

Who should be referring to the Facial Pain Service?

Short title: Referrals to a facial pain service

Authors

Michelle Lang¹, Teromi Selvadurai¹ and Joanna M Zakrzewska²

¹University College London, Medical School, Gower Street. London, WC1E 6BT, UK

²Facial pain unit, Division of Diagnostic, Surgical and Medical Sciences, Eastman Dental Hospital, UCLH NHS Foundation Trust/University College London, UK

Corresponding author:

Joanna M Zakrzewska, Consultant oral medicine/ facial pain, 256 Gray's Inn Road,
London WC1X 8LD

Tel: + 44 (0) 20 34561195

Fax + 44 (0) 20 3456 61105

Email: j.zakrzewska@ucl.ac.uk

Who should be referring to the Facial Pain Service?

Abstract

Aim :

To determine who refers patients to a facial pain service, to assess the quality of the referral letters.

Method

The source of all referral letters to the service for 5 years were established. For one year the information provided in 94 referrals was assessed.

Using a predetermined checklist of essential information the referral letters were compared to these set criteria.

Results:

The service received > 1000 referrals annually and on average GPs referred 303 more patients per year than GMPs. 71% of all referrals were from primary care practitioners, the rest from specialists.

Over 70% of GMP and 52% of GDP letters included a past medical history, with GMPs more likely to suggest a possible diagnosis and include previous secondary care referrals. The mean score for GMP referrals compared to the standard proforma (max 12) was 5.6 and for GDP referrals 5.0. A relevant drug history was included by 75.6% GMP compared to 38.7% of GDPs. GMPs were more likely to include any relevant mental health history.

Conclusions:

The overall quality of referral letters is low. If referrals were only accepted from GMPs, potentially improved management of patients would ensue.

Introduction

Chronic facial pain is a long-term condition that is often extremely complex, and frequently requires input from the secondary care sector. Patients will frequently access both their General Dental Practitioner (GDP) and General Medical Practitioner (GMP) in their attempts to find a cure. ¹ It is therefore essential that all service providers communicate with each other effectively. However, it has been shown that this is often not the case, particularly due to the multidisciplinary nature of this condition. ^{2, 3}

The initial main form of communication is the referral letter, which therefore needs to be of good quality. A medical history including past and present medications helps prevent polypharmacy and encourages safer prescribing, in addition to assisting the specialist in formulating a management plan without additional 'time-wasting' correspondence with the GDP or GMP. Referral letters continue to be inadequate, and even contain inaccurate information. ⁴ One study found that only 58% of referral letters gave an accurate list of medications and drug doses used by their patients. ⁵ Furthermore it has been shown that medical information provided by GDPs is of inferior quality compared to GMPs. ⁶ GDPs referring to orthodontics make no mention of a medical history in 80% of instances ⁷ and only 60% of letters requesting sedation for extractions contained sufficient medical history. ⁸

Patients with chronic facial pain have considerable co-morbidities that require complex interventions. ⁹ GDPs refer patients with non-dental facial pain and so, their subsequent management will often be shared between the specialist centres and the GMP, as GDPs are very restricted in the medications they can prescribe. On the other hand, GMPs referring patients to a facial pain service will probably have been unable to eliminate a dental cause for the pain, and in some instances should have suggested patients first see their GDPs.

This study aimed to determine who initially refers patients to a national facial pain service, assess the quality of referral letters with respect to the ability of hospital specialists to triage patients to appropriate pathways and initiate a shared treatment plan which includes prescribing. It also aimed to establish whether all referrals should come via the GMPs rather than GDPs, in view of their complexity using a standardized proforma.

Methods

The study took place in a London based secondary and tertiary referral centre specialising in the treatment of chronic, complex non-dental facial pain that does not include headaches or migraines.

All referral letters to the facial pain service are triaged by a senior clinician who maintains a database recording the source of the referral. If the primary care letter includes correspondence from a secondary care provider or this is mentioned in the letter then a separate note is made that the primary care referral is essentially a secondary or tertiary care referral. Based on all the details in the referral letter, patients are then allocated to varying clinicians dependant on the skills required. If there is insufficient detail provided, referrals are sent back to the referrer for clarifications. If medical histories are missing, GMPs are contacted irrespective of whether they referred the patient.

