

Original article

Current status of day care units where rheumatology treatments are administered in the autonomous community of Valencia

José A. Román Ivorra,^{a,*} José Rosas Gómez-Salazar,^b Javier Calvo Catalá,^c and Grupo para el estudio de los hospitales de día de Reumatología de la Sociedad Valenciana de Reumatología^d

^aHospital Universitario Dr. Peset, Valencia, Spain

^bHospital de la Marina Baixa de Villajoyosa, Villajoyosa, Alicante, Spain

^cHospital General Universitario de Valencia, Valencia, Spain

^dSociedad Valenciana de Reumatología, Valencia, Spain

ARTICLE INFO

Article history:

Received September 28, 2009

Accepted January 24, 2010

Keywords:

Ambulatory care facilities

Day care

Hospitals

Rheumatology

ABSTRACT

Objective: To evaluate and characterize the current status of the Rheumatology Day Hospital Care units in the Autonomous Community of Valencia.

Material and method: A structured brainstorming meeting was organized with 12 rheumatologists and a nurse and, after that, a questionnaire was sent to 20 rheumatologists to know more about the centers.

Results: Variability was found in the services that the day care units have for their own operation and for patient care. Rheumatologists place more importance on having some services that are not present in all centers at the moment: specialized nursing, quick drug delivery from the pharmacy and administration supervision by a rheumatologist. The following deficiencies were identified: sharing the workspaces with other specialties, drug delivery delays from the pharmacy, few resources (few spaces, few locations and little time for drug administration), lack of specialized nursing, lack of some services for patients (i.e. hot-line telephone service or patient education), few clinical sessions and lack of some procedures.

Conclusions: It is necessary to establish measures that lead to the resolution of deficiencies and improve the services offered to patients.

© 2009 Elsevier España, S.L. All rights reserved.

Estado actual de los hospitales de día donde se administran los tratamientos de reumatología en la Comunidad Valenciana

RESUMEN

Objetivos: Evaluar y caracterizar la situación actual de los hospitales de día de reumatología de la Comunidad Valenciana.

Material y método: Se realizó una reunión con 12 reumatólogos y una enfermera, moderada mediante *brainstorming* estructurado, y posteriormente se envió un cuestionario a 20 reumatólogos para profundizar en las características de los centros.

Resultados: Se ha encontrado variabilidad entre los servicios que disponen los centros para su funcionamiento interno y los ofertados a los pacientes. Los reumatólogos dan importancia a disponer de diversos servicios que, actualmente, no son suficientes en algunos centros, como personal de enfermería especializado, rapidez de dispensación de fármacos por parte de farmacia y supervisión de las administraciones por un reumatólogo. Se destacan las siguientes carencias generales del modelo actual de HD de la comunidad: se comparte el HD con otras especialidades, demora de la dispensación de fármacos por farmacia, escasez de recursos (espacios, puestos y horario de atención, personal, tiempo para la administración de tratamientos...), falta de personal de enfermería especializado, falta de algunos servicios para el paciente, como teléfono de atención o educación sanitaria, escasa realización de sesiones clínicas y falta de protocolización de procesos.

Conclusiones: A la luz de los resultados, se constatan ciertas carencias en los actuales hospitales de día, que será preciso subsanar mediante el establecimiento de las medidas adecuadas, para mejorar así el servicio ofertado a los pacientes.

© 2009 Elsevier España, S.L. Todos los derechos reservados.

Palabras clave:

Hospital de día

Cuidados diarios

Hospital

Reumatología

* Corresponding author.

E-mail address: roman_jan@gva.es (J.A. Román Ivorra).

Introduction

In recent years, the prognosis of rheumatic diseases, such as rheumatoid arthritis or spondyloarthropathies, has changed and the quality of life of those patients has improved greatly, mainly due to the appearance of biological treatments. These biological treatments have represented a great improvement in clinical efficiency and treatment of structural damage compared to traditional treatments (DMARD).^{1,2} One drawback that some of these treatments have is that they require administration at specific centres as they cannot be administered on an outpatient basis. Previously, the administration of these treatments required hospital admission, but the creation of day care units has made it possible for treatments to be administered in a few hours, saving treatment and admissions costs.³

Day care units are mentioned in Decree 74/2007 of the Generalitat Valenciana⁴ as providers of specialised outpatient care, mostly nursing but in collaboration with many other specialties. Nevertheless, one of the difficulties of rheumatology day care units in the Region of Valencia is that there are no legislative rules or specific regulations for their activity, or a reference model for them to adapt to. For this reason, the services offered at the different day care units in the Region of Valencia differ widely.

