



Original article

Characteristics of early arthritis units that may be associated with better referral efficiency: survey of SERAP units

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ABSTRACT

Objective: To identify characteristics of early arthritis units, that may be associated with better referral efficiency.

Methods: A national survey of the 36 early arthritis units (EAU) in Spanish Rheumatology Units in 2004 (SERAP project). Survey collected information about general practitioners (GP) educational program to improve knowledge and practical skills of early arthritis, networking and feed-back system and referral efficiency. EAU were classified in two groups according to 25% and 50% of inappropriate referral process, respectively.

Results: Thirty four of the 36 (94%) EAU, answered the survey. GP were trained in only 1 medical meeting in the primary care clinic, with one or more rheumatologists responsible of GP education. Fourteen of the 34 EAU (42.4%) regularly interacted with GP and only 20 (39.4%) contacted the GP who were responsible for the wrong referral process. Median lag time for referral to the Rheumatology out-patient clinic, was 73 days (15–365 days). The percentage of wrongly referred patients was between 0 and 80% (38%±21). Only 10 EAU (27.8%) referred patients appropriately according to the strictest criteria (25% of inappropriate referral) and 27 EAU (75%), according to 50% of inappropriate referral criteria.

Conclusions: Only two aspects of the EAU implementation strategy were associated with better referral efficiency: 1) interaction with the GP responsible of the inappropriate referral process and 2) a lower median lag time for referral to the Rheumatology out-patient clinic.

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Características de una unidad de artritis precoz que mejoran la eficiencia de la derivación: encuesta a las unidades SERAP

RESUMEN

Objetivo: Identificar las características de una unidad de artritis precoz (UAP) que se asocian con una mejor eficiencia de la derivación desde atención primaria.

Métodos: Encuesta a 36 UAP creadas en centros hospitalarios de toda España en el año 2004, mediante el programa SERAP. Las preguntas de la encuesta recogían detalles del proceso formativo de los médicos de atención primaria (MAP), del sistema de feedback, liderazgo y derivación. Se consideró que una UAP era tanto más eficiente cuanto menor fuera el número de pacientes mal derivados. Para el análisis se utilizaron dos dinteles de derivación errónea: 25 y 50%.

Resultados: Treinta y cuatro UAP (94%) participaron en la encuesta. La mayoría (62%) realizó la formación de los médicos en una sesión por centro de atención primaria. Catorce de las 34 UAP (42,4%) informaron

Palabras clave:

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◊Annex 1 includes a list of its components.

regularmente del estado del proyecto a sus MAP y sólo 20 (39,4%) contactaron con los MAP que estaban derivando mal a los pacientes. El tiempo de espera medio para una primera consulta en Reumatología fue de 73 días (15-365 días). El porcentaje de pacientes mal derivados osciló entre el 0 y el 80% (38% ± 21). Sólo 10 UAP (27,8%) tenían una derivación aceptable, según el dintel más estricto (25% de derivación errónea). Hasta 27 UAP (75%) cumplían criterios de derivación aceptable si se establecía el dintel en el 50%. *Conclusiones:* Sólo dos aspectos de la estrategia adoptada por las UAP estaban asociados con la eficiencia en la derivación: 1) el hecho de que se contactara con los MAP que no estaban derivando bien y 2) una menor lista de espera en la consulta general de Reumatología.

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Rheumatoid arthritis (RA) is the most common chronic inflammatory joint disease in Spain, with a prevalence of 0.5%¹ and an incidence of 8.3 cases per 100,000 inhabitants.² Although in the sixties it was considered a relatively benign disease, in recent decades it has been shown that, left to natural progression, it leads to not only a major radiological and functional deterioration, but also a decline in quality of life and increased morbidity and mortality of patients.^{3,4}

Currently, the management of early RA has changed radically as a result of the incorporation of new drugs that control the progression of the disease and demonstrate the greater effectiveness of intensive treatment when given in an earlier stage of the disease process.⁵⁻⁷ The treatment of early RA today has two realistic therapeutic goals: achieving remission and preventing joint damage. Because the prognosis depends largely on early treatment, early referral to specialists from primary care and early diagnosis are essential.^{6,8,9} However, several studies published in the literature have shown that the time elapsed since the onset of symptoms until the patient is seen by the specialist is far from what is recommended: between 6 and 12 months at best,^{10,11} and it seems that the main limiting factor for early onset of treatment is access to specialized care.

