

Does Everybody Need a Team?

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ABSTRACT. Multidisciplinary team care, defined as care provided by a group of health professionals from various disciplines, has been widely used in arthritis management since the 1950s. Its effectiveness in comparison with regular outpatient care has mainly been established in patients with rheumatoid arthritis (RA). Recent studies have shown that similar outcomes can be achieved in patients with RA at lower costs using care provided by a clinical nurse specialist. These latter findings suggest that the active components of the multidisciplinary team care model may not be related to the number or professional backgrounds of the health professionals involved, nor with their physical proximity, but rather to the provider's skills in rheumatology and the coordination of services. Because many patients with arthritis have healthcare needs that are not met through treatment by the rheumatologist alone and since traditional multidisciplinary team care in many countries is unavailable or may be undesirable in specific situations, the development and evaluation of alternative, comprehensive models of care delivery is recommended. (J Rheumatol 2006;33:1897-9)

Key Indexing Terms:

ARTHRITIS

PATIENT CARE TEAMS

MODEL OF CARE

INTRODUCTION

Comprehensive rehabilitation involving a team of health professionals from various disciplines has been extensively used in patients with inflammatory arthritis. Team care originated in the 1950s, when pharmacological and surgical treatment options were limited, and bed rest, joint splinting, passive or assisted active exercise therapy, heat and cold therapy, occupational therapy, and emotional support were the cornerstones of the basic treatment regimen¹. At that time it was generally acknowledged that the provision of services by a well-organized multidisciplinary team would be more beneficial than fragmented contributions from individual health professionals. In recent decades, the benefits of joint replacement surgery and advances in pharmacological interventions, especially newly emerged biologics, have dramatically improved the outcomes of arthritis in terms of disease activity, functional limitations, and overall health. These advances, together with continuing developments in healthcare systems and society as a whole, raise the question of the role of multidisciplinary team care for people with arthritis. In order to address this issue we have to explore the following questions:

- What is multidisciplinary team care and how has it evolved in recent years?

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- To what extent has the effectiveness of multidisciplinary team care been established?
- What are the challenges for multidisciplinary team care?

MULTIDISCIPLINARY TEAM CARE AND ITS EVOLUTION

A multidisciplinary healthcare team can be defined as a group of health professionals from different disciplines who share common values and objectives². In arthritis care, the goals of multidisciplinary team care include preserving and improving the patient's quality of life by improving disease activity, functional ability, mental and social health, and vocational status^{3,4}. Although team composition may vary, the more common members of a traditional multidisciplinary team in arthritis care include rheumatologists, physiotherapists, occupational therapists, nurses, and social workers⁵. Originally delivered mainly in an inpatient setting, team care has now become more usual in outpatient, day patient, and community based settings. In parallel, the average duration of traditional multidisciplinary team care programs has decreased markedly. With increasing levels of communication and with integration of skills among health professionals, the working method of teams can now often be characterized as interdisciplinary or transdisciplinary rather than multidisciplinary^{6,7}.

In addition, the client and his or her family have been identified as the most important members of the care team⁸. A client-centered approach is now common, in which every aspect of the patient's health status is systematically evaluated, and the treatment goals and plans for interventions are jointly set⁹. For this purpose, the value of specific tools designed to systematically enhance the patient's role in the treatment process and/or to facilitate communication among team members, such as the Canadian Occupational

Performance Measure¹⁰ or the Rehabilitation Problem Solving form¹¹, are being evaluated in arthritis team care.

EFFECTIVENESS AND COST OF MULTIDISCIPLINARY TEAM CARE

A comprehensive review concerning effectiveness of inpatient and outpatient team care in patients with RA published in 1987¹² found clear evidence that team care results in better outcomes, but most studies were methodologically flawed. In a systematic review of only controlled clinical trials¹³ it was shown that in comparison with regular outpatient care, inpatient multidisciplinary team care programs in RA were more effective for disease activity and functional ability, but were more costly. Overall, the benefits of outpatient multidisciplinary team care programs versus regular outpatient care were less marked. A number of uncontrolled studies that followed described positive effects of day patient^{14,15} or inpatient multidisciplinary team care programs¹⁶ in RA.

CHALLENGES FOR MULTIDISCIPLINARY TEAM CARE

Given the relatively high costs of multidisciplinary team care and the variation in local availability of qualified rheumatology healthcare professionals, identification of the components of care becomes all the more important. The majority of the studies above were poorly described with regard to frequency, duration, intensity of interventions, the process of communication among team members, team leadership, and the roles of team members and patient in the care process. In general, evaluations of care were concerned mainly with patients in later stages of disease, so that their value in early arthritis remains to be established.

Moreover, the effectiveness of such programs was determined mainly by comparison with regular outpatient care, rather than with variations of multidisciplinary team care programs, such as the addition or subtraction of specific health professionals, team leaders, or formal team conferences. Therefore, the question "What's inside the team care box?"¹⁷, raised about 15 years ago, remains largely unanswered.