The objective of this study was to determine the current situation of rheumatology day care units in the Region of Valencia and to classify the services currently offered.

Material and methods

The first phase of this study was to organise a meeting between rheumatologists in the Region of Valencia. This work session was held in Valencia in December 2008 and was attended by 12 rheumatologists and 1 nurse from the following hospitals in that region: Hospital Clínico de San Juan, Hospital General de Elda, Hospital General Universitario de Alicante, Hospital de la Marina Baixa de Villajoyosa, Hospital General Universitario de Elche (all in Alicante); Hospital General de Castellón (in Castellon); and Hospital Infantil La Fe, Hospital Universitario La Fe, Hospital Universitario Dr. Peset, Hospital General Universitario de Valencia and Hospital Clínico Universitario de Valencia (all in Valencia).

A structured brainstorming technique (or Metaplan)⁵ was used during these meetings to ascertain the attendees' opinions and obtain the information they could provide on some previously-established questions. The use of this technique allows the attendees' knowledge to be structured, by giving them time for personal reflection and then having them write replies on cards. Those cards are subsequently read by the brainstorming coordinator, who moderates the debate generated by the group. The advantages of this technique, as opposed to a conventional meeting, are that all assistants can participate equally and an orderly debate is created, which allows points of consensus and disagreement to be determined.

The principal objective of this meeting was to determine the current state of rheumatology day care units in the Region of Valencia. The participants were given a list of services at day care units so they could indicate whether these were available at their own medical centre and how much importance they gave to their availability (Table 1). The strong and weak points of the current model for day care units were also debated. During this meeting, participants were asked to indicate which items should be included in the questionnaire to evaluate the services currently offered by day care units. This questionnaire was developed in a second phase and was e-mailed to 20 rheumatologists from 20 public hospitals (Table 2); these belonged to the 22 health departments in which the Region of Valencia is divided according to the Health Council Law from 12th May 2005.⁶ This questionnaire made it possible to obtain a representative sample of this Region, and the information obtained is presented in Table 3.

Table 1

Day care unit services presented at the meeting to indicate whether they were available in their unit and to characterise the importance that rheumatologists would give to their availability

Previously established day care unit services presented at the meeting
• Appointments for patients with inflammatory disease within a period of not more than 2 weeks from the date of treatment prescription
• Appointments for patients with inflammatory disease in a range not exceeding 1 month from the date of treatment prescription
• Long opening hours (morning and afternoon)
• Medical supervision (prior to and during administration) by a doctor (not rheumatologist) belonging to the day care unit
• Medical supervision (prior to and during administration) by a rheumatology specialist
• Management of appointments by the day care unit itself (not by Rheumatology Department)
• Management of appointments for treatment administration by the rheumatology service according to spaces in the agenda previously arranged with the day care unit
• Communication with the treating physician (confirmation of administration, incidents)
• Patient education (prior to treatment and during treatment, if necessary)
• Elaboration and delivery of discharge reports
• Availability of treatment at the time of the appointment (without unnecessary delays)
• Preparation of treatment at the day care unit itself
• Preparation of treatments in the pharmacy service and subsequent delivery at the day care unit
• Availability of rheumatology nursing staff
• Telephone contact with patients - day care unit
• Laboratory tests at day care unit
• Complementary tests (not analytical test) at the day care unit

The data obtained both at the meeting and through the questionnaire were analysed *a posteriori*. Two factors were taken into account in the analysis of some of the centre characteristics: the size of the hospital to which the day care unit was linked (small if it had 1-3 rheumatologists or large if it had more than 3) and who was responsible for the day care unit management (rheumatology or other medical specialties).

As for the work session results, it should be highlighted that the presentation of percentages merely shows a trend in the contributions made during this meeting, as the technique used was principally qualitative.

Results

The following conclusions summarise the working session. Among the services offered by day care units, rheumatologists consider the following to be the most important:

- The availability of treatment without delays at the time of administration,
- making appointments without delays for inflammatory pathology patients after treatment has been prescribed,
- medical supervision before and after the administration of treatment, managed by a rheumatologist,
- the management of appointments by the rheumatology service itself,
- communication with the doctor responsible for the treatment if there is an incidence during administration, and
- the availability of specialised nursing staff.

