Review

Pharmaceutical Care for Patients with Headache

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Abstract

Introduction: Headache cephalalgia is the condition in which individuals feel pain in different parts of the head. It is one of the most common disorders believed to be amenable to self-treatment. The pharmacist can provide significant support to patients.

Aim: The aim of this study was to present the role of pharmacists in the prevention of headaches.

Materials and methods: We reviewed the available information in the biggest databases on the problem.

Results: Drug therapy is only part of an effective approach to the management of headaches. In many cases headache triggers can be identified and lifestyle changes instituted that reduce the frequency of attacks. Rest, sleep, and adequate hydration are often important components of successful management regimes. Patient education and detailed information for their disease can play an active role in the treatment. The reviewed literature shows the importance of the involvement of community pharmacists of the treatment of headache disorders.

As the most easily approachable healthcare providers pharmacists can assist patients in finding appropriate relief of headaches and ensure rational and safe headache treatment.

Conclusions: Pharmacists have a crucial role in optimizing the results of the medical therapy.

Keywords

analgesics, counseling, OTC, migraine, pharmacists

INTRODUCTION

A minor illness or a sign of a serious medical condition, headache disorders are among the most prevalent symptoms reported by patients globally. Headache or cephalalgia can be primary (migraine, tension-type headache, and cluster headache) or can occur secondarily to a long list of other conditions including the medication overuse headache (MOH).[1] In the Global Burden of Disease Study, migraine on its own was found to be the sixth highest cause worldwide of years of life lost to disability (YLD). Headache

disorders collectively were the third highest. [2] The first descriptions of migraine date back to the ancient civilizations of Mesopotamia (Sumeria and Babylonia) through the Egyptian, Greek, and Roman epochs. [3] Several studies associate migraine with higher risks for anxiety, depression, and sleep disturbances. [4-7] Both population-based and clinic-based studies on the health-related quality of life show the need for better management of headache disorders.^[6,8]

Pharmacists meet patients with headaches on a daily basis. Pharmacological treatments for headaches include many medical products available over the counter (OTC).



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Pharmacists have a significant role to play in the supervision of self-treatment, ensuring safe use of medicines, and identifying drug-related problems. Pharmacists can recognize that the patient needs further diagnosis and doctor assessment. [9,10] According to WHO, the needs of headache patients are not fully met, despite the numerous treatment options and guidelines on the proper management of headaches available. [1,11] Pharmaceutical care practice by community pharmacists is of great importance for patients with headache disorders.

AIM

To present the role of pharmacists and pharmaceutical care in the prevention and treatment of headaches with different etiological origins.

MATERIALS AND METHODS

A review is done of the existing information on the topic in the largest databases up to this date. A search in PubMed, Scopus and Embase was conducted using the following keywords: headache, migraine, pharmacists, analgesics, and self-treatment. Fifty-seven articles were selected and analysed.

RESULTS

Classification of headache disorders

Wide variety of causes and complicated comorbidities associated with headache accompany the diagnostic process. The International Headache Society (IHS) provides a classification of headache disorders. Headaches fall into three categories according to their etiology (**Fig. 1**).^[12,13]

Although there is an overlap between tension-type headache (TTH), cluster headache, and migraine, there are typical features that are used in the diagnostic process.^[13]

Unlike migraine and cluster headache, TTH causes pain in both sides of the head. Patients with TTH lack coexisting symptoms while migraineurs experience nausea/vomiting, light and sound sensitivity. Eye redness and tearing, nasal congestion, or runny nose are frequent in cluster headache (Fig. 2). [14,15]

The guidelines for the treatment of migraine and chronic headaches propose the use of a simple screening questionnaire for the initial diagnosis of headaches. [16] The questions are based on diagnostic criteria defined by the IHS. [16,17]

Prevalence and impact of headache on quality of life

The socio-economic burden of headaches is substantial. WHO has estimated that almost half of the adult population have a headache at least once a year. Globally, it has been estimated that prevalence among adults of current headache disorder is about 50%. Half to three-quarters of adults aged 18 to 65 in the world have had a headache in the last year and of these individuals, 30% or more have reported migraines. Headache for 15 or more days every month affects 1.7% to 4% of the world's adult population. [1,18] Headache prevalence and burden is changing as society evolves, with headache now occurring earlier in life, affecting individuals in their most productive years. [2,19] Additionally, migraine causes a high percentage of the non-fatal disease-related burden globally. [19]

Treatment approaches

Tension-type headache

Patients with TTH usually describe the pain as pressure like, constricting or giving a sense of fullness in the head. [20] First-line acute treatment options for tension-type headaches include NSAIDs such as acetaminophen, ibuprofen, naproxen sodium, ketoprofen, and diclofenac. Metamizole is broadly used in Bulgaria, while it is banned in nearly 30 countries. [21] The tricyclic antidepressant amitriptyline is the drug of choice in the preventive treatment of chronic tension-type headache. [22] A large number of psychological

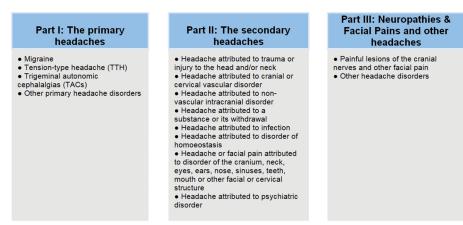


Figure 1. The International Classification of Headache Disorders, 3rd edition (IHD-3).

