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Original Article

The Activity of Rheumatology Nurses in Spain[☆]



Susana P. Fernández Sánchez,^{a,*} Maria Rusiñol Badals,^b Isabel Padró Blanch,^c Carlos Paytubí Garí,^d
Ana Laiz Alonso,^a Carmen Moragues Pastor^{a,e}, Grupo de Trabajo de Enfermería de la SER[◇]

^a Unidad de Reumatología, Hospital de la Santa Creu i Sant Pau, Barcelona, Spain

^b Servicio de Reumatología, Hospital Mutua de Terrassa, Barcelona, Spain

^c Servicio de Reumatología, Hospital del Mar, Barcelona, Spain

^d Departamento de Medicina Interna y Urgencias, Parc Sanitari Sant Joan de Déu, Barcelona, Spain

^e Servicio de Reumatología, Hospital Platón, Barcelona, Spain

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ABSTRACT

Objective: Describe and analyze nursing activity in rheumatology.

Material and methods: A cross-sectional study was performed in Spanish rheumatology departments. Results were based on surveys administered to rheumatology nurses. We included variables on socio-demographics, the setting and available resources, and the activities they carried out. Each activity was compared in terms of workplace, available resources and dedication exclusively to one field.

Results: Sixty-seven surveys were collected from 57 hospitals in 17 Spanish autonomous communities. 97% of the nurses were women, with an average age of 48.9 years and an average nursing experience of 6 years. 56% of the professionals had gained their experience in outpatient clinics, 35% in day hospitals and 9% in inpatient and primary care. As for the availability of resources, 59% had their own office, 77.3% had a phone listing and 60% scheduled and conducted patient visits. Of the 19 activities included, those performed by the highest number of nurses were managing, monitoring and coordinating the use of biological drugs (90.9%), therapy monitoring (89.4%) and training patients in self-medication (89.4%).

The activity in which nurses most frequently collaborated with physicians was the administration of local injections (51.5%). Other activities were teaching (50%) and research (78.8%) in their departments and studies in the nursing field (51.5%). Work in outpatient clinics vs day hospitals showed statistically significant differences for health education, nutrition, splinting and bandaging, and collaboration in ultrasound studies.

Conclusion: These professionals performed a greater number of activities when they worked in outpatient clinics, had their own office and worked exclusively in rheumatology.

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Actividad de la enfermera de reumatología en España

RESUMEN

Objetivo: Conocer y analizar la actividad de la enfermería de reumatología en nuestro medio.

Material y métodos: Se realizó un estudio transversal en servicios de reumatología de todo el país. Se utilizaron encuestas dirigidas a enfermería que incluyeron variables sociodemográficas, de medios estructurales y de actividad realizada por enfermería. Cada actividad fue comparada en función del lugar de trabajo, disponibilidad de medios y exclusividad laboral.

Resultados: Se analizaron 67 encuestas, de 57 hospitales y 17 comunidades autónomas. Participaron un 97% de mujeres con una edad y experiencia laboral media de 48,9 y 6 años, respectivamente. El 56% trabajaron en consultas externas, el 35% en hospitales de día y el 9% en hospitalización y atención

Palabras clave:

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* Corresponding author.

E-mail address: sfernandez@santpau.cat (S.P. Fernández Sánchez).

[◇] The names of the components of the Working Group of Nursing BE are listed in Annex 1 to the end of the text.

primaria. En cuanto a los medios: el 59% tenía despacho, el 77,3% agenda telefónica y el 60% agenda propia. Respecto a las actividades, el mayor número de profesionales realizó: monitorización de biológicos el 90,9%, seguimiento de terapias el 89,4% y entrenamiento en la autoadministración el 89,4%. La actividad en colaboración más frecuente fueron las infiltraciones, el 51,5%. Las actividades en docencia fueron el 50% y las de investigación dentro del servicio o con estudios en el área de enfermería el 78,8 y 51,5% respectivamente.

Trabajar en consultas externas respecto a hospital de día, disponer al menos de despacho propio y realizar la jornada laboral con exclusividad en reumatología mostró diferencias significativas en distintas actividades.

Conclusiones: El número de actividades realizadas por estos profesionales demostró ser mayor cuando el trabajo se realizó en la consulta externa, con despacho propio y exclusividad en reumatología.