Thus, the need of setting up clinics for arthritis of recent onset, especially designed to assess and properly treat the early RA.¹² Currently, no arthritis functional units within rheumatology services in all health care centers belonging to the National Health System exist in our country, at least in an institutionalized manner. This leads to disparities in the management of RA patients across the country, according to geographical area, place of residence of the patient or the type of doctor or facility where services are provided, thus leading to inequities.

The research program in management of diseases: Evaluation of a care model of arthritis in Spain (SERAP program), sponsored by the Spanish Society of Rheumatology (SER) in November 2004, was a unique situation for the creation of early arthritis units (EAU) in hospitals in Spain and their profound assessment, as well as an opportunity for improvement and a benchmark for setting the minimum quality standards for referral for diagnosis and early treatment of patients with recent onset RA.

Methods

SERAP program

Through the SERAP program, launched in 2004, 36 EAU were started and two studies developed: a study of the incidence of arthritis in Spain² and an open intervention 3-year study building on the previous cohort of patients with early arthritis. The aim of the intervention study was to compare the prognosis of patients in these units compared to those who are served the "traditional way", using the PROAR¹³ cohort.

The fundamental requirement for defining the clinical agenda of a Department of Rheumatology and EAU, was that patients with suspected early arthritis were treated no later than 15 days after

the visit and subsequent derivation from the primary care physician. Some materials were prepared for primary care physicians for the referral and training program, which those responsible for the EAU disseminated to physicians in their areas. The participating hospitals were selected by non-probabilistic criteria, so that primary care centers had a geographical representation across the country.

The protocol of the program, along with the two studies was approved by the Research Ethics Committee of the Municipal Institute of Barcelona Assistència Sanitària, and included patients gave their consent in order to participate. Basically, we included all patients with suspected arthritis, defined as the presence of two or more swollen joints, tenderness in wrists and metacarpophalangeal joints or morning stiffness of more than 30 min lasting over 4 weeks and less than 1 year, belonging to the reference area of each hospital and who were referred to the program. Recruitment of patients occurred during 1 year and follow up was performed for 2 years.

Survey of units early arthritis

During follow-up, a great variability among the EAU was seen in the number of referrals from primary care centers, the number of patients seen, wrong referrals, etc., So we decided to undertake a survey with the objective of identifying areas for improvement and issues related to the increased efficiency of the PMU, and to make the appropriate adjustments in an attempt to make all of them work as homogeneously as possible.

For this, a project monitor collected all information through structured personal interviews with the head of each of the EAU. The survey questions, which were developed by the project steering committee, are reflected in Table 1. The questions were directed to reveal details of the formation process of primary care physicians, feedback system, leadership and referral.

Statistical analysis

Central tendency measures were used to measure the distribution of variables for sample description. The variables were described relative to the EAU through absolute and relative frequency. EAU were divided from the perspective of referral into two groups (25% and 50% of patients referred, respectively). Fisher's test was used for group comparisons.

Results

A total 34 EAU of the 36 (94%) participated in the survey. Strategies performed for implementation of the EAU as well as distribution outside the derivation is reflected in Table 2. A general description of the strategies used by the EAU for maintaining referrals from primary care is described below.

Formation sessions

Most of the EAU (21, 62%) opted for a single formation session per primary care center (PCC). The other most common options were, in

Table 1

Items on the survey conducted through personal interviews in each of the early arthritis units

Aspect	Item
Formation	<ul style="list-style-type: none"> • In how many sessions was formation carried out in the primary care unit? • Where were the formation meetings carried out? • Who undertook the formation? • Were the teachers of the EAU known previously in the area, outside the hospital? • Had the teachers participated previously in primary care formation?
Feedback and leadership	<ul style="list-style-type: none"> • What are the positions of the rheumatologists undertaking the formation? • Do rheumatologists visit regularly, solve doubts or remind people about the project? • Can primary care physicians solve their doubts through a rapid system: phone, direct questioning of a rheumatologist, etc.? • Has information on the state of the project been sent to all primary care centers? • Are primary care physicians who erroneously refer a patient contacted?
Derivation	<ul style="list-style-type: none"> • What is the usual waiting time for a first visit to rheumatology (not the EAU)? (Days) • Are there other clear paths for derivation to rheumatology apart from the EAU? • Are you a part of the EAU? • Do primary care physicians refer patients directly to you? <p>In your opinion, what are the factors that make the EAU function properly? In your opinion, what are the factors making correct derivation of patients to the EAU difficult?</p>

several sessions per PCC (4, 11.8%) or a single general session (3, 8.8%). Only one EAU chose to carry out meetings in the PCC and additionally a general session. The meetings were held more frequently in the participating PCC in sessions shared with primary care teams (24, 72.7%). The next most common option was in primary care core units (5, 15.2%).