For the review of the source of referrals, all referral letters were considered from April 2007 to October 2012. The review of information provided by referrals was limited to 94 referrals from primary care sources over a one year period, 50 GDP and 44 GMP letters. Each clinician keeps a database of all patients allocated to them, which includes the diagnosis. The commonest condition that was referred was temporomandibular disorders (TMD).

Outcome measures: A checklist of essential information required when referring a patient with chronic facial pain was developed based on standards set by several research publications, including Ryle ¹⁰ and Zakrzewska ¹¹, and the referral proforma used by UCLH is available online (<http://www.uclh.nhs.uk/OurServices/ServiceA-Z/EDH/MAXMED/FPAIN/Pages/refer.aspx>),. A gold standard was devised to which referral letters were compared. For the 12 items a score of 0 indicated not present/inadequate, 1 was present/adequate so the maximum score was 12. These criteria and further details are shown in table 1.

Insert Table 1 here

Relevant past medical histories mentioned within the referral letter were noted and compared to the corresponding medical histories taken by the medical team in the service. Where there was no medical history it was classified as “No”, whereas where a relevant medical history was provided and was adequate, it was termed a “Yes” and where a medical history was present but not provided in the referral letter, it was classified as “Inadequate”. 14 items of the medical history were considered important.

Power of the study

Previous reviews of papers dealing with referral letters used 100 letters. ^{12, 13} In order to obtain an equal number of simple and complex cases for analysis, letters were taken in an approximately equal proportion across all three databases (patients seen by the consultant, specialist registrar and foundation dentist). In total 94 referral letters were obtained, 50 of which were GDP letters and 44 GMP referrals. The foundation dentists are not often allocated patients referred by GMPs. They saw 17

of the patients referred by the GDP, and 11 from the GMP. The specialist registrar saw 17 patients each from the two referrers, and the consultant 16.

Results

Source of referrals

Over the 5 year period, on average, over 1,000 referrals were made to the service annually. Of those, 15% to 29% (an average of 299 referrals) were rejected each year as they did not conform to the criteria for referral, did not require secondary care input, or provided inadequate information. Of the rejected referrals, the highest proportion came from the GDP, making up 84% of the total referrals not accepted by the service.

Of those patients accepted, between 25-30% (average of 241 referrals) either Do Not Attend (DNA) or do not make an appointment when invited to do so. In the year 2009 to 2010, referrals came from 80 Primary Care Trusts (at the time there were 95 PCT), with one local PCT referring 90 patients, with other more local PCTs between 30 to 60, and overall 31 PCTs referred more than 10 new patients in a year.

More GDPs refer into the service than GMPs as shown in **Figure 1**, and this proportion is stable over the years. On average GDPs refer 303 more patients per year compared to GMPs.

Figure 1 Number of GDP and GMP referrals received by the centre per year

On average, 29% of accepted referrals are referred directly from specialists. However, on analyzing the referral letters from GDP and GMPs, it is evident that on average 44.3% of letters per year are actually already tertiary referrals as they either mention or provide letters from secondary care providers. This is an additional number of 175 referrals per year that are actually tertiary referrals.

Adequacy of referral letters

A total of 94 referral letters from the period of 2013 to 2014 was collected for analysis. Of these, 50 were GDP referrals and 44 from GMPs.

The breakdown items of orofacial pain included in the referral letters are shown in **Table 1**. Characteristics of the pain mentioned by the practitioners are relatively equal. The most frequent category not included in GDP and GMP referral letters were social and family history, being present in only 12% and 22.7% of letters respectively. Over 70% of GMP letters and 52% of GDP letters included some past

medical history. GMPs were much more likely to put forward a possible diagnosis and include information about secondary care referrals.

The mean score for GMP referrals out of 12 was 5.6 (standard deviation 2.6, range 1-12). Mean score for GDP referrals was 5.0 (standard deviation 2.2, range 1-9)

UCLH website has a recommended proforma, and this was used by 10 GDP and 6 GMPs, with average scores of 5.8 and 6 respectively.

Table 2 shows the medical history completeness in the referral letters. There was no relevant medical history in 2 patients, and these have been adjusted for in the table. Overall GMPs letters were more complete.