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Introduction

The task of nursing professionals was defined by Henderson and Nite¹ in 1960 as caring for persons (sick or well) with activities that contribute to their health or recovery (or to a peaceful death), activities that individuals do without help when they have the necessary strength, the will or the necessary knowledge. Moreover, nursing also helps patients to carry out the prescribed treatment and to cease depending on assistance as soon as possible.

Over time, progress in medicine has continued to demand the specialization of all health professionals and, thus, of nurses, as well. In this respect, the role of the nursing professional specialized in rheumatology has been a recognized category in other countries like Spain for decades. The achievement of this category is obtained through a period of training that varies in duration depending on the country we are speaking of. Since 1980, in Spain, although this specialty is not offered in the nursing career, the figure of the nurse is beginning to be integrated into some rheumatology departments.² The incorporation of the nursing professional into those teams was produced in 2 ways: the first, in a conventional manner through contracts offered by health care centers, and the second, in the form of grants generated by the departments, which were aware of their need and made engaging them a priority.³ Nevertheless, we have no census on this group that would allow us to determine their number and where they are located.

The activities carried out by these nurses have been recorded by the Working Group on Nursing of the Spanish Society of Rheumatology (*Grupo de Trabajo de Enfermería de la Sociedad Española de Reumatología*) (GTESER). To date, the only publication in this respect was written by the Valencian Rheumatology Nursing Society, which described the activities performed in a nursing office in that Spanish autonomous community, in eastern Spain.⁴ Thus, at the present time, we have no access to any study that evaluates the level of activity utilizing the new GTESER registry of the detailed undertakings in Spain.

In this work, we describe and provide an updated analysis of the demographic characteristics and structural features, as well as the different activities carried out by the rheumatology nurse in Spain. This is the first work in which the results are summarized from surveys completed by the professionals who are performing this activity.

Material and Methods

We conducted a cross-sectional, descriptive, observational study in 57 hospitals in 17 Spanish autonomous communities.

The population to be studied were part-time or full-time nursing professionals caring for patients with rheumatic diseases. All of them were members of rheumatology units or departments in

Spanish health centers. There is no nationwide census of rheumatology nursing personnel in Spain; the only data available are those provided by congresses and meetings. For this reason, the nursing professionals selected for the study were obtained from a census prepared with the data provided by those who went to the National Congress of the Spanish Society of Rheumatology and that of the Andalusian Society Rheumatology. In order to improve/extend the distribution of the questionnaires as much as possible, and given the complexity of contacting with all the rheumatology departments/units in Spain, we asked for the help of delegates from the industry. For this reason, we got in touch with the company Merck Sharp and Dohme (MSD), which collaborated with this undertaking through its commercial network. The distribution of the questionnaires was all done in paper or through an e-mail address. The questionnaire, in the form of a survey, was prepared and approved by the GTESER. The deadline for collecting the data was from May 2013 to January 2014. The criteria for inclusion was working as a full-time or part-time rheumatology nurse in a Spanish health center. The exclusion criteria was the inability of directly/freely completing the questionnaire for any circumstance.

We included demographic variables such as sex, age, years of experience caring for patients with rheumatic diseases, name of the institution and Spanish autonomous community in which this center was located. There were also variables on the position (out-patient clinic, day hospital, inpatient ward or primary care) and the availability of structural means (office, phone line or individual agenda). Of the 26 activities performed by the nursing staff that had been recorded by the GTESER: 19 were practices that the professional did independently, 4 were done in collaboration with the physician and 3 were teaching and research activities. The 19 activities done independently: (1) health education programs; (2) education on body posture, exercises, therapies to improve mobility and reduce pain; (3) nutrition education (osteoarthritis, osteoporosis and gout); (4) keeping track of patients; (5) administration, monitoring, coordination and management of biologic drugs; (6) treatment follow-up (biologic and nonbiologic drug); (7) training in self-medication; (8) clinical metrology; (9) specific activity in the osteoporosis and fracture unit; (10) counseling on cardiovascular risk and follow-up; (11) smoking cessation programs; (12) placement of splints and dressings; (13) relaxation techniques; (14) