Eur. J. Prosthodont. Rest. Dent., Vol.16, No. 3, pp 128-131
Printed in Great Britain

An Audit of Letters of Referral to a Prosthodontic Department in a Dental Teaching Hospital.

This study was presented to the British Society for the Study of Prosthetic Dentistry meeting, Newcastle upon Tyne, United Kingdom, March 2007.

Michael R Fenlon*, Shiri Glick† and Martyn Sherriff‡

Abstract - *The purpose of this study was to investigate the quality and number of letters of referral for new patients received in the Prosthodontics Department of a Dental Teaching Hospital. Letters received during the month of May 2006 were included. Each letter of referral was tested against five criteria which might be expected in an appropriate letter of referral. These were information on the following: relevant dental history, relevant medical history, teeth present, diagnosis, and treatment plan. The results showed that only 8% of letters met all five criteria and 11% met none of them. Letters requesting better information were sent to referring practitioner as a result of this audit. However a re-audit in May 2007 showed that 9% of letters met all five criteria and 15% met none of them. A need has been identified for better referral letters and ways of achieving this were discussed.*

KEY WORDS: Letter, referral, NHS

INTRODUCTION

Letters of referral are used to determine if referred patients meet acceptance criteria for specialist care. Good practice suggests that letters of referral should concisely lay down patient problems, what is being requested, and other relevant patient information. King's College London Dental Institute routinely provides referring dentists and doctors with pro forma pads to help practitioners provide high quality letters of referral.

In Prosthodontics Departments of Dental Hospitals, there is a particular need to identify patients suitable to be treated as part of undergraduate training, those in priority categories such as Head & Neck cancer, cleft palate, hypodontia and in need of implants and finally those who would benefit from specialist conventional prosthodontic treatment. With increased numbers of undergraduates there is a keen demand for suitable patients for students. National guidance and local prioritisation requires that patients in priority categories be treated. Unfortunately limited staff resources mean that relatively few patients in the third group – those who would benefit from specialist conventional prosthodontic treatment – can be treated in Dental Hospitals.

With changes in contractual arrangements for General Dental Practitioners there appeared to be an increase in the number of new referrals to the Department of Prosthodontics at King's College London Dental Institute in April 2006. Many letters of referral seemed to be of poor quality.

In order to determine if these impressions were justified a prospective audit of referral letters for new patients was undertaken covering the month of May 2006.

REVIEW OF LITERATURE

Previous research demonstrated that dental consultants generally rated letters of referral as adequate or better on 76% of occasions, 21% were rated as poor and 2% were described as appalling[1]. In contrast, letters of referral to a paediatric department of a teaching hospital were generally found to be of poor quality, with only 25% relating any information on medical history and only 30% on treatment provided[2]. Poor quality of referral letters from General Dental Practitioners has been identified as a problem in Orthodontics[3]. A recent audit of letters of referral to a Tempermandibular disorders clinic found that only 6% of letters of referral made a useful contribution[4].

The need to improve the quality of letters of referral has been identified and suggestions made for their improvement[5]. The use of pro forma letter of referral has been reported with various degrees of success. They have been supported by some research evidence in periodontology, showing pro forma letters of referral to provide a significant improvement in quality of referrals over conventional letters of referral[6]. However in a subsequent study, while pro forma letters were shown to be better than conventional letters, the general standard was disappointing with only 35% of letters of referral deemed to be acceptable[7]. In contrast, Djemal et al found that pro formas dramatically improved quality of letters of referral[8]. However recent work on letters of referral from General Dental Practitioners to Periodontists found that a pro forma letter made no difference to quality of referrals. It showed that only a third of referrals included a medical history and even these were not always comprehensive[9].

* MA, PhD, BDentSc, FDS, MGDS
† BDS
‡ PhD, BSc

METHOD

All letters of referral for the Department of Prosthodontics received between 1st May and 31st May 2006 at King's College London Dental Institute were examined.

Only referrals of new patients from general dental practitioners were included. Repeat referrals, inter and intra hospital referrals were excluded because these referrers might assume that relevant information should be available in patients' notes. Referrals from medical practitioners and self referrals were excluded as these referrers could not be expected to have the dental expertise to comment on dental treatment needs.

Each letter of referral was tested against five criteria which might reasonably be expected in an appropriate letter of referral. The standard set for the audit was 100% compliance with information on the following:

- Relevant dental history.
- Relevant medical history.
- Teeth present or edentulousness.
- Diagnosis.
- Treatment plan.

An audit form was designed with a Yes/No format for each criterion.

The criteria were interpreted liberally; where complete maxillary and mandibular dentures were requested the patient was assumed to be edentulous; where any medical history was mentioned or where the patient was described as having no relevant medical history this was accepted; where any dental history whatsoever was mentioned this was accepted, where a formal diagnosis, differential diagnosis or description of the problem or of the symptoms was given this was accepted; in the case of treatment plan, either a request for a particular treatment or any suggestion of possible treatments was accepted.

The whole process was repeated for the month of May 2007 to complete the audit loop.