Insert table 2 here

Table 3 details contents of referral letters from the GMP, and **Table 4** shows GDP contents of referral letters.

Insert table 3 and 4 here

It was found that 41 patients referred from the GMP contained a relevant drug history. Of these, 75.6% of letters included this information but 24.4% did not. In comparison, only 38.7% of the 31 GDP referral letters included the relevant drug history, with 61.3% of the letters not giving it any mention at all. One referral quoted no medical history and yet the patient had multiple medical problems and was on 12 prescribed medications.

Out of the 94 referrals, mental health history was present in 39 patients but only 18 letters gave any mention of this. The GMP was more likely (66.7%) than the GDP (28.6%) to mention a mental health history. For example one GDP made no mention that the patient had bulimia and Asperger's syndrome and had also been admitted for an overdose.

Discussion

Although GDPs were the most frequent referrers 44% of patients had already attended a secondary care service which suggests that many secondary care services either do not have the skills or do not have the resources to manage these potentially complex patients, which reflects the experience of a unit in the North of England³. A review of referrals in 2011 for temporomandibular disorders (TMD) to this service which constitute 45% of referrals showed that 46% had seen both GMP and GDP, 20% had only consulted a GDP, and 14% only a GMP. However 42% had already been to see another specialist which included oral and maxillofacial surgeons, ENT surgeons, neurologists, physicians, and pain specialists in order of

frequency. This could be due to greater patient anxiety as found in a study comparing headache patients managed in primary care and those by neurologists. ¹⁴

This study looked at a total of 94 referral letters over a one year period, as has previously been done in other studies. ^{12; 13} Similar to De Angelis *et al* ⁶ finding GMPs provide more information. GMPs are more likely to attempt to make a diagnosis, 73% GMPs compared to 54% GDPs, which nevertheless is higher than Navarro *et al* ¹⁵ reported about oral medicine referrals, where only 16% did so. Mental health problems are often not mentioned especially by GDPs and yet were present in 41% of the patients. These are known to constitute significant co-morbidity for orofacial pain patients. An orofacial pain clinic in Japan found half their patients (60) had mental health disorders. ¹⁶

Although overall there was no significant improvement in the referral letter score with the proforma, there was no significant difference in the quality of referrals from GMPs and GDPs when it is used, but this could have been due to small sample size. Djemal *et al* ¹³ and Shaffie and Cheng ¹⁷ both found referrals from GDPs improved when using a proforma. But on the other hand Denith *et al* ⁸ although finding medical histories improved with use of proformas, found less general information was provided something noted in this study. Some practitioners include a cover letter providing some of this data. A Cochrane review looking at interventions to improve referrals found structured proformas could help but local educational interventions were equally important. ¹⁸ Kripke ¹⁹ suggests that guidelines are also useful and that the education should be delivered by specialist consultants. This needs re-enforcing as fall off is noticed after 2 years. ²⁰

A detailed past medical history and possible diagnosis is indispensable in enabling appropriate triaging to occur, in addition to allowing specialists to manage the patient in a holistic manner along appropriate care-pathways. A good referral letter helps cut down on the time needed to collect data, and allows specialists more time on information giving and management decisions. Inadequacy of GDP referrals could in part be due to general perception amongst the public that GDPs do not need to know their patients' medical history, and so some patients will not disclose information which may be of relevance. ²¹

Medications cannot be prescribed without an adequate medical and drug history. Prescribers must check that lists provided by GMPs are accurate, as a study has shown that 37% of lists may be inaccurate and dosages were not accurate in 16% of referrals. ⁵ It is also very helpful if details of previous drugs used for the condition are provided, as it can be determined whether adequate doses have been used for a sufficient length of time and how well tolerated they were.

Given that a number of GDP letters are deemed inadequate, ensuring that referrals only come from GMPs could improve the information available to the specialists.

However GDPs are very effective at ruling out dental causes. Only 8% of referrals to the service are determined to have a primary dental cause. If GMPs refer they will be aware that a treatment plan will be provided and shared care may be needed.

