



# MEDICAL OVERUSE HEADACHE

## Prevalence, impact and treatment modalities of Medication Overuse Headache (MOH)



In 2004, the **International Headache Society** developed its second worldwide classification, and introduced the term **Medication Overuse Headache (MOH)** to define the daily, or almost daily, headache induced and maintained by the excessive and inappropriate intake of symptomatic drugs by susceptible people when trying to relieve primary headaches (migraine and/or tension type headache).

For a long time, the clinical complexity of this highly disabling syndrome, has contributed to hamper a clear definition and widely accepted diagnostic criteria. Several expressions have been used to describe what is now called **Medication Overuse Headache (MOH)**: "drug-induced headache", "chronic daily headache," "transformed migraine". This recent categorization of **MOH**, and the following revisions of the diagnostic criteria, have further extended the definition of the disorder based on its frequency (headache for 15 days or more per month) and the type of overused drugs (ergotamine, triptans, analgesics, opioids, combination analgesics, combination of drugs, other drugs).

Medication overuse is defined in terms of days with drug intake per month. **MOH** is diagnosed when somebody presents overuse of ergotamine, triptans, opioids and combination of drugs for 10 or more days per month, for at least three months. Furthermore, **MOH** is detected as the result of simple analgesics overuse, when they are used for 15 or more days per month, during the same period.

Considering that **MOH** develops in patients suffering from migraine and/or tension-type headaches, its typology has also changed, according to the primary headache's treatments and, for the last 15 years, to the availability of triptans. Besides, the use of drugs that lead to **MOH** varies from country to country, depending on different cultural factors. For example, an American study, published in 1988, found out that the combination of analgesics containing butalbital, aspirin and caffeine with or without codeine, was the top candidate for the development of **MOH**, while, in



## COntinuous MOonitoring of Medication Overuse Headache in Europe and Latin America:

Development and STANDARDization of an Alert and decision  
support System



Europe, until the first half of the 90's, the most commonly used combinations were those of analgesics with codeine or caffeine, or ergotamine with codeine. The introduction of triptans and the recent withdrawal of ergots from some European markets have changed the drug therapy of primary headaches. However, there is already strong evidence to say that all drugs used in the acute treatment of primary headaches may cause **MOH**.

### Prevalence and epidemiological impact

Although **MOH** is a largely under-diagnosed health condition, its prevalence is increasing worldwide. For that reason, this disorder has become the third most frequent type of headache.

According to epidemiological surveys performed in the 80's, **between 1% and 3% of the world population took analgesics on a daily basis**, and **up to 7% used them, at least, once a week**. Cross-sectional, epidemiological and population-based studies indicated that the **prevalence of chronic headache associated with medication abuse** implied **between 1 and 1.4% of the global population**, with a peak prevalence in women in their 50s. In this age range, indeed, 5% of women met the diagnostic criteria for MOH.

A meta-analysis of 29 studies, involving a total of 2612 men and women with chronic headache and analgesic overuse, confirmed the **predominance in females (F/M ratio: 3.5/1)** and reported a simultaneous use of an average of **2.5 to 5.8 different pharmacologic agents (range: 1-14)**, among these patients. The mean duration of primary headache, at the time of diagnosis, was **20.4 years**, while the drug overuse averaged **10.3 years** and the daily headache (>15 days per month) **5.9 years**.

**MOH** can also be suffered during childhood and early adolescence. A recent study of caffeine-induced headache in children, has demonstrated that **MOH** may occur in children as young as 6 years old. The research revealed that children had had **MOH** for more than 12 months, on average, with an early onset of overuse, sometimes, at the age of 4-5 years old

Unfortunately, the epidemiological impact of **MOH** in Latin American countries is unknown. But, considering that the prevalence of the two most common types of primary headaches (migraine and tension headache), which lead to the **Medication Overuse Headache**, is not different from that



## Continuous Monitoring of Medication Overuse Headache in Europe and Latin America:

Development and STandardization of an Alert and decision support System



found in Europe, it is possible **to infer that MOH prevalence in Latin American countries might be similar to that reported in Europe.**

**COMOESTAS** has developed a pilot study in the specialized headache centres of Chile and Argentina that take part in the project. To do that, the experts defined a clinical patient's report for the diagnosis of **MOH** and the collection of relevant data. The report form was administered to 100 consecutive patients. Their answers revealed that 55% of Chilean patients and 70% of Argentine patients had MOH. These results were similar to those found in the tertiary headache clinics of developed countries.

### Management of MOH

The treatment of choice for **MOH** requires the abrupt withdrawal of drug(s) overuse. While giving up those drugs, it is possible that the patient faces, from 2 to 10 days, withdrawal symptoms, which include withdrawal headache, nausea, vomiting, arterial hypotension, tachycardia, sleep disturbances, restlessness, anxiety and nervousness. This phase is much shorter in patients who have only abused triptans. Seizures or hallucinations are rarely observed, even in patients who overuse barbiturate-containing migraine drugs.

Treatment recommendations, for the acute phase of drug detoxification, vary considerably, depending on the type of study. They include fluid replacement, analgesics, tranquilizers, neuroleptics, amitriptyline, valproate, intravenous dihydroergotamine, oxygen, and electrical stimulation. Following and/or during the withdrawal phase, patients continue the process with prophylactic drugs, selected from substances that have proved effective in the treatment of migraine (sodium valproate, topiramate, beta-blockers).

**Most patients improve as a result of detoxification, but, a few months later, more than 45% of them relapse and fall back into drug overuse' symptoms.** Therefore, the health care approach taken during the follow-up period is vital. Under this assumption, and for the complete management of patients with **MOH**, the course of care (Care protocol) implemented by the Headache Centre of the C. Mondino Institute of Neurology, in Pavia, Italy, has turned into a reference pattern. It is based on the building of a strong doctor-patient alliance. The protocol takes into consideration the clinical and psychological needs of patients and, also, includes rehabilitative counselling and the



## COntinuous MOnitoring of Medication Overuse Headache in Europe and Latin America:

Development and STAndardization of an Alert and decision  
support System



imparting of instructions for the post-discharge period. After a recent study, the Center found out that the one-year relapse rate was lower than the one reported by other surveys. This result strongly **supports the proposed health care strategy and the hypothesis that the outcome of MOH patients may be positively influenced by improving/facilitating the flow of information between patient and doctor, and vice versa.**

Extract from “D1.1 Report on prevalence, impact and treatment modalities of MOH”, available in [www.comoestas-project.eu](http://www.comoestas-project.eu) section Documents – Public Project Deliverables.