With regard to those who were responsible for the formation, the same number of EAU chose a single or more rheumatologists (15, 44%) and less EAU chose the Centre Coordinator assisting in the training of primary care physicians (4, 11.8%). Most rheumatologists involved in the formation were already known in the area for other academic activities (27, 79.4%) and were either hospital (15; 44%) or outpatient (16, 47%) attending physicians or hospital. In 14 EAU, the department head also participated, and in 4 EAU (11.8%), the only one involved. In a single PCC, that person was responsible for training residents, together with the attending physicians.

Monitoring of primary health care centers

An important part of the organization and maintenance of the PCC is monitoring the PCP who must refer patients with early arthritis. Only in 12 (36%) of the EAU, rheumatologists were regularly available to answer questions or to remind participants of the project, while 33 (97%) of the EAU had some fast query system to answer questions. Fourteen of the 34 EAU (42.4%) were reporting regularly on project status to their PCP and only 20 (39.4%) contacted primary care physicians who were referring patients wrongly.

Characteristics of Rheumatology services, regardless of the unit early arthritis

The average waiting time for a first consultation by rheumatology was 73 days, although 50% of services had a waiting list equal to or less than one month (range 15–365 days). 7 Departments had no

other clear Rheumatology referral pathways, other than those of the EAU (21.2%). In 20 services there was a consultant rheumatologist in the area (58.9%).

Reviews of the units responsible for early arthritis

The main factors that according to those responsible for the EAU influenced the correct derivation of the patients from the PCC were the direct and regular contact with primary care physicians, the medical formation of all primary care participants, quick and easy access of patients to the EAU and the uniformity of criteria among the members of the EAU.

The main factors that poorly influenced the referral of patients were: overload of primary care physicians that led to limiting care and time devoted to patients, the preference by primary care physicians shown to other diseases instead of musculoskeletal diseases, lack of knowledge by primary care physicians of musculoskeletal disease, forgetfulness of the project over time, the difficulty of disseminating information, the fact that a significant number of primary care physicians did not attend the formation sessions and finally, the use of this communication channel for referring patients, without fulfilling the criteria for referral to the EAU.

Referrals to early arthritis units and factors that enhance referral

It was felt that a EAU was more efficient when a smaller the number of patients were wrongly referred, that is, when there was a poor agreement between what the primary care physician considered early arthritis and the opinion of the person in charge of the EAU. The percentage of wrongly referred patients ranged between 0% and 80% with a mean and standard deviation of 38±21% (median: 41%, p25: 24%, p75: 52%).

For the analysis we used two erroneous referral thresholds: 50 and 25% respectively. Only 10 EAU (27.8%) had an acceptable referral rate under the strictest threshold, 25% wrong referral or 75% correct referral. Up to 27 EAU (75%) met criteria for acceptable referral, when the threshold was set at 50%.

Only two aspects of the strategy adopted by the EAU were associated with efficiency in referral: 1) contact the primary care physicians who were not adequately referring patients, and 2) a lower general waiting list for Rheumatology.

Discussion

This survey highlights the variability when designing an EAU and how two very simple factors can improve referral from primary care physicians.

There are similar surveys published in the literature,^{14,15} in an attempt to improve coordination and referral between primary and specialty care, which today remains a major challenge for the Spanish National Health System, which has the main objective of respond to the needs, demands and expectations of the population, so as to achieve the highest possible levels of equity and efficiency, with evermore limited resources.¹⁶

The lack of coordination between primary care and specialties favors, therefore, the occurrence of errors and delays in establishing the appropriate diagnosis and treatment, with serious consequences for patients and important radiological and functional impairment, decreased quality of life and increased morbidity and mortality occurring in patients with rheumatoid arthritis, who have been diagnosed and treated late.