Conclusions

Although GMPs send more appropriate referral letters than GDPs, and include relevant past medical history, our study shows that the overall quality of the referral letter needs to be improved. Currently the average GDP and GMP referral letter does not include sufficient details to enable accurate triaging. This is essential in allowing secondary care specialists to put forward a comprehensive treatment plan, and prescribe appropriate medication safely. Two key areas which were often missed that need to be included within the referral letter are drug history and mental health problems. It may be useful if all potential referrals are initially screened by GDPs for dental causes of pain, but are then referred to secondary centres by GMPs on proforms. This will help improve the adequacy of the referral, and also ensure that GMPs who will ultimately be responsible for managing these patients are aware of their condition.

Acknowledgements: JZ undertook this work at UCL/UCLHT, who received a proportion of funding from the Department of Health's NIHR Biomedical Research Centre funding. .Acamedics organising the placement of the students.

References

1. Feinmann C, Peatfield R. Orofacial neuralgia. Diagnosis and treatment guidelines. *Drugs* 1993;**46**(2):263-268.
2. Madland G, Newton-John T, Feinmann C. Chronic idiopathic orofacial pain: I: What is the evidence base? *Br Dent J* 2001;**191**(1):22-24.
3. Beecroft EV, Durham J, Thomson P. Retrospective examination of the healthcare 'journey' of chronic orofacial pain patients referred to oral and maxillofacial surgery. *Br Dent J* 2013;**214**(5):E12.

4. Garasen H, Johnsen R. The quality of communication about older patients between hospital physicians and general practitioners: a panel study assessment. *BMC Health Serv Res* 2007;**7**:133.
5. Carney SL. Medication accuracy and general practitioner referral letters. *Intern Med J* 2006;**36**(2):132-134.
6. DeAngelis AF, Chambers IG, Hall GM. The accuracy of medical history information in referral letters. *Aust Dent J* 2010;**55**(2):188-192.
7. Izadi M, Gill DS, Naini FB. A study to assess the quality of information in referral letters to the orthodontic department at Kingston Hospital, Surrey. *Prim Dent Care* 2010;**17**(2):73-77.
8. Dentith GE, Wilson KE, Dorman M, Girdler NM. An audit of patient referrals to the sedation department of Newcastle Dental Hospital. *Prim Dent care* 2010;**17**(2):85-91.
9. Zakrzewska JM. Multi-dimensionality of chronic pain of the oral cavity and face. *J Headache Pain* 2013;**14**(1):37.
10. Ryle JA. The natural history of disease. London: Oxford University Press, 1936.
11. Zakrzewska JM. Referral letters--how to improve them. *Br Dent J* 1995;**178**(5):180-182.
12. Moloney J, Stassen LF. An audit of the quality of referral letters received by the Department of Oral and Maxillofacial Surgery, Dublin Dental School and Hospital. *J Ir Dent Assoc* 2010;**56**(5):221-223.
13. Djemal S, Chia M, Ubaya-Narayange T. Quality improvement of referrals to a department of restorative dentistry following the use of a referral proforma by referring dental practitioners. *Br Dent J* 2004;**197**(2):85-88.

14. Ridsdale L, Clark LV, Dowson AJ et al. How do patients referred to neurologists for headache differ from those managed in primary care? *Br J Gen Pract* 2007;**57**(538):388-395.
15. Navarro CM, Onofre MA, Sposto MR. Referral letters in oral medicine: an approach for the general dental practitioner. *Int J Oral Maxillofac Surg* 2001;**30**(5):448-451.
16. Goncalves DA, Camparis CM, Speciali JG et al. Treatment of comorbid migraine and temporomandibular disorders: a factorial, double-blind, randomized, placebo-controlled study. *J Orofac Pain* 2013;**27**(4):325-335.
17. Shaffie N, Cheng L. Improving the quality of oral surgery referrals. *Br Dent J* 2012;**213**(8):411-413.
18. Akbari A, Mayhew A, Al-Alawi MA et al. Interventions to improve outpatient referrals from primary care to secondary care. *Cochrane Database Syst Rev* 2008;(4):CD005471.
19. Kripke C. Improving outpatient referrals to secondary care. *Am Fam Physician* 2006;**73**(5):803-804.
20. Hill VA, Wong E, Hart CJ. General practitioner referral guidelines for dermatology: do they improve the quality of referrals? *Clin Exp Dermatol* 2000;**25**(5):371-376.
21. Edwards J, Palmer G, Osbourne N, Scambler S. Why individuals with HIV or diabetes do not disclose their medical history to the dentist: a qualitative analysis. *Br Dent J* 2013;**215**(6):E10.

