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A Policy Brief

EDUCATING GENERAL PRACTITIONERS ABOUT MEDICATION-OVERUSE HEADACHE: IMPORTANCE AND CALL TO ACTION

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INTRODUCTION

According to the 3rd edition of the International Classification of Headache Disorders (ICHD-3), medication-overuse headache (MOH) is defined as "headache occurring on 15 or more days/month in a patient with a pre-existing primary headache and developing as a consequence of regular overuse of acute or symptomatic headache medication (on 10 or more or 15 or more days/month, depending on the medication) for more than 3 months."[1] For specific abortives (such as ergotamine, triptan), combination analgesics, and opioids, the threshold is 10 or more days/month, whereas for acetaminophen and non-steroidal anti-inflammatory drugs (NSAIDs), the threshold is 15 days/month.[2]

MOH is a prevalent disease. Worldwide, based on the Global Burden of Disease (GBD) studies, headache is one of the top causes of disability, and specifically, medication-overuse headache (MOH) was ranked in the top 20 diseases.[3] The global data was consistent with data from separate countries. For instance, a study in Australia showed that over a quarter of a million Australians are estimated to have medication overuse headache (MOH).[4] Besides being prevalent, MOH also poses a great burden on clinical and public health aspects.

On a clinical level, it serves as an additional layer of problem on top of the chronic primary headache entity. The objectives of MOH management are to stop the overused medication, assess the underlying headache disorders, and prevent relapses.[5] It takes a more detailed history, with the help of a headache diary, to identify the acute medication that is overused, especially when combination analgesics are used. The problem becomes more complex when prescription combination analgesics are

overused in acute medication without knowing the components of the prescribed combination analgesics. When the overused acute medication is identified, the next challenge involves tapering and replacing the overused medication while introducing preventive agents.

On a public health level, MOH serves as burden for the health system. Patients with MOH need monitoring with a headache diary to record the recurrences, medication use, and headache phenotype. Weaning acute medication and introducing preventive agents also requires a lot of consultation time with close monitoring. These aspects might not be entirely feasible in public primary care facilities in Indonesia (Community Health Center, or Puskesmas), as Puskesmas have a great load of patients that might not facilitate that specific depth of patient encounter. Therefore, in the current Indonesian healthcare setting, patients with MOH often require referral. Sometimes, outpatient referral is not enough, as withdrawal of specific acute medications (e.g., opioids) needs inpatient admission for close monitoring.

The efforts described above lead to another important aspect to discuss, which is cost. A study about the economic burden of MOH in Italy described that the cost of MOH for a person per year was €10 533. When broken down, the proportion of direct and indirect healthcare costs was 44.8% and 51.5%, respectively.[6] It is worth highlighting that the proportion of indirect cost was higher than the direct cost for healthcare, as MOH impacts productivity and daily life, resulting in losses such as presentism and frequent absence from work. A similar study assessing the economic impact of MOH was also conducted in Iran, showing that the cost of lost productivity per person, per year due to MOH was $1432.[7]

DISCUSSION

MOH in a global perspective

The magnitude of the burden of MOH has been recognized by the International Headache Society (IHS).[8] The 3rd Sustainable Development Goals (SDGs), which is health and well-being, has been interpreted in the headache context into 6 actions: targeting chronic headache; reducing the overuse of acute pain-relieving medications; promoting the education of healthcare professionals; granting access to medication in low and middle-income countries (LMIC); implementing training and educational opportunities for healthcare professionals in low and middle-income countries; and

building a global alliance against headache disorders. The first and second action plans, targeting chronic headache and reducing the overuse of acute pain-relieving medication resonate well with the treatment goal of MOH, while the other plans such as education of healthcare professionals support the overall goal of building awareness towards its clinical entity.

Despite its burden and the vast global interest in MOH, there is very little data about MOH in Indonesia. Underreporting, due to the under-recognition of its clinical entities, might be the major contributing factor. One of the reasons of the lack of recognition of MOH is the insufficient knowledge of the treating physicians. Headache is a frequently found complaint in primary care, and therefore general practitioners (GPs) play an important role in recognizing MOH and its underlying chronic primary headache. However, in the Standard Competence of Doctors in Indonesia (*Standar Kompetensi Dokter Indonesia* or SKDI), MOH is not listed as a disease entity that GPs should master.[9] Tension-type headache and migraine, on the other hand, are listed as disease entities that should be completely mastered, from diagnosis to treatment, by GPs. Consistently, MOH is also not listed in the clinical practice guidelines for GPs working in primary healthcare facilities, as published by the Ministry of Health of the Republic of Indonesia. A 2023 survey of Indonesian GPs revealed that most Indonesian GPs are not familiar with the use of headache diary for the diagnosis and monitoring of headache, and not familiar with the use of preventive agents for chronic headache.[11]

Knowledge gap

This lack of inclusion of MOH in both the competence standards and clinical practice guidelines for GPs in Indonesia forms a gap with the international guidelines for the diagnosis and management of headache in primary care. In 2018, Lifting the Burden (LTB), a joint movement between the World Health Organization (WHO) and European Headache Foundation (EHF) developed a clinical practice guideline titled “Aids to the management of headache disorders in primary care”. In that guideline, four headache entities are identified as relevant in primary care: migraine, tension-type headache, cluster headache, and MOH. The guideline is divided into three main chapters: aids to diagnosis, treatment, and referral.[5] The guidelines highlighted some key principles of MOH, such as the importance of prevention (through patient education) and

early intervention, including aborting the use of acute medication.