Data were stored on an Excel XP (Microsoft Corporation) database and data were analysed using Stata 9.1 (Stata Corporation)

RESULTS

May 2006

Three new letters of referral with no data allowing patients to be identified (no name, no address) were received. These were excluded form the study as these referrals could not be acted upon. A total of 143 other new letters of referrals were received between 1st May and 31st May 2006. In comparison, 94 were received between 1st May and 31st May 2005.

Table1 shows the number of criteria met broken down by different referral groups. The standard set for the audit was for letters to meet all five criteria but only 11 letters (8%) met this standard. 16 letters (11%) met none of the criteria and 52% met less than half of the criteria (Table 1). Table 2 shows numbers of letters meeting each criterion by referral group. The criterion met most often was the treatment plan (78%). In contrast medical history and teeth present were mentioned least often in referrals (29% and 40% respectively) (Table2).

Complete/complete denture referrals were the most numerous and consistently seemed to meet the same two criteria. Statistical analysis showed a statistically significant association between complete denture cases stating teeth present or absence of teeth ($\chi^2 = 81.3$; $p = 0.0001$) and a treatment plan ($\chi^2 = 48.05$; $p = 0.001$).

May 2007

Table 3 shows the number of criteria met broken down by different referral groups. Only 9 letters (9%) met all five criteria. 15 letters (15%) met none of the criteria and 52% met less than half of the criteria (Table 3). Table 4 shows numbers of letters meeting each criterion by referral group.

The criterion met most often was the treatment plan (78%) In contrast medical history and teeth present were mentioned least often in referrals (20% and 39% respectively) (Table 4).

DISCUSSION

143 new valid referrals were received in May 2006 compared with 94 in May 2005. This represents an increase of 52%. It was suspected that this increase might be related to new contractual arrangements for General Dental Practitioners in the UK. The fact that the number received in May 2007 fell back to 103 does not support this.

The standard of letters of referral was poor, and if anything worse than previous research might suggest [1,2,3,7]. With an average of less than 2.4 criteria being met per referral, it was difficult to allocate referred patients with any confidence that these were being done correctly, particularly as 11% in 2006 and 15% in 2007 met no criteria. In 28 letters in 2006 and 22 letters in 2007 (21%) it was impossible even to hazard a guess at the purpose of the referral. The average of less than 2.4 criteria being met per referral was the same for both months audited.

Whilst treatment plans were stated in the majority of cases, referrers were very poor at detailing relevant medical histories and stating the teeth present. The quality of referrals seemed to vary widely depending on the treatment required. All treatment plans require marked improvements to meet standards. The statistically significant associations between complete denture cases consistently detailing teeth present or absence of teeth and a treatment plan reflects the assumption that those referred for conventional complete maxillary and mandibular dentures were edentulous. If this factor is discounted no other significant associations were found.

Despite availability of a pro forma referral form to assist in satisfactory referral, many were not used. Where they were used there was no evidence of an improved information yield.

The lack of any improvement whatsoever in the quality of referrals in 2007 over those in 2006 shows that the efforts made to improve quality of letters of referral by writing to

Table 1. *Number of criteria met by different referral group 2006.*

Reason for referral	*0*	*1*	*2*	*3*	*4*	*5*	*Total*
Unknown[a]	14	10	3	0	1	0	28
C/C, C/ or /C[b]	0	5	9	8	17	8	47
C/P or P/C[c]	0	5	4	2	2	1	14
Other[d]	1	3	3	6	0	0	13
P/P, P/ or /P[e]	1	11	6	11	10	2	41
Total	16	34	25	27	30	11	143

χ^2 (20) = 89.17; P < 0.001

Table 2. *Number of criteria met by different referral group 2006.*

Reason for referral	*Number with diagnosis*	*Number with treatment plan*	*Number with teeth present*	*Number with relevant medical history*	*Number with relevant dental history*	*Total in each group*
Unknown[a]	4 (14%))	7 (25%)	1 (4%)	3 (11%)	5 (18%)	28 (100%)
C/C, C/ or /C[b]	28 (60%)	45 (96%)	34 (72%)	16 (34%)	32 (68%)	47 (100%)
C/P or P/C[c]	6 (43%)	14 (100%)	3 (21%)	2 (14%)	7 (50%)	14 (100%)
Other[d]	8 (62%)	9 (69%)	1 (8%)	4 (31%)	5 (38%)	13 (100%)
P/P, P/ or /P[e]	24 (59%)	37 (90%)	6 (15%)	16 (39%)	23 (56%)	41 (100%)
Total	70 (49%)	112 (78%)	45 (40%)	41 (29%)	72 (50%)	143 (100%)

χ^2 (20) = 80.16; P < 0.001

Table 3. *Number of criteria met by different referral group 2007*

Reason for referral	*0*	*1*	*2*	*3*	*4*	*5*	*Total*
Unknown[a]	13	7	2	0	0	0	22
C/C, C/ or /C[b]	0	1	5	6	15	7	34
C/P or P/C[c]	0	3	2	2	2	1	10
Other[d]	1	2	2	4	0	0	9
P/P, P/ or /P[e]	1	9	3	8	6	1	28
Total	15	22	14	20	23	9	103

