

VALIDATION OF A STRUCTURED PRE-VISIT QUESTIONNAIRE FOR HEADACHE SPECIALIST CONSULTATIONS

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Background. In an era of increasing demand for headache specialists, digitally assisted triage may help optimize initial evaluations. However, structured consultations conducted by headache experts may reveal clinical aspects that patient self-report alone cannot. To define the contribution of physician-guided assessment, we conducted a prospective study to evaluate the extent to which information obtained through a structured pre-visit questionnaire, when interpreted by a neurologist, could substitute the traditional visit in guiding diagnostic and therapeutic decisions.

Methods. Fifty consecutive patients attending the tertiary Headache Centre at AOUP Paolo Giaccone, Palermo, for their first evaluation completed a structured pre-visit questionnaire. One neurologist independently reviewed the questionnaire and recorded diagnostic hypotheses and treatment decisions without seeing the patient (questionnaire condition). A second neurologist, blinded to questionnaire data, conducted the standard clinical encounter and recorded post-visit decisions (visit condition). Agreement between the two conditions was assessed across four domains: ICHD-3 diagnostic category, indication for additional investigations, acute medication class, and preventive treatment decision (initiation, confirmation, modification, or no preventive therapy). Drug-level concordance was additionally evaluated for five preventive treatment classes (amitriptyline, beta-blockers, anti-CGRP monoclonal antibodies, topiramate, and flunarizine). The primary agreement metric was the Prevalence- and Bias-Adjusted Kappa (PABAK), with 95% confidence intervals. McNemar's test was used to assess directional bias in decisions regarding neuroimaging.

Results. Preventive treatment decisions showed near-perfect agreement (PABAK = 0.91; 95% CI 0.55–1.00; p_o = 94%), indicating that headache frequency and disability measures captured by the questionnaire were sufficient to guide prophylactic decisions in most cases. Agreement on diagnostic category was substantial (PABAK = 0.81; 95% CI 0.55–1.00; p_o = 69%), with some discrepancies attributable to less common diagnoses (e.g., new daily persistent headache or secondary headache disorders), identified only during the traditional clinical consultation, as well as medication-overuse headache, which requires a more detailed assessment of drug-use patterns. Agreement on acute medication class was moderate (PABAK = 0.58; 95% CI −0.41–1.00; p_o = 67%). Concordance regarding additional investigations was moderate (PABAK = 0.38; 95% CI 0.22–1.00; p_o = 67%), with no evidence of systematic over- or under-prescription (McNemar χ^2 = 0.80; p = 0.37). At the drug level, anti-CGRP monoclonal antibodies and flunarizine showed the highest agreement (PABAK = 0.88 for both; p_o = 94%), whereas amitriptyline and topiramate showed lower concordance (PABAK = 0.33; p_o = 50%), likely reflecting differences in the evaluation of comorbidities and contraindications.

Conclusions. When interpreted by a trained neurologist, a structured pre-visit headache questionnaire achieves substantial agreement with standard specialist assessment for diagnostic categorization and preventive treatment decisions, and moderate agreement for acute treatment selection. These findings supports an approach in which questionnaire-guided pre-structuring allows specialist time to be focused on domains that genuinely require specific evaluation, such as diagnostic refinement, assessment of comorbidities, and optimization of acute treatment strategies.