Original article

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

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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.

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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.

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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). 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.

Day care units are mentioned in Decree 74/2007 of the Generalitat Valenciana as providers of specialised outpatient care, mostly nursing but in collaboration with many other specialities. 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 Elche, Hospital General Universitario de Alicante, Hospital de la Marxa 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 Universitario de Valencia and Hospital Clínico Universitario de Valencia (all in Valencia).

A structured brainstorming technique (or Metaplan) 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. This questionnaire made it possible to obtain a representative sample of this Region, and the information obtained is presented in Table 3.

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 (rheumatologist or other medical specialities).

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.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>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</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previously established day care unit services presented at the meeting</td>
<td></td>
</tr>
<tr>
<td>• Appointments for patients with inflammatory disease within a period of not more than 2 weeks from the date of treatment prescription</td>
<td></td>
</tr>
<tr>
<td>• Appointments for patients with inflammatory disease in a range not exceeding 1 month from the date of treatment prescription</td>
<td></td>
</tr>
<tr>
<td>• Long opening hours (morning and afternoon)</td>
<td></td>
</tr>
<tr>
<td>• Medical supervision (prior to and during administration) by a doctor (not rheumatologist) belonging to the day care unit</td>
<td></td>
</tr>
<tr>
<td>• Medical supervision (prior to and during administration) by a rheumatology specialist</td>
<td></td>
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<tr>
<td>• Management of appointments by the day care unit itself (not by Rheumatology Department)</td>
<td></td>
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<tr>
<td>• Management of appointments for treatment administration by the rheumatology service according to spaces in the agenda previously arranged with the day care unit</td>
<td></td>
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<tr>
<td>• Communication with the treating physician (confirmation of administration, reports)</td>
<td></td>
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<tr>
<td>• Patient education (prior to treatment and during treatment, if necessary)</td>
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<tr>
<td>• Elaboration and delivery of discharge reports</td>
<td></td>
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<tr>
<td>• Availability of treatment at the time of the appointment (without unnecessary delays)</td>
<td></td>
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<tr>
<td>• Preparation of treatment at the day care unit itself</td>
<td></td>
</tr>
<tr>
<td>• Preparation of treatments in the pharmacy service and subsequent delivery at the day care unit</td>
<td></td>
</tr>
<tr>
<td>• Availability of rheumatology nursing staff</td>
<td></td>
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<tr>
<td>• Telephone contact with patients - day care unit</td>
<td></td>
</tr>
<tr>
<td>• Laboratory tests at day care unit</td>
<td></td>
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<tr>
<td>• Complementary tests (not analytical test) at the day care unit</td>
<td></td>
</tr>
</tbody>
</table>
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 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,
According to the survey, 75% of the evaluated hospitals do not have a specific annual budget. In addition, differences are shown in Table 6.

As to the pharmacy budget for rheumatology treatments, 75% of the evaluated hospitals reported "According to needs". This indicates that 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 were 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. 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%). 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. 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 units and rheumatology units in Spain. 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. 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.

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**Table 4**

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Percentage, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infliximab</td>
<td>100.0</td>
</tr>
<tr>
<td>Zoledronate</td>
<td>95.0</td>
</tr>
<tr>
<td>Abatacept</td>
<td>85.0</td>
</tr>
<tr>
<td>Rituximab</td>
<td>80.0</td>
</tr>
<tr>
<td>Ibandomonate</td>
<td>65.0</td>
</tr>
<tr>
<td>Corticoid boluses</td>
<td>65.0</td>
</tr>
<tr>
<td>Immunoglobulins</td>
<td>50.0</td>
</tr>
<tr>
<td>Intravenous iron</td>
<td>45.0</td>
</tr>
<tr>
<td>Cyclophosphamide</td>
<td>45.0</td>
</tr>
<tr>
<td>Prostaglandins</td>
<td>40.0</td>
</tr>
<tr>
<td>Tocilizumab</td>
<td>35.0</td>
</tr>
<tr>
<td>Others</td>
<td>15.0</td>
</tr>
</tbody>
</table>
Health training or a consultation call centre would also improve patient service.

At present, as other previous documents have also made clear, 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.

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.

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.

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**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 Borras, 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.

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