

# Paediatric headache management: comparing secondary general paediatric clinics to a tertiary paediatric neurology clinic, using national quality standards

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**To cite:** Liew EAZY, Whitehouse W. Paediatric headache management: comparing secondary general paediatric clinics to a tertiary paediatric neurology clinic, using national quality standards. *BMJ Paediatrics Open* 2023;**7**:e001956. doi:10.1136/bmjpo-2023-001956

Received 13 March 2023  
Accepted 5 June 2023



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## INTRODUCTION

The National Institute for Health and Care Excellence (NICE) published a clinical guideline for headaches in adults and young people aged 12 years and older (CG150) in 2012, updated in 2021<sup>1</sup> and supported by quality standards (QS42)<sup>2</sup> (table 1).

The aim of this study was to compare the management of children and young people referred for headache to secondary general paediatrics care, with those seen in a tertiary child neurology headache clinic at the same hospital.

## METHODS

Data from local retrospective registered clinical audits of paediatric headache management 2013 through 2019 were combined. In each audit, data were extracted from consecutive unselected patients' medical records and tabulated. QS42 was used together with a Clinical Global Impression (CGI) scale: 'significantly clinically improved', 'no clinically significant change', 'significantly clinically worse', at 1 year from first appointment, in those still attending. Simple descriptive statistics were used.

## RESULTS

A total of 145 cases of children referred with headache aged 3–16 years (median 12) were reviewed, (table 2).

## DISCUSSION

Although QS42 covered adults and children aged 12 and older, the quality standards seemed well suited for younger children as well and were therefore used for all the

children in the clinical audits, regardless of age.

**QS1:** half the children attending general paediatric clinics were not given a specific headache diagnosis. This metric could be improved by providing further education on headache to general paediatricians,<sup>3 4</sup> and developing paediatricians with expertise in childhood headache and setting up specific paediatric headache clinics.

**QS2:** both types of clinic should have done better in warning children and their families about medication overuse headache (MOH), and this might be improved by having standard literature available on MOH in clinics, adding it to a clinic letter template, and providing an aide memoire for use in clinics.

**QS3:** MRI is not a trivial experience for children and their families, and while it is almost always safe and well tolerated, especially if under general anaesthesia, the wait for an MRI and for the subsequent report can take a toll on families. That almost half of the MRIs requested in general paediatric clinics were not indicated suggests a lack of confidence in assessment and diagnosis, that could be addressed by further education.

**QS4:** NICE found that dual acute/rescue migraine therapy with a triptan and non-steroidal anti-inflammatory drug or paracetamol was not only more effective than either alone but was more cost effective. There is no reason to think this will not apply in younger children with migraine as well. Again, the care in general paediatric clinics can be improved with respect to this quality standard by ensuring all children get a specific headache diagnosis and paediatricians are trained in paediatric headache.

**CGI:** in the tertiary paediatric neurology headache clinic T001, most patients had an improvement in their condition, even though

**Table 1** Quality standards for headache management in people aged 12 years and older based on NICE CG150: QS42

Statement 1	People diagnosed with a primary headache disorder have their headache type classified as part of the diagnosis
Statement 2	People with a primary headache disorder are given information on the risk of medication overuse headache
Statement 3	People with tension-type headache or migraine are not referred for imaging if they do not have signs or symptoms of secondary headache
Statement 4	People with migraine are advised to take combination therapy with a triptan and either a non-steroidal anti-inflammatory drug or paracetamol

NICE, National Institute for Health and Care Excellence; QS42, quality standards.

**Table 2** Results of clinical audits, as assessed by national quality standard (QS42) and a CGI

	QS1 Headache classified	QS2 Advice on MOH given	QS3 MRI head was indicated	QS4 Appropriate acute migraine treatment	CGI Clinically significantly improved at 1 year
T001 Tertiary Paediatric Neurology Headache Clinic	28/28 (100%)	Not assessed	Not assessed	Not assessed	20/28 (71%)
T002 Tertiary Paediatric Neurology Headache Clinic	82/82 (100%)	47/76 (62%)	13/18 (72%)	73/76 (96%)	Not assessed
T004 General Paediatric Clinic	17/35 (49%)	5/35 (14%) overall 2/17 (12%) with migraine	8/14 (57%)	3/8 (38%)	15/19 (79%) overall 1/8 (13%) with migraine but 5/8 (63%) discharged/lost to follow-up

CGI, Clinical Global Impression; MOH, medication overuse headache; MRI, magnetic resonance imaging.

they had already failed secondary care treatment, indicating the value of referring on to tertiary care when patients do not respond to first-line treatments. Almost 80% attending the secondary care paediatric clinic improved, however of those diagnosed with migraine follow-up data were not available in over half. We think that a brief follow-up by telephone of all cases discharged, at 6 and 12 months would enable services to clearly audit their outcomes and so the value of clinic attendance.

This study is the first attempt to compare the management of headache in children and young people seen in general paediatric clinics and tertiary paediatric neurology headache clinics using a national standard. It highlighted a deficit in the training of general paediatricians with respect to paediatric headache and its management, and

showed the value of referral to a more specialist clinic, when needed.

We hope that this local experience will inform and help others improve their care, and act as a baseline benchmark for other services.

**Acknowledgements** We are very grateful for the following colleagues for their collection of data: A Michael, A Ponnampalam, M Prasad, K Vraka.

**Contributors** EAZYL reviewed, tabulated and analysed the results, and wrote the first draft. WW conceived the study, helped with data analysis and edited the final draft.

**Funding** The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

**Competing interests** None.



**Patient and public involvement** Patients and/or the public were not involved in the design, or conduct, or reporting or dissemination plans of this research.

**Patient consent for publication** Not applicable.

**Ethics approval** Not applicable.

**Provenance and peer review** Not commissioned; externally peer reviewed.

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