Therefore, it is essential when starting a unit of its kind (EAU) and for it to work successfully, that certain conditions are met: the existence of a health area with a number sufficient to ensure the inclusion of necessary cases, the collaboration with primary care physicians to be able to identify patients, which involves a basic understanding of

Table 2

Distribution of the strategies used by early arthritis units for their establishment in cases where the referral was acceptable or not (derivation threshold: at least 50% of patients adequately derived)

	Acceptable derivation		P
	Yes	No	
<i>Number of formative sessions for PCP</i>			
Single session	18 (72)	6 (75)	1.00
Several sessions	7 (28)	2 (25)	
<i>Place where the PCP formation sessions took place</i>			
General (hospital or specialty center)	18 (75)	7 (88)	.65
Primary care centers	6 (25)	1 (13)	
<i>Number of rheumatologists involved in PCP formation</i>			
One	12 (48)	3 (33)	.35
Several	9 (36)	6 (67)	
Depending on the number of PCP	4 (16)	0 (0)	
<i>Formation by previously known physicians in the area</i>	20 (80)	7 (78)	1.00
<i>Prior experience in PCP formation</i>	20 (80)	7 (78)	1.00
<i>Position of the rheumatologist in charge of formation</i>			
Head of department	11 (44)	3 (33)	.62
Hospital attending	6 (24)	4 (44)	
Outpatient attending	8 (32)	2 (22)	
<i>Rheumatologists make regular reminders of the Project and solve doubts</i>	8 (33)	4 (44)	.69
<i>PCP have quick system to solve doubts</i>	24 (96)	9 (100)	1.00
<i>Regular project status updates</i>	12 (48)	2 (25)	.42
<i>PCP with wrong referrals are contacted</i>	18 (72)	2 (25)	.04
<i>Mean time on the department waiting list (not the EAU)*</i>	56±9	121±48	.05
Less than 1 month	9 (36)	5 (56)	.03
Between 1 and 2 months	9 (36)	1 (11)	
Between 2 and 6 months	6 (24)	0 (0)	
Between 6 months and 1 year	1 (4)	3 (33)	
<i>Other clear referral routes to rheumatology beside</i>	20 (83)	6 (67)	.36
<i>There is a consulting rheumatology in the area</i>	15 (60)	7 (78)	.44

All results in n (%).

*In days; mean ± standard deviation.

PCC indicates primary care centers; PCP, primary care physician.

semiotics and rheumatic disease and the presence in the hospital of a person or persons concerned with the appropriate infrastructure, to allow patients to receive attention without delay and to perform the necessary examinations according to the objectives.¹⁷

One of the biggest problems we encounter when starting a recent-onset arthritis clinic is agreeing with primary care physicians what the clinical features of patients should be when referred to this specialized outpatient consultation rather than general rheumatology. There are different criteria, as motivated by the health systems and the amount of available resources. Tunn et al¹⁸ state that any patient with acute arthritis, which implies the existence of joint swelling, should be referred, while others authors,¹⁹ including those responsible for the design of this study, think that patients must have two or more swollen joints, tenderness of the wrists and metacarpophalangeal joints or morning stiffness of more than 30 minutes, for at least 4 weeks and less than a year in order to be referred to the EAU.

Our study demonstrates that in addition to meeting the requirements discussed above, contacts between the physicians responsible for these units and primary care physicians, especially physicians who make mistakes when referring patients, is essential to improve referral efficiency to the EAU.

When we analyzed other factors responsible for poor referral, we noted that a long waiting list in general Rheumatology and / or the non-existence of one or more bypass pathways clearly influenced the use by primary care physicians of the EAU, to insure that their patients were treated faster. Although there are previous experiences of such units compared to

the “traditional” ones,¹⁹ there is no description of the strategies that have been carried out for their implementation and correct operation, or to improve coordination between different levels of care.

In summary, the main finding of our survey is that there is tremendous variability in the design of an EAU. Maintained contact with primary care physicians who have not adequately referred patients is essential and a long waiting list for general Rheumatology are the main factors that improve the efficiency of referral from primary care to the EAU.

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Conflict of interest

The authors declare have no conflict of interest.

Appendix 1. Grupo de estudio SERAP

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