All of these services were considered as "very important" by 82% of attendees, except for the availability of treatment without delays at the time of administration, which obtained a 100% consensus. It should be noted that patient appointments without delays, management of appointments by the rheumatology service and communication with the doctor responsible were in place at more than 80% of the units.

With respect to the rest of services presented, the management of appointments by the day care unit itself (rather than by the rheumatology service) and treatment administration supervision by a doctor attached to the day care unit were found in around 27%–18% of the hospitals, although this was not considered especially important.

The need for an increase in resources and spaces at the day care unit to meet forecasted demands and growing needs was highlighted among the advantages and disadvantages of the current model for day care units discussed at the meeting. The current availability of care positions (beds and couches) at many facilities is sufficient to prevent delays in the administration of treatments. It was also pointed out that, although some units have specialised nursing staff or staff with specific rheumatology training, most centres would benefit from greater specialisation. Other weaknesses of the current model are sharing these day care units with other specialties, the delays originated in having the hospital pharmacy issue medicines and the short opening hours.

Analysis of the questionnaire revealed that the rheumatology service manages the day care unit at 14 of the 20 hospitals, while the

rest are managed by other medical specialties. In relation with unit size, the rheumatology service is less involved in the management of the day care unit at large hospitals, probably due to a greater consolidation of multidisciplinary day care units. All the centres except for one hospital (95%) share the day care unit with other specialties such as haematology, oncology and gastroenterology, among others.

In relation with their opening hours, most of them are only open in the morning and the rheumatologist is generally the specialist in charge during that shift. In cases where patients need to prolong their stay at the unit, they are admitted, the shifts of the day care unit workers are extended (rheumatologists or nursing staff), the patients are derived to the emergency service or they are supervised by the resident on call. Three of the facilities indicated that they adjust their planning so as to avoid these situations.

In general, it is the rheumatologist who is in charge of resolving all incidences derived from treatment administration. However, this can also be handled by other specialists, such as anaesthetists or residents.

The time span which day care units have to administer rheumatology treatments was classified into weekly days and hours. Approximately 25% have only 1 day assigned to rheumatology, 45% have 2–3 days a week and only 5 day care units have more than 3 days a week. One centre indicated that they adjust their time span to the existing needs. In reference to weekly hours, it is important to point out that more than half of the units have less than 20 weekly hours for the administration of rheumatology treatments. Some differences can be found in relation with the size of the hospitals: the larger hospitals have more time allocated for rheumatology than the smaller ones, in terms of both weekly hours and days (Figures 1–2).

None of the units have more than 20 service points (beds and couches) available at the day care units, neither of the general type for all specialties nor of the specific ones for rheumatology. Specifically, more than half have 1–10 general points and the rest have up to 20. In reference to the specific type, 80% of them have only 1–10 positions. As was mentioned previously, although this figure seems to be sufficient at some of the facilities evaluated, according to the degree of general satisfaction, many rheumatologists are not satisfied because it has already been forecast that an increase in this figure will be necessary in the short-medium term.

Of the drugs listed in the questionnaire (11), the most commonly administered were the following: infliximab, zoledronate, abatacept and rituximab (Table 4). Just 7 facilities administer over 80% of the treatments, while 6 other facilities do not even administer half. Comparing the number of treatments administered to the size of the hospital, it is possible to observe that, except for a few treatments,

Table 2

List of hospitals to which members participating in the questionnaire on rheumatology day care units belonged

<i>Alicante</i>
Hospital Vega Baja de Orihuela
Hospital General Universitario de Elche
Hospital Clínico de San Juan
Hospital de la Marina Baixa de Villajoyosa
Hospital General de Elda
Hospital General Universitario de Alicante
<i>Castellón</i>
Hospital Comarcal de Vinarós
Hospital General de Castellón
Hospital de la Plana
<i>Valencia</i>
Hospital Infantil La Fe
Hospital General de Ontinyent
Hospital Universitario La Fe
Hospital Arnau de Vilanova
Hospital Francesc de Borja de Gandía
Hospital de Sagunto
Hospital de la Ribera
Hospital Universitario Dr. Peset
Hospital General Universitario de Valencia
Hospital General de Requena
Hospital Clínico Universitario de Valencia

