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Authors	Murphy, CL; Sheane, B; Durcan, L; O'Shea, FD; Doran, M; Cunnane, G
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Benefits of Pre-Referral Preparation for Rheumatology Clinics

Abstract:

CL Murphy¹, B Sheane¹, L Durcan¹, FD O’Shea¹, M Doran¹, G Cunnane^{1,2}
¹Department of Rheumatology, St James’s Hospital, James’s St, Dublin 8
²Department of Clinical Medicine, Trinity College Dublin, Dublin 2

Abstract

Appropriate allocation of rheumatology clinic appointments depends on the information contained in referral letters. Such letters were analysed for the presence of pertinent information and a scoring system was devised to assess the quality of enclosed data. In a smaller cohort, relevant basic tests were carried out prior to the appointment. 122 referral letters were received over a 1 month period. Symptom duration was documented in (39)32%, while (64)52.5% listed medications. Only (23)17.2% indicated the urgency of the problem. Approximately (31)25% of referrers performed relevant routine investigations. Mean score out of 10 was 5.1 (range 1.5–9). Of the 40(33%) patients with pre-appointment investigations, the clinic attendance rate and subsequent discharge rate were significantly higher than those without these tests. This study shows that comprehensive referral letters and basic investigations significantly help to prioritize appointments and facilitate earlier diagnosis and treatment for patients with rheumatic disease.

Introduction

Early diagnosis and intervention are central premises in the management of patients with rheumatic disease. For those with inflammatory arthritis, the benefits of early and adequate reduction in inflammation have been well-demonstrated both from an individual and a socio-economic perspective^{1,2}. Timely and effective treatment increases the likelihood of disease remission and continuity of employment in addition to reducing the number of co-morbid conditions commonly associated with chronic inflammation³. For patients with mechanical joint disease or soft tissue rheumatism, there are multiple therapeutic strategies that greatly improve quality of life when instituted at an early stage in the disease course⁴. If the evidence regarding early treatment is irrefutable, it seems surprising that many patients with rheumatic disease endure significant delays before first review by a rheumatologist. In Ireland, a shortage of rheumatologists and large numbers of symptomatic patients have contributed to long waiting lists. Given the demand for rheumatology expertise, it is essential that each review is used as efficiently as possible and that all relevant information is available during the initial appointment to facilitate timely diagnosis and treatment.

This study was undertaken to evaluate the quality of referral letters to a single rheumatology unit in Dublin. The information was used to guide decisions regarding urgency of appointments and to assess the outcome of a cohort of patients for whom additional pertinent investigations were ordered in advance of their first clinic appointment.

Methods

All referral letters to the Rheumatology service at St James’s Hospital over a 1 month period were included in this study. A scoring system for assessing the quality of each referral was devised using key criteria (Table 1). Comprehensive patient contact details included full name, date of birth, complete address and phone number. Letters were considered succinct if the information was contained on one page. Availability of recent relevant radiographs scored 1 point. Other criteria, such as inclusion of symptom duration, appropriate lab tests (e.g. inflammatory markers), medications, urgency and tentative diagnosis, also received one mark each. If the information allowed the rheumatologist to form a clinical impression of the problem, an additional mark was given. The highest possible score for a completely comprehensive referral letter was 10.

In 40 randomly selected letters, additional basic investigations (laboratory tests / plain radiographs) were organised by the investigators, based on the available information. Patients thought to have a rheumatoid-like process were asked to undergo full blood count, renal-liver profile, routine auto-immune serology and x-rays of hands/feet. Those with a monoarthritis had an x-ray of the relevant joint area. Outcomes of the clinic visit for this cohort and for the remaining patients who were not contacted prior to their appointment were compared to see if such additional information contributed to the efficiency of diagnosis and management for patients presenting with rheumatic symptoms.

Statistical analysis was performed using SPSS 16.0 for Windows. Student t test, analysis of variance (ANOVA) and Pearson’s test for correlation were applied to parametric data and Mann Whitney U, Kruskal Wallis and Spearman’s rank correlation tests were used for non-parametric data. Statistical significance was attached to p values <0.05. Approval for this study was granted by the St James’s Hospital Ethics Committee.

Results

Quality of referral letters

122 referral letters were analysed, 63% from General Practitioners (GPs) and 37% from hospital consultants (Table 2). Full contact details were included 54 (44.3%). Hand-written letters were submitted in 21.5% with almost half of those illegible. In 97 letters (79.5%), the information was contained on 1 page. However, in one-fifth, several pages of non-specific data were included (e.g. multiple order-numbers for lab tests). Symptom duration was documented in 39 (32%), while 64 (52.5%) listed the patient’s medications. Only 21 (17.2%) indicated the urgency of the problem. Approximately 25% had performed the relevant x-rays and lab tests. Radiographs were confined to the relevant areas mentioned in the referral letter and on retrospective review were considered appropriate. A tentative diagnosis was documented in 67 (54.9%), but with other information contained in the letter, a clinical impression of the patient’s problem could be inferred in 81 (66.4%) and included a possible diagnosis of inflammatory arthritis in 44 (36.1%), osteoarthritis (OA) in 22 (18%) and soft tissue rheumatism in 15 (12.3%). Mean score for all referrals letters was 5.1 out of 10 (range 1.5-9). GP referrals scored higher than those from hospital-based teams (5.4 (2–9) versus 4.6 (1.5-7.5), p=0.01) (Figure 1). No letter contained all the desired information.

