential for addressing the complex challenges posed by migraine in this population.

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