



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

Development and STAndardization of an Alert and decision support System



Tools

Potential benefits of the IEPR application in the approach of chronic pathologies ¹



The **Interactive Electronic Patient Record (IEPR)** is a tool developed by the COMOESTAS Project, which intends to aid specialists and patients in their continuous search for better results in the treatment of those who suffer from Medication Overuse Headache (MOH). Its aim is to meet the needs of both doctors and patients, while it places the latter as the center of the system, trying to improve their understanding of the disorder and to facilitate their own healthcare with the continuous guidance and monitoring of the attending professionals.

The IEPR comprises the following:

1. **Minimum Set of Data (MSD):** it is the electronic record of a set of the patient's data that the doctors gather from the first consultation, and complete along the treatment.
2. **Electronic headache diary:** This tool makes patients key actors in their own healthcare. It allows them to monitor by themselves the evolution of their treatment, and to sense the agents and conducts that may be associated to the occurrence of an attack. It also allows the doctor to continuously follow and monitor the patient with no need of an appointment. The diary is available in the Internet, so as both the patient and the doctor have access to it anywhere and through any device with internet connection.
3. **Alert and Decision Support System in the diagnosis and medical decision taking:** In accordance with the International Headache Society ² 2006 criteria, the professionals who take part in the Project selected a series of variables and indicators which, along with the MSD, allow the system to point out the probable presence of MOH and assist the doctor in diagnosing the type of primary headache. Among its facilities, the following stand out: emission of alerts when certain parameters exceed given thresholds,

¹ In order to know the conceptual framework of the IEPR, we recommend you read the editorial of Newsletter issue 2 (October, 2009). <http://www.newsenlinea.com.ar/como.estas/news.02.sp/images/editorial.pdf>

² Headache Classification Committee –Cephalalgia, 2006; 26: 742-746.



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and the early detection of signs that may represent possible side effects, the patient's worsening or relapse, the appearance of comorbid conditions or of adverse pharmacological side effects.

4. **Second opinion:** It incorporates several tools, such as the agenda, the teleconference tool, chat and structured mails, which allow doctors to ask their colleagues for a second opinion, while they facilitate Internet contact between professionals and patients.

The IEPR tool, as well as the software and the platform developed as support systems within the frame of the COMOESTAS Project, have high potential to be applied in other chronic pathologies. In order to assess the potential benefits of applying them to other health problems, the following should be taken into account:

- **The IEPR modularity and interconnectivity characteristics**, which allow its articulation with Electronic Case Histories, and its integration to already existing hospital information systems. Thus, the patient's continuous care is granted, as well as the coordination of the different cares given by the different professionals who intervene all along a person's life.
- **The alert and medical decision support system can be easily adapted to different chronic pathologies**, as long as there is a solid knowledge of the clinical evolution of the pathology and evidence for the elaboration and standardization of protocols and guidelines is available.
- **The electronic diary can be readily adjusted to the recording of key parameters**, other than pain, such as blood pressure values, glucemia, or life habits and conducts. It can also be complemented with the examination of vital signs, by means of biomedical wireless devices that allow the continuous monitoring of both in-patients and out ones.
- **The communication tools incorporated to the system can be used to improve the communication among the different members of the team** (doctors, nurses, therapists, pharmacists, psychologists, etc.), and to facilitate contact among them and with the patient. They are also effective when it comes to facilitating reference and cross-reference among first level doctors and specialists.



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It is expected that the first applications of the results obtained from the COMOESTAS Project experiences will be focused on the treatment of Parkinson and cerebrovascular accidents. Both pathologies require a continuous monitoring of the patient (in order to slow down the evolution of Parkinson and to reduce the recurrence rate of cerebrovascular accidents).

Besides, their pharmacological treatments include drugs which may cause severe side effects, where concurrence of other comorbidities and serious complications are frequent.