Two recent randomized controlled trials compared types of care. Whereas earlier comparisons of inpatient with outpatient¹⁸ or day patient team care¹⁹ showed conflicting results, these 2 studies consistently demonstrated that an inpatient setting has no added benefit. Equivalent clinical effects were found, with inpatient team care being more expensive than day patient team care²⁰⁻²³. Moreover, in the study by Tjhuis, *et al*, inpatient and day patient multidisciplinary team care programs were compared with care by a clinical nurse specialist in cooperation with the rheumatologist. Clinical nurse specialist care provided equivalent clinical outcomes at significantly lower costs, but with lower levels of patient satisfaction than with multidisciplinary care²¹⁻²⁴. It should be noted that this study included a selected group of patients whose health status did not demand hospitalization.

Nevertheless, results support the suggestion that "the essential features of rehabilitative care, irrespective of site or constituent members, are that the approach is comprehensive, coordinated, and problem-oriented, with explicit and consensual division of responsibility and repeated assessment" may pertain to comprehensive arthritis care in general²⁵.

DO ALL PATIENTS WITH ARTHRITIS NEED A TEAM?

The question of whether patients with arthritis require team care cannot be answered based on the available literature. Evidence of effectiveness of multidisciplinary team care is mainly based on studies in patients with RA, and is limited to patients with long-standing disease characterized by relatively high levels of disease activity and/or difficulty performing basic activities of daily living, such as self-care and maintaining mobility. With improvements in disease control using early and aggressive antirheumatic drugs such as biologics, traditional multidisciplinary team care may become less common. However, this does not imply that the complex needs of patients with arthritis have vanished or even diminished. The bar has been raised, not only with respect to disease control, but also concerning patients' participation in society. Problems such as the maintenance of paid jobs, participation in sports and leisure activities, and intimate relationships and sexuality are gaining increased recognition.

In addition to the ongoing issue of communication with rheumatologists and other health professionals, problems with adherence to medical treatment and anticipation of potential side effects, and the acquisition of funding for medical treatment, aids, and appliances are still very common among patients with RA and other forms of arthritis. Given these challenges, the majority of patients will need access to one or more health professionals in addition to the rheumatologist at some stage of their disease trajectory, including the early phase. Depending on the interventions or care required, the choice of the health professional(s) should depend on the required skills for the provision of those interventions rather than the professional background of the health provider.

Irrespective of the availability of various health professionals, it should be kept in mind that more care providers might not always mean better care: some patients may prefer to put their trust in one or 2 health professionals rather than an extensive team; moreover, the involvement of fewer persons is likely to facilitate communication.

Considering the limited funding and human resources in many countries where provision of a comprehensive multidisciplinary team is impossible, training of multiskilled nurses²⁶ or health professionals²⁷ is a promising approach. In addition, arthritis care delivery models involving general practitioners and allied health professionals in primary care proved to be successful^{28,29}. These models include educational activities as well as joint consultations, facilities to enhance contacts between rheumatologists, general practitioners, and allied

health professionals, and the creation of collaborative treatment programs and guidelines.

The challenge for the next few years will be to develop comprehensive care delivery systems that meet the needs and preferences of patients with various forms of arthritis living in the 21st century and to evaluate them with respect to effectiveness, costs, patient satisfaction, and applicability at various stages of disease and within different healthcare systems.