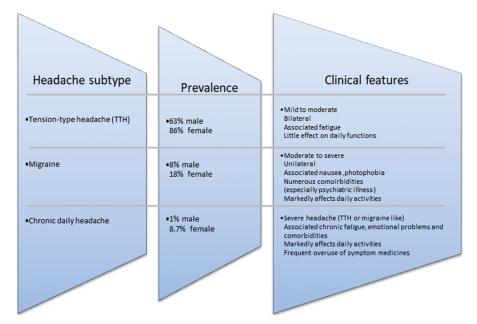


Figure 2. Prevalence and features of common primary headaches.

treatment strategies have been used to treat TTH, the most effective of them being relaxation training, biofeedback, and cognitive-behavioral therapy.^[23,24] When combined with relaxation and visualization techniques, biofeedback reduced headache episodes, anxiety and improved the general well-being of patients.^[25,26]

Migraine

The main principles for the effective management of migraine include diagnostic screening, individualized care, and encouragement of patients to manage their migraine. Patients are monitored using migraine calendars or diaries.[27] In many cases, headache triggers can be identified and lifestyle modifications initiated that reduce the frequency of attacks.^[28] Recommended lifestyle changes include regular sleeping and eating pattern, stress management, weight reduction, regular physical activity, avoiding crowded, dimmed, too cold, windy, or hot places. Some patients have an intolerance to specific food such as cheese, chocolate, and citruses.^[29] A multicenter study in France assessing the role of pharmacists' interventions for migraine patients, emphasized the important role that pharmacists can play in the management of the disease. [30] Whenever a medication regimen is being selected for migraine treatment, the patient's previous experience with a particular medication and the risk of adverse effects should be taken into account as factors of utmost importance. Three medication classes are considered first-line treatment options for acute migraine headaches: antidopaminergics, triptans, and NSAIDs.[31] Lasmiditan (5-HT1F receptor agonist), ubrogepant, and rimegepant (calcitonin gene-related peptide antagonists) are the latest approved acute migraine therapies that may be especially suitable for patients with a coexistent cardiovascular disease.[32]

Cluster headache

Cluster headache (CH) is characterized by severe pain and agitation. It is more common in men than in women and both chronic and acute forms are recognized. [1] Other risk factors for CH are smoking, alcohol consumption and genetic predisposition. Low levels of vitamin D have also been associated with headaches increased in frequency. [33,34] Narcotics remain widely prescribed for cluster headache; however, the evidence for their effectiveness is scarce, and there are considerable abuse risks. Pharmacists are positioned to help guard against narcotic usage and to direct care toward medications endorsed by CH guidelines. [35,36] The standard treatment for acute cluster headache episodes is 100% oxygen inhaled for 15 minutes. [37] Emerging therapies in cluster headache include calcitonin gene-related peptide monoclonal antibodies, namely eptinezumab and erenumab. [38]

Medication overuse headache

Patients should also be reminded that excessive use of analgesics could lead to rebound headaches or medication overuse headaches. Medication overuse headaches are secondary disorders caused by regular, long-term use of analgesics. [39-41] Drugs that are associated with the development of MOH include caffeine, ergots, paracetamol, codeine, and triptans. [16] MOH treatment aims to achieve the withdrawal of the overused drug, pharmacological and non-pharmacological support for the patient and prevention of relapse. [42] Studies on the knowledge of pharmacists of MOH show the need for further education on the topic. [43,44]

The role of pharmacists in self-treatment

Headache disorders are not perceived by the public as serious since they are mostly episodic, do not cause death, and are not contagious.^[1] Half of the people with headache dis-

orders are estimated to be self-treating.^[1] More than onethirds of OTC analgesics are used for the management and treatment of headaches.^[40] The analgesic market presents the consumer with many choices of single-entity and combination products (e.g., aspirin and other non-steroidal anti-inflammatory drugs, acetaminophen, ibuprofen, ketoprofen).^[45] In special cases, the combination of drugs from different analgesic classes results in synergistic analgesia, but not synergistic adverse effects, enabling the patient to achieve increased pain control or comparable control with a lower risk for adverse events. [46] The easy access to OTC medications often leads to indiscriminate use or misuse of drugs, which poses a serious risk to patients' health. [47] Additionally, almost 50% of patients who elect to use non-prescription analgesics do not read the leaflets of these products, more than 43% of the customers are unaware of the potential risks associated with taking these agents concurrently with certain prescription medications.^[48] A recent survey in Bulgaria have indicated that 57.5% of the pharmacists consider that the use of OTC drugs without professional supervision poses a risk to patients.^[47] Prior to recommending any nonprescription analgesics, pharmacists should always screen for potential allergies, contraindications, and drug-drug interactions.[49] Patients should also be counselled on the potential adverse effects associated with the use of these products. Although the majority of headaches can be easily managed and last only a few hours, patients should be encouraged to seek further medical care if they do not obtain any relief after using OTC analgesics, if they experience chronic headaches, or if headaches increase in intensity or frequency.^[50]

