

Adherence to migraine treatment does not depend on the number of prescribed medications

A adesão ao tratamento da migrânea não depende do número de medicações prescritas

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ABSTRACT

Objective: To compare the adherence between monotherapy and polytherapy in prophylactic migraine treatment. **Method:** Five hundred consecutive patients with migraine from a tertiary center were retrospectively studied as to the number of preventive medications prescribed during the first visit. Adherence, defined as returning for the next consultation after 4 to 6 weeks and following the prescribed regimens, were also evaluated and compared between patients. **Results:** 71.8% were women, and 6% of the patients did not receive any preventive medication, 11.4% received one drug, 22.2% two drugs, 41.4% three drugs, and 19% four drugs for the prevention of migraine. The overall adherence was 79.6%. Respectively, 73.7, 71.8, 82.6 and 86.3% of those who received the prescription of one, two, three and four drugs returned, complying with the treatment. **Conclusion:** There is no difference in adherence to monotherapy or polytherapy (one to four drugs) for the prophylaxis of migraine.

Key words: treatment, migraine, monotherapy, polytherapy.

RESUMO

Objetivo: Comparar a adesão entre monoterapia e politerapia no tratamento profilático da migrânea. **Método:** Foram analisados retrospectivamente 500 pacientes com migrânea de um centro terciário, com vistas ao número de medicações preventivas prescritas na primeira consulta e adesão ao tratamento após 4 a 6 semanas. **Resultados:** 71,8% da amostra era composta de mulheres. Em relação ao tratamento preventivo da migrânea, 6% não receberam medicação preventiva; 11,4% receberam uma droga; 22,2% duas drogas; 41,4% três drogas e 19% quatro drogas. A adesão média foi de 79,6%. Em relação à prescrição de uma, duas, três ou quatro drogas, essa adesão foi respectivamente de 73,7, 71,8, 82,6 e 86,3%. **Conclusão:** Não houve diferenças na adesão à prescrição de medicações em monoterapia ou politerapia (uma a quatro drogas) para o tratamento preventivo da migrânea.

Palavras-Chave: tratamento, migrânea, monoterapia, politerapia.

Headache is one of the main reasons for visits to neurologists in Brazil and worldwide^{1,2}. Migraine is the most prevalent type of headache in neurologic centers³. About 25 to 50% of the patients have shown adherence problems with prophylactic headache medications^{4,5}. It decreases with regimens of more drugs and dosing⁶. On the other hand, combining substances have been advocated for the treatment of migraine, especially for non-responsive patients⁷⁻¹⁰. Therefore, the evaluation of the adherence to one or more drugs is an interesting issue in headache management.

The aim of this study is to compare adherence between monotherapy and polytherapy (one to four drugs) in the prophylaxis of migraine in a tertiary center.

METHODS

We reviewed the medical records of 500 consecutive patients from a tertiary center located in the City of Rio de Janeiro, Brazil, who had been seen for initial consultation between January 2006 and January 2008. Only patients with migraine or chronic migraine or migraine and medication overuse headache (MOH) were included. Demographic data, headache diagnosis, number of prophylactic medications prescribed at first visit and adherence defined by the returning for the next consultation after four to six weeks and the following to the prescribed medication regimens were collected

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and evaluated. In addition, all patients received a detailed headache diary during the first visit that assessed daily and symptomatic medication intake as well as headache severity and duration. Adherence, as expressed by complying with the prescribed medication in $\geq 80\%$ of the days, which is a common operational definition of adequate medication adherence across a number of health conditions¹¹⁻¹³, was evaluated by using a headache diary and a face-to-face interview during the follow-up consultation. It was compared between the patients taking one or more drugs as well. The headaches were classified according to International Classification of Headache Disorders (ICHD-II)¹⁴ and the ICHD-II appendix¹⁵ to classify chronic migraine and MOH.

The Ethics Committee of *Universidade Federal Fluminense* approved the study. Statistics differences were analyzed using the Z-Test for proportions. In all analyses, p values less than 0.05 were considered significant.

RESULTS

Among the 500 patients, 71.8% were women. Ages ranged from 4 to 88 years (mean 38.7 ± 14.7). The peak prevalence was between 31 and 40 years either for women or men. The average headache duration was 20.2 years (0.1 to 80 years, standard deviation (SD) 13.4). The diagnoses were 48.5% episodic migraine without aura, 6.2% episodic migraine with aura, 7.3% chronic migraine and 38% MOH and migraine.