Comparison of ‘prepared’ and ‘unprepared’ patient cohorts

Of the 122 referrals, 4 letters were returned and these were not included in the final analysis. Forty patients were randomly selected to have basic investigations (routine lab tests and plain x-rays) performed prior to their first rheumatology visit. For the 78 other patients, there was no additional contact from the hospital. Comparisons of these cohorts are illustrated in Table 3. Most patients were female (n=81, 66.4%). Mean age was 53 years (range 19–87). The majority (n=94, 77.1%) lived within 20 miles of the hospital. There were no significant differences in these demographic details between patients who had extra investigations done prior to their clinic visit and those who did not.

Attendance and discharge rates of a prepared and a non-prepared patient cohorts

Out of 118 patients who were issued with rheumatology appointments, 89 (75.4%) turned up for their scheduled clinic visit, with an overall non-attendance rate of 24.6%. In the cohort of 40 patients who had undergone additional tests, 2 (5%) did not turn up for their subsequent rheumatology appointment, in contrast to the group who had no extra investigations, where the non-attendance rate was significantly higher (n=27 (34.6%), p<0.001). A comprehensive review permitting the patient to be discharged from the service after the first appointment was possible in 38 (42.7%), significantly higher in the a prepared patients (n=22 (57.9%) versus n=16 (31.4%), p=0.01).

Diagnostic accuracy of the clinical impression deduced from the referral letter

Of the 89 patients who attended their appointment, a tentative diagnosis (either written or implied) was available from the referral letter in 70 (78.7%). Fifty (56.2%) of these retained this diagnosis after rheumatology review. Thus, in nearly half the cohort (43.8%), the actual diagnosis was not possible to ascertain from the referral letter alone and in those letters where the diagnosis was inferred, almost one third (28.6%) were erroneous. The greatest discrepancies were observed in patients whose final diagnosis was osteoarthritis, rheumatoid/inflammatory arthritis and Raynaud phenomenon whereas good diagnostic correlation was noted for seronegative spondyloarthropathy, crystal arthritis and shoulder tendinopathies. Four patients (4.5%) were accurately referred with a rotator cuff problem that could have been treated directly by physiotherapy. In 2 cases, inflammatory arthritis was not suggested by the referral letters but later diagnosed on clinic review. Those patients waited 4 months and 7 months respectively for their appointments, considerably outside the recommended time-frame of 6 weeks for assessment of early synovitis.

Discussion

The presence of comprehensive and easily accessible information in referrals letters has a major impact on the decision-making process for patient appointments. Although the numbers studied were small, they were, nevertheless, felt to be representative of the referral process in our hospital. It was surprising to find that >20% of correspondence was hand-written as such data, if lost, cannot be readily reproduced. 10% of letters were illegible causing further delay with issuing of clinic dates. Many letters contained several pages of non-specific data, making it difficult to pick out relevant facts. Omission of a medication list places patients at considerable disadvantage, particularly if they are unable to name their drugs and doses. For example, absence of synovitis in patient who is not known to be taking low-dose corticosteroids may lead to the incorrect assumption that the diagnosis is non-inflammatory. Furthermore, there is considerable potential for adverse drug interactions if new prescriptions are issued without knowledge of the patient's complete medication list. Indicating the perceived urgency of symptoms is also extremely helpful in determining priority of appointment and this can be impossible to judge when other vital pieces of information, such as baseline routine investigations, are also missing.

The absence of pertinent data means that, frequently, the first clinic visit is spent simply gathering data, with treatment decisions deferred to follow-up appointments which, because of demands on clinic space, may be weeks or months away. This situation adds unnecessarily to patients' anxieties and may delay initiation of treatment. Similar findings have been noted in other studies that have evaluated referrals to hospital-based rheumatology services^{8,11}. However, Roberts et al found that when adequate support and ongoing education in musculoskeletal diseases were provided for GPs, their confidence in diagnosing and treating these conditions was high¹². Greater integration between primary and secondary care in addition to events facilitating communication between colleagues are likely to result in enhanced quality of referrals and better understanding of the challenges encountered by all providers in caring for patients with rheumatic disease¹³.

Pre-appointment management of new patient referrals has many potential benefits, particularly regarding efficient use of specialist time and reducing the number of clinic visits. It also frees up appointment slots for other patients, thereby improving access and reducing waiting lists. Harrington et al described a comprehensive system for judging appropriateness of referrals to their US-based service and observed several quality improvements after implementation of this practice. A key feature was the presence of good communication links between the referring physicians, patients and rheumatologists, particularly in the context of well-coordinated interdisciplinary care¹⁴. The significant reduction in the non-attendance rate of the a prepared cohort was also of interest and may have been due to the additional contact from the hospital.