Table 3

Items included in the questionnaire

<ul style="list-style-type: none"> • Specialty that manages the day care unit • The day care unit is shared with other specialties • Number of rheumatologists assigned to the day care unit • Centre opening hours and resolution of incidences if longer patient stay is necessary • Specialist who resolves incidences during treatment administration • Time assigned to rheumatology in day care unit (days and hours) per week • Number of general and specific service points (beds and couches) for rheumatology per week • Treatments administered in day care unit • Services/items available in day care unit for its own operation: request and extraction of samples for analysis, printing/screen display of analytical results, assessment of analytical results, request for additional tests, preparation of drugs for infusion and actual infusion, functional assessment of patients, document management, access to complete patient history, proximity to emergency/ICU, nurse staff for aftercare incidences, nursing staff trained in rheumatology, clinical sessions on biological and multidisciplinary treatments, management and operation protocols in case of complications/incidences occurring during drug administration, crash carts and other services/items • Services/items available for patients at day care unit: management of appointments, quality of life questionnaires, telephone consultation, information for patients/families, training for patients/families, delivery of discharge reports, integrated single visit • Existence of annual budgets and budget limits for rheumatology treatments • Level of satisfaction of the rheumatologist with the day care unit • Modifiable aspects of day care unit
--

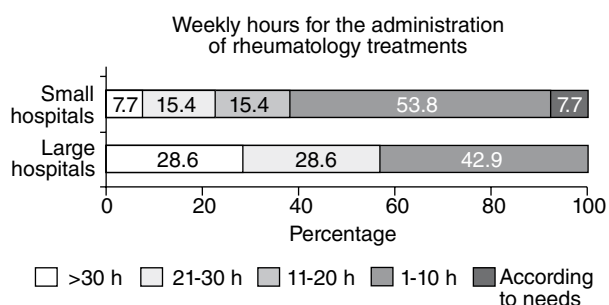


Figure 1.

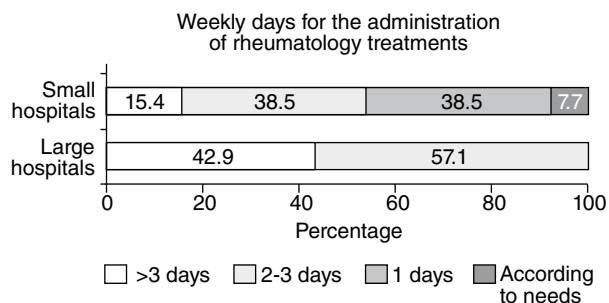


Figure 2.

Table 4
Percentage of centres that administered the drugs presented in the questionnaire

Treatments	Percentage, %
Infliximab	100.0
Zoledronate	95.0
Abatacept	85.0
Rituximab	80.0
Ibandronate	65.0
Corticoid boluses	65.0
Immunoglobulins	50.0
Intravenous iron	45.0
Cyclophosphamide	45.0
Prostaglandins	40.0
Tocilizumab	35.0
Others	15.0

the larger hospitals administer a higher number of rheumatology treatments (Figure 3).

With respect to the existing services at the day care unit, both for the patients as well as for the correct operation of the facility itself, practically all units have drug infusion, analytical extractions, crash carts and drug delivery protocols available. Forty-five percent of the units can prepare drugs for infusion at the facilities, have a document management service, are close to the emergency/ICU unit or deliver patient reports upon discharge. Few units report training patients or having a call centre for inquiries and even fewer have nursing staff with specific rheumatology training. A summary of the services available at the facilities evaluated is given in Table 5.

Certain differences can be found if services are evaluated in relation with the day care unit management (considering the difference between those where rheumatology participates in the management and those where it does not participate over 25%). These differences are shown in Table 6.

As to the pharmacy budget for rheumatology treatments, 75% of these hospitals do not have a specific annual budget. In addition,

budget limits for the prescription of biological treatments are lacking at 85% of the evaluated hospitals.

Finally, it should be noted that 15% of the rheumatologists surveyed were not very satisfied with their day care unit.

Discussion

Looking at the results, great variability between facilities can be observed, as confirmed by studies for oncology units.⁷ In many cases this makes it impossible to establish rules to define them, for example according to the specialty that manages the unit. As can be seen in Table 6, better documentation management seems to be related to management by rheumatology, whereas the management of appointments (supposedly related with documentation) is not. In comparison to other studies carried out in the rest of Spain, the units in the Region of Valencia are shared with other specialties to a greater degree (95% compared to 50%).³ However, this information was collected when rheumatology day care units were first being established and with a selection of units from large hospitals, which did not represent the whole spectrum.