χ^2 (20) = 89.17; P < 0.001

Table 4. *Number of criteria met by different referral group 2007*

Reason for referral	*Number with diagnosis*	*Number with treatment plan*	*Number with teeth present*	*Number with relevant medical history*	*Number with relevant dental history*	*Total in each group*
Unknown[a]	1 (4.5%))	5 (23%)	0 (0%)	1 (4.5%)	4 (18%)	22 (100%)
C/C, C/ or /C[b]	21 (62%)	34 (100%)	32 (94%)	12 (35%)	25 (73%)	34 (100%)
C/P or P/C[c]	4 (40%)	10 (100%)	3 (30%)	2 (20%)	7 (70%)	10 (100%)
Other[d]	5 (55%)	7 (78%)	1 (11%)	2 (22%)	3 (33%)	9 (100%)
P/P, P/ or /P[e]	16 (57%)	24 (86%)	4 (14%)	9 (32%)	15 (54%)	28 (100%)
Total	47 (46%)	80 (78%)	40 (39%)	20 (19%)	54 (52%)	103 (100%)

χ^2 (20) = 80.16; P < 0.001

a. Unknown: - Impossible to tell reason for referral from letter
b. C/C, C/ or /C: - Complete over complete dentures, complete maxillary denture or complete mandibular denture.
c. Complete over partial dentures or partial over complete dentures.
d. Other: - bridges, implants, occlusal stents, snoring appliances, wear cases, TMJ cases (3 or less of any type)
e. Partial over partial dentures, maxillary partial denture or mandibular partial denture.

referring practitioners requesting and outlining the details needed for adequate letters of referral was ineffectual.

This audit did not attempt to verify the information provided in the letters of referral. However information provided may not always have been reliable and some instances of inaccuracy were picked up by chance. Three of the 33 patients referred for complete maxillary and mandibular dentures in May 2006 did not need complete dentures. One needing a maxillary partial denture, another needing a maxillary complete denture and a mandibular partial denture and the third was in a 22 year old patient with 32 intact but crowded teeth who expected to be referred for an orthodontic consultation. No similar cases were found in the referrals for May 2007.

IMPLEMENTING CHANGE

The audit of May 2006 highlighted a need for significant improvements to be made in quality letters of referral. It was therefore decided that all future unsatisfactory referral letters being received should be sent back to the referrers with a letter explaining the importance of complete referrals and listing the content needed for the referral to be accepted.

To complete the audit cycle, and to review the difference in the quality of letters of referrals achieved, the audit was repeated in May 2007 but the intervention to improve the quality of letters of referral was ineffectual.

CONCLUSIONS

There was a marked increase in the number of new referrals for Prosthodontics in May 2006 when compared to May 2005. This increase was not maintained in May 2007.

The general standard of letters of referral was poor.

While methods such as pro forma letters of referral have been used, and letters were sent to referrers in an attempt to improve quality of referrals to no beneficial effect, this audit has highlighted that other ways to improve referrals letters must be found.

ADDRESS FOR CORRESPONDENCE

Dr Michael Fenlon, King's College London Dental Institute, Floor 25, Guy's Hospital, London, SE1 9RT.
E-mail: michael.fenlon@kcl.ac.uk

REFERENCES

1. McAndrew, R., Potts, A.J., McAndrew, M. and Adam, S. Opinions of dental consultants on the standard of referral letters in dentistry. *Br. Dent. J.*, 1997;**182**:22-5.
2. Salam, S., Al Badri, S. and Lee, G.T.R. A review of referrals of new patients to the paediatric department of a teaching hospital during a six month period. *Prim. Dent. Care*, 2005;**12**:106-110.
3. Thind, B.S., Hewage, S. and Larmour, C.J. GDP referrals for orthodontic treatment. *Health Bulletin*. 2001;**59**:244-7.
4. O'Donovan, A.E., Ager, P.M., Davies, S.J. and Smith, P.W. An appraisal of the quality of referral letters from general dental practitioners to a temporomandibular disorder clinic. *Prim. Dent. Care*, 2003;**10**:105-8.
5. Zakrzewska, J.M. Referral letters - how to improve them. *Br. Dent. J.* 1995;**178**:180-2
6. Snoad, R.J., Eaton, K.A., Furniss, J.S. and Newman, H.N. Appraisal of a standardised periodontal referral proforma. *Br. Dent. J.*, 1999;**187**:42-6.
7. Eaton, A.K., Furniss, S.J., Snoad, R.J. and Newman, H.N. An assessment of the quality of referral letters sent to a specialist periodontist during a nine month period. *J. Int. Academy Periodontol.*, 2001;**3**:7-13.
8. Djemal, S., Chia, M. and 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**:85-8
9. Kourkouta. S. and Darbar, U.R. An audit of the quality and content of periodontal referrals and the effect of implementing referral criteria. *Prim. Dent. Care*, 2006;**13**:99-106.