Pharmaceutical care

Pharmaceutical care can help improve self-efficacy and health-related quality of life of headache patients.^[48] In a randomized community-based study in the USA, the

pharmacist appointments showed effectiveness in reducing headache episodes, improved therapy regimens, and quality of life of patients. [48] Since the 1990s, pharmaceutical care (PC) has been described as an important service and element of pharmacy practice and healthcare, in which pharmacists interact with patients and the other members of the healthcare team in order to improve the outcomes of the therapy. PC is a pharmaceutical service designed to achieve definitive therapeutic outcomes through preventing or solving drug-related problems and is generally defined as a direct provision of drug-related care by the pharmacist through health education in order to improve patients' quality of life when using medication. PC represents a shift of practice in pharmacy from being product-oriented to a patient-oriented approach. [51,52] PC activities include medication dispensing, providing education on drug use through patient counselling, drug use monitoring, preparation of parenteral formulations, monitoring adverse drug reactions, development of drug use guidelines, and cooperation with the healthcare team; these are offered in a mutually beneficial exchange way, in which the patient asks and consents to be supported by the pharmacist regarding pharmacotherapeutics needs, and the pharmacist accepts the responsibility to provide drug therapy support with competence and commitment. The pharmacist provides this service for one patient each time, but groups can also be reached by PC services, in consultations that vary in time and frequency according to the patient's needs (**Fig. 3**).[52-54]

Pharmacists can use their expert knowledge of medications to evaluate a patient's current medication regimen for a potential headache etiology and provide appropriate pharmacotherapy recommendations based on patient-specific factors and headache-disorder classification. Part of the screening process is the provision of information to the patient, in the form of oral advice, leaflets, website addresses and details of patient support organizations. [55]

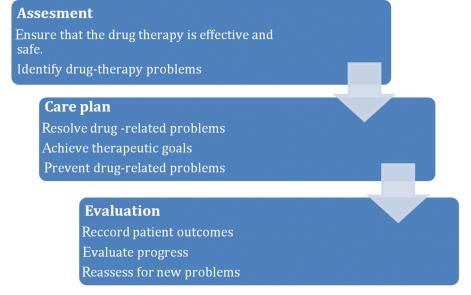


Figure 3. Pharmaceutical care process.

The patient should be thoroughly informed of their disease in order to play an active role in the treatment. Comorbidity should also be taken into account. Concomitant diseases such as arterial hypertension, obesity, iron-deficient anemia may pose additional risk for headache patients. Through counselling pharmacists can help undiagnosed patients with chronic headache disorders, or prevent the onset of MOH.^[56]

DISCUSSION

The study shows the importance of the involvement of community pharmacists in the treatment of headache disorders. Being the most easily approachable healthcare providers, pharmacists can assist patients in finding appropriate relief of headaches and ensure rational and safe headache treatment. A considerable number of studies suggest that pharmacists might need further training to improve their knowledge on the subject and to participate more actively in the management of headaches. [43,57]

CONCLUSIONS

The pharmaceutical care process ensures that the patient shall obtain the most appropriate medical product in the most effective dose in order to minimize the risk of side effects. The increase in self-efficacy and mental health associated with the implementation of pharmaceutical care may be instrumental in improving long-term pharmacotherapy of patients with headaches. Pharmacists' appropriate knowledge and understanding of the types of headache disorders and their specific pharmacological and non-pharmacological treatment is necessary for better fulfilment of the needs of sufferers.

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Фармацевтическая помощь пациентам с головной болью

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Резюме

Введение: Цефалгия с головной болью — это состояние, при котором люди чувствуют боль в разных частях головы. Считается, что это одно из наиболее распространённых заболеваний, поддающееся самолечению. Фармацевт может оказать существенную поддержку пациентам.

Цель: Целью данного исследования было представить роль фармацевтов в профилактике головных болей.

Материалы и методы: Мы рассмотрели доступную информацию в крупнейших базах данных по проблеме.

Результаты: Медикаментозная терапия является лишь частью эффективного подхода к лечению головных болей. Во многих случаях можно определить триггеры головной боли и изменить образ жизни, чтобы уменьшить частоту приступов. Отдых, сон и достаточная гидратация часто являются важными компонентами успешного режима лечения. Обучение пациентов и подробная информация об их заболевании могут играть активную роль в лечении. Проанализированная литература показывает важность привлечения внебольничных фармацевтов к лечению головной боли.

Фармацевты, являющиеся наиболее доступными поставщиками медицинских услуг, могут помочь пациентам найти подходящее облегчение головной боли и обеспечить рациональное и безопасное лечение головной боли.

Заключение: Фармацевты играют решающую роль в оптимизации результатов медикаментозной терапии.

Ключевые слова

анальгетики, консультирование, безрецептурные препараты, мигрень, фармацевты