It is important to point out that, although it is not applicable to all centres, the current model lacks many services and characteristics that should be present at day care units to guarantee good healthcare quality and equality in the service given to rheumatology patients.

In relation to treatment accessibility for patients, the resources available (beds, couches, staff and time for treatment administration) are currently deemed just enough or insufficient by rheumatologists. This fact seems especially important for the future when an increase in necessities is expected, as has also been noted by other studies.⁸ Given that most units share their facilities with other specialties, these resources could be decreased even further in the future. Furthermore, as has also been observed in oncology studies, delay in dispensing drugs at the pharmacy leads to a reduction in the capacity/day of administration of those treatments, extension of the stay at the unit, etc. A partial schedule is maintained by 95% of the units analysed, as well as by a large proportion of oncology units⁷ and rheumatology units in Spain.³ Such a restriction reduces the capacity for treatment administration and centre accessibility for patients. It is also possible that a temporary extension might be needed, or that managing the extension of a treatment could be complex.

Carrying out complementary tests (excluding analytical tests) at the same facility or having integrated visits would reduce the number of special appointments that patients very often need to carry out these tests. This would thus improve the quality of the service offered. Finally, accessibility to the units for patients has not been considered as a problem.

As to the correct functioning of the unit, specialised training in rheumatology for the nursing staff is recommendable, as is the case with other specialties.⁷ This would improve the quality of attention for patients, because greater healthcare training could be provided or personalised patient attention by the telephone could be given (currently only available in 30% of cases). Rheumatologists also require more clinical sessions, both multidisciplinary and about biological treatments. Lastly, internal communication between the staff who attend patients and the rheumatology service is another factor to be improved.

In respect to treatment administration, the current system may require a general physician for large volumes of patients, or one rheumatologist who works exclusively for the day care unit, which is rarely the case. Supervision is not always available before and after treatments, nor procedure protocols in case of emergency. A good system to improve all these factors is the evaluation of the results of the day care unit, which is currently a rare circumstance.

Finally, as was mentioned previously, the service offered to patients could be improved by handing out satisfaction and quality of life questionnaires or elaborating and handing out discharge reports.

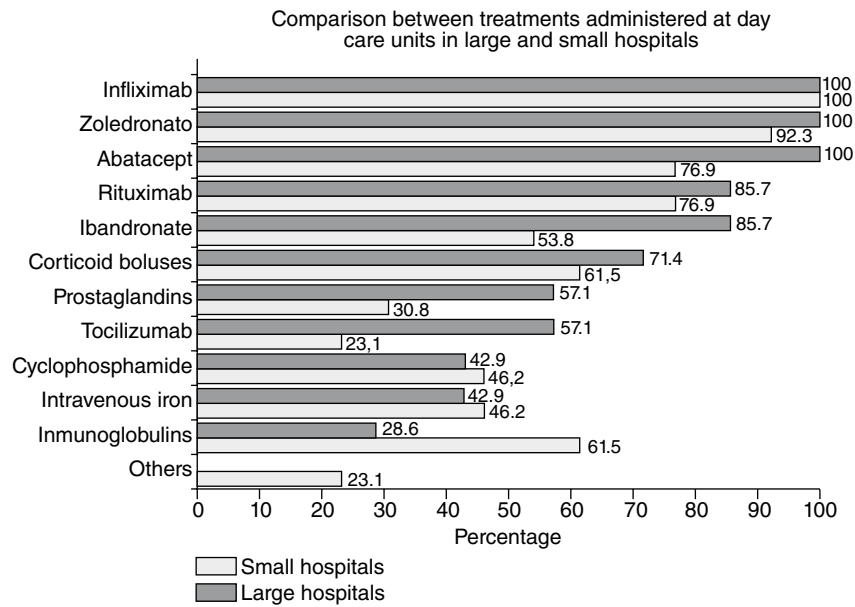


Figure 3.

Table 5
Percentage of day care units having the services presented

Item	%
Drug infusion	95.0
Extractions of analytical samples	90.0
Crash cart	90.0
Treatment administration protocols	85.0
Requests for analysis	80.0
Printing/screen display of analytical tests	80.0
Nursing staff for aftercare incidences	80.0
Operation protocols on complications/incidences occurring during treatment administration	80.0
Management of appointments	80.0
Single integrated visit (analysis, processing and review in a single visit)	75.0
Assessment of analytical results	70.0
Request for additional testing (not analytical tests)	70.0
Functional evaluation of patients	70.0
Access to complete patient history	60.0
Information for patient/family	60.0
Quality of life questionnaire for the patient	50.0
Preparation of drugs for infusion	45.0
Document management (informed consent and other)	45.0
Proximity of day care centre to ER/ICU	45.0
Delivery of discharge reports for patients	45.0
Telephone consultation for patients	30.0
Education for patient/family	30.0
Nursing staff with specific training in rheumatology	25.0
Clinical sessions on biological treatments	15.0
Multidisciplinary clinical sessions	15.0

Health training or a consultation call centre would also improve patient service.

