▪ Headache Medicine 2023, Supplement ▪ p-ISSN 2178-7468, e-ISSN 2763-6178

Headache Medicine

The use of medications for the treatment of headache during pregnancy and its consequences: a literature review

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Introduction
Pregnancy represents a period characterized by a series of physiological changes in both the maternal and fetal bodies. These alterations often result in discomfort and occasionally painful experiences, potentially leading to the development of new clinical conditions. Headaches, a common health issue, are no exception within this spectrum. However, it is crucial to acknowledge that these morphological transformations also significantly influence how the body metabolizes, absorbs, and distributes drugs, subsequently affecting the body's response to medications. Additionally, it is important to emphasize that certain substances can cross the placental barrier during pregnancy, directly impacting fetal growth and development. Moreover, depending on the gestational stage, medication excretion through breast milk can affect the infant's well-being. In this intricate and delicate context, every therapeutic decision must be meticulously evaluated. Nevertheless, it is worth noting that there is a scarcity of pharmacological research in this specific context, primarily due to ethical and biological constraints posed by the aforementioned situations. The urgency to expand knowledge in this field is evident, given the imperative need for safer and more effective approaches to managing headaches in pregnant women.

Objective
This study aims to assess the implications of utilizing medications for headache treatment in pregnant patients.

Methods
The present study conducted a systematic literature review in September 2023, focusing on headaches and the repercussions of drug usage for prophylactic and acute treatment in pregnant women. The research was conducted using the PubMed database with the keywords "Headache Disorders" and "Pregnancy" as descriptors. Inclusion criteria comprised articles in English and Portuguese languages published between 2013 and 2023.

Results
During pregnancy, non-pharmacological treatments are preferred; however, in specific cases, medication use is warranted, but it should be administered at the lowest effective dosage. Analysis of the studies confirms that several drugs used in headache treatment exhibit teratogenic effects, the mechanisms of which are not yet fully elucidated but are primarily hypothesized to involve antagonistic interactions with folic acid and the generation of free radicals and oxidative stress. Notably, non-steroidal anti-inflammatory drugs may lead to first-trimester abortion and third- trimester prematurity and are safer when used during the second trimester. Moreover, steroid anti- inflammatory drugs should be avoided in the first trimester. Among anticonvulsant medications, valproic acid is associated with neural tube defects, heart defects, and urinary tract defects, while topiramate carries a potential risk of low birth weight. In contrast, recommended drugs during pregnancy do not pose a risk of congenital defects and have fewer overall risks. This category includes Lamotrigine and Levetiracetam.

Conclusion
In summary, the management of headaches in pregnant women is a complex endeavor that prioritizes non-pharmacological treatments whenever feasible during pregnancy. When medication usage becomes imperative, it is crucial to carefully weigh potential risks, as many drugs are linked to adverse effects that are not yet fully understood. For instance, non-steroidal anti-inflammatory drugs may be associated with first-trimester abortions and third-trimester prematurity when used during pregnancy. Therefore, maternal-fetal safety should be the primary consideration when selecting headache treatments for pregnant women, with continual updates to clinical guidelines to ensure high-quality care that minimizes risks to the health of both pregnant women and their infants.

Keywords: Headaches; Pregnancy; Medications; Adverse effects.