The prophylactic treatment was prescribed to 470 (94%) patients in the first visit. Thirty (6%) of them did not receive preventive medication, 57 (11.4%) received one drug, 111 (22.2%) two drugs, 207 (41.4%) three drugs and 95 (19%) received an association of four preventive medications. The most prescribed combination of prophylactic medications, was a tricyclic antidepressant, a beta-blocker and flunarizine for 81 (16.2%), followed by combination of a tricyclic antidepressant, a muscle relaxant and flunarizine for 74 (14.8%). Sixty-two (12.4%) patients received a tricyclic antidepressant, a beta-blocker, a muscle relaxant and flunarizine. The overall adherence was 79.6% ($p < 0.001$). Adherence to medications prescribed on monotherapy or in combination is showed in Figure. Comparison of adherence to different treatment regimens is depicted in Table.

DISCUSSION

The literature on adherence in headache treatment is scarce. The evidence available is consistent with the broader medical literature in chronic conditions indicating poor adherence to recommendations for acute and prophylactic medication use and appointment-keeping among headache patients¹³. Between 25 and 50% of patients have been

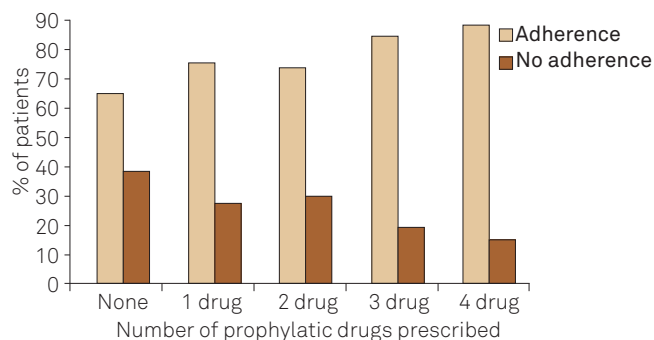


Figure. Correlation between adherence and number of prophylactic medication prescribed.

Table. Comparison of adherence to different treatment strategies.

Treatment	Adherence (%)	Treatments comparison
1 drug	73.7	ns ¹
2 drugs	71.8	
1 drug	73.7	ns
3 drugs	82.6	
1 drug	73.7	ns
4 drugs	86.3	
2 drugs	71.8	$p > 0.05$
3 drugs	82.6	
2 drugs	71.8	$p > 0.05$
4 drugs	86.3	
3 drugs	82.6	ns
4 drugs	86.3	

¹Not statistically significant: $p > 0.05$.

shown noncompliant with prophylactic headache medications^{4,5}. A large survey yielding data from 1,160 severe headache patients demonstrated that the most common reasons for not filling a prescription were high cost (33%) and safety concerns (30%)¹⁴.

Reports from Literature have demonstrated that compliance decreases with more frequent or complex dosing regimens^{4,6}, however we did not find studies that correlate number of medications prescribed with adherence in the preventive treatment of headaches. By analyzing the table, one can observe that there is no statistical difference between adherence to treatments in monotherapy or in combination of medications, suggesting a rate even higher of adherence among those patients who received 3 or 4 drugs, when compared with those who received 2 drugs. It was different from our initial belief that prescribing more than one drug during the first visit could impair adherence, since tolerability and safety concerns would arise from wrong patient assumptions.

The overall adherence in our study was greater than that demonstrated in the literature^{4,5}. Edmeads et al¹⁵ demonstrated that, after the initial consultation, 40% of patients did not return for the follow-up, and 24% dropped out later. Likewise, Spierings et al¹⁶ reported that 40.5% of patients did not comply with their recommendation for a follow-up treatment appointment after their initial consultation.

Failure rates for appointment keeping range from 8 to 63%¹⁶. Up to 50% of patients on chronic medical regimens drop out of care entirely within 1 year of beginning treatment²⁰. In fact, adherence to prescribed drug dosing regimens declined with longer periods of follow-up²¹. Therefore, our findings may be due to the shorter period of follow-up compared with other studies. In addition, one might speculate that our difference in findings was due to the comprehensive approach that a specific tertiary center carries out and/or the type of patients who seek medical care in centers like ours, i.e., patients who already tried monotherapy in other treatment instances. We may assume that a better study design would have been a comparison between adherence in patients with and without previous treatment experiences.

Gaul et al²² showed 35% of prophylactic medication adherence after a follow-up of 12–18 months. This result is poorer than that achieved by Zeeberg et al²³, whose patients show higher adherence (39%) after a period of 7.8 months. This was not the case in the present study, with patients' follow-up only during the initial two consultations.

Therefore, in a headache tertiary center, most of the patients adhered to the initial treatment recommendations and no difference was found between the prescription of one or more drugs for migraine prophylaxis. Longer-term studies, as well as prospective ones, involving adherence to different medication regimens would clarify whether our findings are consistent with the daily clinical practice reality.

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