At present, as other previous documents have also made clear,⁹ there are very few studies about day care units in Spain, which is why this document contains very few comparisons with other regions, units or specialties. Some publications are simply consensus defining the characteristics that units should have but they do not include an evaluation of current units.⁹ It should be highlighted that this study only presents the situation for day care units in the Region of Valencia, so data cannot be extrapolated to other Regions or countries. Nonetheless, we believe this to be a good starting point for research.

Table 6
Differences* between day care units in which rheumatology participated in management and those in which it did not participate

Management by Rheumatology	Management not by Rheumatology
More functional assessment of patients	More requests for analysis
More document management	More printing/screen display of analytical results
More availability of nursing staff for incidences	More operation protocols
	More management of appointments

*Differences greater than or equal to 25% have been considered.

In conclusion, we suggest that it is necessary to establish measures to correct some shortcomings of day care units and to subsequently analyse these facilities and elaborate a protocol for the implementation of these measures.

Conflict of interests

This study could be carried out through a grant with no restrictions offered by Roche Farma, S.A.

Acknowledgements

Special thanks are extended to Andreu Covas Estruga and Verónica Albert Sánchez, from Gestió Organització Comunicació, S.A., for their support in the elaboration of the methodology used to carry out this study.

Addendum

The following have taken part in the elaboration of the present study:

Clinical experts from *Grupo para el estudio de los hospitales de día de Reumatología de la Sociedad Valenciana de Reumatología*: Miguel Belmonte Serrano, Emma Beltrán Catalán, Javier Calvo Catalá, Inmaculada Calvo Penadés, Ana Carro Martínez, Juan Antonio

Castellano Cuesta, Juan Ramón Corts Giner, Jenny De La Torre, Juan José García Borrás, Antonio Gracia Pérez, Rosa M Hortal Alonso, Vega Jovani Casano, Pascual Muñoz Mira, Francisco J. Navarro Blasco, Francisco Pérez Torres, Esteban Salas Heredia, María Isabel Tévar Sánchez, Pilar Trenor Larraz, Paloma Vela Casasempere and Vicente Vila Fayos.

References

1. Keystone E. Recent concepts in the inhibition of radiographic progression with biologics. *Curr Opin Rheumatol.* 2009;21:231-7.
2. Sokka T. Long-term outcomes of rheumatoid arthritis. *Curr Opin Rheumatol.* 2009;21:284-90.
3. Román-Ivorra JA, Chalmeta Verdejo C, Salvador G. Estado actual de los hospitales de día de reumatología en España. *Rev Esp Reumatol.* 2004;31:87-94.
4. Decreto 74/2007, de 18 de mayo, del Consell, por el que se aprueba el Reglamento sobre estructura, organización y funcionamiento de la atención sanitaria en la Comunidad Valenciana. [2007/6632].
5. UNICEF VIPP. Visualization in participatory planning. Dhaka, Bangladesh: UNICEF; 1993.
6. Orden de 12 de mayo de 2005, de la Conselleria de Sanidad, por la que se crean los departamentos de salud. Available from: http://www.docv.gva.es/portal/portal/2005/05/19/pdf/2005_A5496.pdf
7. Sociedad Española de Oncología Médica (SEOM). Hospitales de día: recomendaciones según consenso nacional SEOM. Madrid. Marzo 2006. In: Sociedad Española de Oncología Médica. Primer libro blanco de la Oncología Médica en España. Madrid: Dispublic, S.L.; 2006. p. 291-9. Available from: <http://www.seom.org>
8. Cair AP, Wrigth SA, Patton JD, Campalani E, Taggart AJ. Rheumatology day care and the impact of biological therapies. The Belfast experience. *Rheumatology.* 2002;41:356-7.
9. Grupo de Trabajo para la elaboración de "Estándares y recomendaciones de HDD". Unidad de Hospital de Día. Estándares y recomendaciones. Ministerio de Sanidad y Consumo; 2008.