As the significance of MOH and its importance in the global perspective of headache has been briefly explained, we mapped the gap between what is expected and what is happening in our Indonesian setting, as problem identification.

Problem identification

Based on the Aids to the management of headache disorders in primary care, the goals of MOH management are:

- Discontinuing the overused medication
- Achieving recovery from MOH (which should follow)
- Reviewing and reassessing the underlying headache disorder (usually migraine or tension-type headache)
- Preventing relapse while allowing acceptable use of medications.

In reality, the optimal management of MOH in Indonesia has not been achieved due to the situation described in our background. We classify the problem identification into 3 main domains: diagnosis, treatment, and referral.

Diagnosis: MOH is clinically important and should be able to be diagnosed by GPs in primary care.

In reality: Its clinical entities are often unrecognizable and therefore underdiagnosed by Indonesia GPs. This might occur due to several factors, including a lack of knowledge regarding headache diagnosis, such as the use of headache diaries.

Therapy: As mentioned above, there are four main goals of MOH management. In practical terms, physician treating MOH should be able to determine when and how to withdraw the acute medications and introduce preventive medications. These actions which should be able to be initiated in primary care, as first-line preventive medications are, to some extent, available in primary care.

In reality: Under diagnosis of MOH leads to under treatment. Overused acute medications are continued, and preventive medications, even available and affordable first-line preventive therapy such as propranolol, are underutilized. Because the diagnosis is not recognized, the overused acute medications are not stopped, and preventive medications are not initiated. Furthermore, patient education, an

important step in the management of MOH, is often overlooked.

Referral: Ideally, MOH should be managed adequately in primary care. The referral criteria that are relevant for MOH in the LTB guidelines include diagnostic uncertainty, persistent management failure, and comorbid disorders requiring specialist management. In other words, early recognition and appropriate management steps for MOH should be initiated in primary care.

In reality: MOH, and probably the type of the chronic primary headache that accompanies it, is often not recognized in primary care. As a result, patients may not be referred for specialist care when they should be.

Policy recommendations

Based on the problems identified above, we would like to propose these following recommendations, which are categorized into short-term and long-term recommendations.

Diagnosis

Problem: Under-recognition of MOH and its underlying headache disorders.

Recommendations: As the short-term recommendations, we propose Continuing Medical Education (CME) for General Practitioners (GPs) in the form of workshops on the diagnosis and treatment of MOH. These workshops can be conducted offline, online, or in hybrid formats, ideally as a series. As the long-term recommendations, we propose to conduct a survey among GPs to assess their current knowledge and difficulties in diagnosing MOH. Additionally, we suggest mapping the content of headache education in undergraduate medical curricula and ensuring that MOH is included in the curricula. Finally, we strongly advocate for the development and use of a concise, user-friendly headache diary for patients, which can be analyzed by GPs to assist in diagnosis.

Treatment

Problem: Failure to stop overused acute medication.

Recommendations: As the short-term recommendations, we recommend educating GPs through CME (as mentioned in the diagnosis section). As the long-term recommendations, we advocate conducting focus group discussion with GPs to identify their obstacles in providing treatment. Furthermore, we suggest a collaboration between doctors and the pharmacy unit in primary care. For example, if an acute

treatment is routinely prescribed for a monthly dose for three consecutive months, a call system could be implemented to prompt the prescribing doctor to reconfirm the prescription.

Problem: Failure to initiate preventive medication when indicated.

Recommendations: For the short-term recommendations, we suggest looking at the Indonesian Essential List of Medicine and National Formulary for available preventive drugs. These drugs should be matched with the essential list in the IHS guidelines for preventive medications, and GPs should be educated on when to initiate preventive treatment using the available medications. For the long-term recommendations, we suggest to identify and analyse the problem in a broader area, e.g. conduct a survey of availability of preventive agents in primary care throughout Indonesia and map the knowledge and prescribing patterns of general practitioners in different settings of primary care.

Referral

Problem: MOH is underdiagnosed, resulting in patients not being referred as needed.

Recommendations: For the short-term perspective, we recommend designing a CME program, similar to the ones suggested for diagnosis and treatment, to teach GPs when and how to refer. In a long-term perspective, we suggest evaluating referral patterns for headache disorders from primary care to referral hospitals and analyzing the percentage of pattern of MOH cases that are appropriately referred.

CONCLUSIONS

MOH is an important clinical entity that should be adequately managed in primary care. The core of our problem formulation and recommendations is, of course, diagnosis, which should be taught through proper education, both at the undergraduate level and as part of CME programs. Accurate diagnosis of MOH, including its underlying primary headache, will lead to effective treatment and appropriate referral. These measures will significantly reduce the burden on both the patient and the healthcare system.

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