REFERENCES

1. Zeller JW, Waite H, Jellinek K. Sanatorium management of rheumatoid arthritis. *JAMA* 1963;186:1143-9.
2. Halstead LS. Team care in chronic illness: a critical review of literature of past 25 years. *Arch Phys Med Rehabil* 1976;57:507-11.
3. DeLisa JA, Currie DM, Martin GM. Rehabilitation medicine. Past, present and future. In: DeLisa JA, Gans BM, editors. *Rehabilitation medicine: principles and practice*. 3rd ed. Philadelphia: Lippincott-Raven; 1998:3-32.
4. Petersson IF. Evolution of team care and evaluation of effectiveness. *Curr Opin Rheumatol* 2005;17:160-3.
5. MacKay C, Devitt R, Soever L, Badley EM. An exploration of comprehensive interdisciplinary models for arthritis. Working report 2005-03. Toronto: Arthritis Community Research & Evaluation Unit (ACREU); 2005.
6. Haig AJ, Lebreck DB. Measurement of change in rehabilitation team dynamics with the team assessment profile (TAP). *Int J Rehabil Health* 2000;3:71-83.
7. Smits SJ, Falconer HJ, Bowen SE, Strasser DC. Patient-focused rehabilitation team cohesiveness in Veterans Administration hospitals. *Arch Phys Med Rehabil* 2003;84:1332-8.
8. Madigan A, Fitzgerald O. Multidisciplinary patient care in rheumatoid arthritis: evolving concepts in nursing practice. *Baillieres Best Pract Res Clin Rheumatol* 1999;13:661-74.
9. Stucki G, Sangha O. Principles of rehabilitation. In: Klippel JH, Dieppe PA, editors. *Rheumatology*. 2nd ed. London: Mosby; 1998:3.11.1-3.11.14.
10. Wressle E, Lindstrand J, Neher M, Marcusson J, Henriksson C. The Canadian Occupational Performance Measure as an outcome measure and team tool in a day treatment program. *Disabil Rehabil* 2003;25:497-506.
11. Steiner WA, Ryser L, Huber E, et al. Use of the ICF model as a clinical problem-solving tool in physical therapy and rehabilitation medicine. *Physical Therapy* 2002;82:1098-107.
12. Spiegel JS, Spiegel TM, Ward NB. Are rehabilitation programs for rheumatoid arthritis patients effective? *Semin Arthritis Rheum* 1987;16:260-70.
13. Vliet Vlieland TPM, Hazes JMW. Efficacy of multidisciplinary team care programs in rheumatoid arthritis. *Semin Arthritis Rheum* 1997;27:110-22.
14. Prier A, Berenbaum F, Karneff A, et al. Multidisciplinary day hospital treatment of rheumatoid arthritis patients. Evaluation after two years. *Rev Rhum Engl Ed* 1997;64:443-50.
15. Jacobsson LTH, Frithiof M, Olofsson Y, et al. Evaluation of a structured multidisciplinary day program in rheumatoid arthritis. *Scand J Rheumatol* 1998;27:117-24.
16. Maravic M, Bozonnet M, Sevezan A, et al. Preliminary evaluation of medical outcomes (including quality of life) and costs in incident RA cases receiving hospital-based multidisciplinary management. *Joint Bone Spine* 2000;67:425-33.
17. Yelin EH. What's inside the team care box? Is it the parts, the connections, the attention or the gestalt? *J Rheumatol* 1981;18:1647-8.
18. Helewa A, Bombardier C, Goldsmith CH, MENCHIONS B, Smythe HA. Cost-effectiveness of inpatient and intensive outpatient treatment of rheumatoid arthritis. A randomized, controlled trial. *Arthritis Rheum* 1989;32:1655-61.
19. Lambert CM, Hurst NP, Lochhead A, McGregor K, Hunter M, Forbes J. A pilot study of the economic cost and clinical outcome of day patient vs inpatient management of active rheumatoid arthritis. *Br J Rheumatol* 1994;33:383-8.
20. Lambert CM, Hurst NP, Forbes JF, Lochhead A, Macleod M, Nuki G. Is day care equivalent to inpatient care for active rheumatoid arthritis? Randomised controlled clinical and economic evaluation. *BMJ* 1998;316:965-9.
21. Tijhuis GJ, Zwinderman AH, Hazes JMW, van den Hout WB, Breedveld FC, Vliet Vlieland TPM. A randomized comparison of care provided by a clinical nurse specialist, inpatient team care and day patient team care in rheumatoid arthritis. *Arthritis Rheum* 2002;47:525-31.
22. Tijhuis GJ, Zwinderman AH, Hazes JMW, Breedveld FC, Vliet Vlieland TPM. The two-year follow-up of a randomised controlled trial of a clinical nurse specialist intervention, inpatient and day patient team care in rheumatoid arthritis. *J Adv Nursing* 2003;41:34-43.
23. Van den Hout WB, Tijhuis GJ, Zwinderman AH, Hazes JMW, Breedveld FC, Vliet Vlieland TPM. Cost-effectiveness and cost-utility analysis of multidisciplinary care in patients with rheumatoid arthritis: a randomised comparison of clinical nurse specialist care, inpatient team care, and day patient care. *Ann Rheum Dis* 2003;62:308-15.
24. Tijhuis GJ, Kooiman CG, Zwinderman AH, Hazes JMW, Breedveld FC, Vliet Vlieland TPM. Validation of a novel satisfaction questionnaire for patients with rheumatoid arthritis receiving outpatient clinical nurse specialist care, inpatient or day patient team care. *Arthritis Rheum* 2003;49:193-9.
25. Liang MH, Esdaile JM. Impact and cost effectiveness of rheumatologic care. In: Klippel JH, Dieppe PA, editors. *Rheumatology*. 2nd ed. London: Mosby; 1998:1.2.1-1.2.4.
26. Hill J, Thorpe R, Bird H. Outcomes for patients with RA: a rheumatology nurse practitioner clinic compared to standard outpatient care. *Musculoskeletal Care* 2003;1:5-20.
27. Li LC, Davis AM, Lineker S, Coyte PC, Bombardier C. The outcome of patients with RA who were referred to receive treatment from a primary therapist — a randomized, controlled trial. *Arthritis Rheum* 2006;55:42-52.
28. Glazier RH, Badley EM, Lineker SC, Wilkins AL, Bell MJ. Getting a grip on arthritis: an educational intervention for the diagnosis and treatment of arthritis in primary care. *J Rheumatol* 2005;32:137-42.
29. Boonen A, Svensson B. Joint consultation: a joint venture towards improving effectiveness of health care. *Eur J Intern Med* 2003;14:146-7.