The diagnostic accuracy of the clinical impression deduced from the referral letter was low when subsequently compared with the resultant diagnosis after consultant review of the patient. In nearly one-third, the presumed diagnosis was erroneous resulting in an avoidably prolonged waiting time for some patients. Previous studies have differed in the diagnostic correlation between the referral letter and the clinical review. Sathi et al noted good agreement between GP letters and the rheumatologist opinion¹⁵. However, Gamez-Nava et al reported marked discrepancies between the two¹⁶. It was of interest that letters from hospital colleagues contained less information than those from GPs. Possible reasons include the assumption that the relevant information would be available in the patients' records and the fact that some hospital referrals were made by relatively inexperienced junior doctors. Our study highlights the importance of providing essential information, including up to date investigations, at the time of referral.

An obvious way to ensure that referral letters reach the consultant in a timely manner and contain all the necessary information is to create an electronic version, particularly one that is universally accepted amongst local hospitals and community medical practices, is easy to use and incorporates clinical photos if relevant. Efforts in this regard are currently underway at a national level in Ireland and will make an enormous difference to the prioritization of appointments. An early and comprehensive clinical review by a rheumatologist is essential to the current and future health of patients with rheumatic disease. The ability to achieve this relatively simply and in a cost-effective manner is increasingly attractive.

Correspondence: G Cunnane
Department of Rheumatology, St James's Hospital, Dublin 8
Email: gcunnane@stjames.ie

References

1. Tak PP, Kalden JR. Advances in rheumatology: new targeted therapeutics. Arthritis Res Ther 2011; 13: S1 - S5
2. Lard LR, Visser H, Speyer I, vander Horst-Bruinsma IE, Zwinderman AH, Breedveld FC, Hazes JM. Early versus delayed treatment in patients with recent-onset rheumatoid arthritis: comparison of two cohorts who received different treatment strategies. Am J Med. 2001; 111: 446-451.
3. Bykerk V, Emery P. Delay in receiving rheumatology care leads to long-term harm. Arthritis Rheum 2010; 62: 3519-3521.
4. Zhang W, Sun H, Emery P, Sato R, Singh A, Freundlich B, Anis AH. Does achieving clinical response prevent work stoppage or work absence among employed patients with early rheumatoid arthritis? Rheumatology 2012; 51: 270-274.
5. van der Linden MP, le Cessie S, Raza K, van der Woude D, Knevel R, Huizinga TW, van der Helm-van Mil AH. Long term impact of delay in assessment of patients with early arthritis. Arthritis Rheum 2010; 62: 3537 - 3546
6. Hunter DJ. Lower extremity osteoarthritis management needs a paradigm shift. Br J Sports Med 2011; 45: 283 - 288.
7. Schmidt-Wilcke T, Clauw DJ. Fibromyalgia: from pathophysiology to therapy. Nat Rev Rheumatol. 2011; 7: 518-527.

8. Speed CA, Crisp AJ. Referrals to hospital-based rheumatology and orthopaedic services: seeking direction. Rheumatology 2005; 44: 469 â 471

9. Jack C, Hazel E, Bernatsky S. Somethingâ s missing here: a look at the quality of rheumatology referral letters. Rheumatol Int 2012; 32: 1083 â 1085

10. Gran JT, Nordvag BY. Referrals from General Practice to an outpatient Rheumatology clinic: disease spectrum and analysis of referral letters. Clin Rheumatol 2000; 19: 450 â 454

11. Graydon SL, Thompson AE. Triage of referrals to an outpatient rheumatology clinic: analysis of referral information and triage. J Rheumatol 2008; 35: 1378 - 1383

12. Roberts C, Adebajo AO, Long S. Improving the quality of care of musculoskeletal conditions in primary care. Rheumatology 2002; 41: 503 â 508

13. Gormley GJ, Steele WK, Gilliland A, Leggett P, Wright GD, Bell AL, Matthews C, Meenagh G, Wylie E, Mulligan R, Stevenson M, Oâ Reilly D, Taggart AJ. Can diagnostic triage by general practitioners or rheumatology nurses improve the positive predictive value of referrals to early arthritis clinics? Rheumatol 2003; 42: 763 â 768

14. Harrington JT, Walsh MB. Pre-appointment management of new patient referrals in rheumatology: a key strategy for improving health care delivery. Arthritis Rheum 2001; 45: 295â 300.

15. Sathi N, Whitehead E, Grennan D. Can a rheumatologist accurately prioritize patients on the basis of information in the general practitioner referral letter? Rheumatol 2003; 42: 1270 â 1271

16. Gamez-Nava JI, Gonzalez-Lopez L, Davis P, Suarez-Almazor ME. Referral and diagnosis of common rheumatic diseases by primary care physicians. Br J Rheumatol 1998; 37: 1215 â 1219