Table 1 Details of pain complaint provided in 50 letters from GDPs and 44 from GMPs

Referral information	GDP (n= 50)	GMP (n= 44)
Duration of pain	68.0% (34)	68.2% (30)
Periodicity of pain	34.0% (17)	27.3% (12)
Site of pain	88.0% (44)	79.5% (35)
Characteristic of pain	20.0% (10)	20.5% (9)
Severity of pain	28.0% (14)	31.8% (14)
Exacerbating/alleviating factors of pain	42.0% (21)	47.7% (21)
Associated factors	38.0% (19)	31.8% (14)
Overall past medical history	52.0% (26)	70.5% (31)
Treatment to date	60.0% (30)	56.8% (25)
Secondary care	14.0% (7)	34.1% (15)
Social/family history	12.0% (6)	22.7% (10)
Diagnosis	54.0% (27)	72.7% (32)

Table 2 Medical History completeness for all referrals

Completeness	All referrals (n= 92)	GMP referral (n= 43)	GDP referrals (n= 49)
Complete history	13.0% (12)	27.9% (12)	0% (0)
One relevant finding missing	19.6% (18)	25.6% (11)	16.3% (7)
Two relevant finding missing	22.8% (21)	18.6% (8)	26.5% (13)
Three or more relevant finding missing	45.7% (42)	30.2% (13)	59.2% (29)
Average relevant findings missing*	2.48	1.88	3.00
Average completeness**	43.1%	61.1%	23.8%

Table 3 GMP referral letter completeness

Medical history finding	Total (n= 43)	Not in referral	In referral
Previous operative procedures or inpatient admission	51.2% (22)	54.5% (12)	45.5% (10)
Drug history	95.3% (41)	24.4% (10)	75.6% (31)
Allergies	30.2% (13)	46.2% (6)	53.8% (7)
Cardiovascular history	14.0% (6)	16.7% (1)	83.3% (5)
Blood pressure	30.2% (13)	46.2% (6)	53.8% (7)
Respiratory history	20.9% (9)	22.2% (2)	77.8% (7)
Endocrine history	11.6% (5)	20.0% (1)	80.0% (4)
GI/liver disease history	41.9% (18)	44.4% (8)	55.6% (10)
Renal history	2.3% (1)	100.0% (1)	0.0% (0)
Rheumatology history	55.8% (24)	62.5% (15)	37.5% (9)
Dermatology history	18.6% (8)	37.5% (3)	62.5% (5)
Neurological history	39.5% (17)	47.1% (8)	52.9% (9)
Psychiatric history	41.9% (18)	33.3% (6)	66.7% (12)
Other	37.2% (16)	12.5% (2)	87.5% (14)

Table 4 GDP referral letter completeness

Medical history finding	Total (n= 49)	Not in referral	In referral
Previous operative procedures or inpatient admission	59.2% (29)	89.7% (26)	10.3% (3)
Drug history	63.3% (31)	61.3% (19)	38.7% (12)
Allergies	24.5% (12)	75.0% (9)	25.0% (3)
Cardiovascular history	12.2% (6)	83.3% (5)	16.7% (1)
Blood pressure	10.2% (5)	40.0% (2)	60.0% (3)
Respiratory history	18.4% (9)	88.9% (8)	11.1% (1)
Endocrine history	10.2% (5)	60.0% (3)	40.0% (2)
GI/liver disease history	32.7% (16)	81.3% (13)	18.7% (3)
Renal history	81.6% (4)	75.0% (3)	25.0% (1)
Rheumatology history	40.8% (20)	85.0% (17)	15.0% (3)
Dermatology history	18.4% (9)	100.0% (9)	0.0% (0)
Neurological history	20.4% (10)	80.0% (8)	20.0% (2)
Psychiatric history	42.9% (21)	71.4% (15)	28.6% (6)
Other	28.6% (14)	64.3% (9)	35.7% (5)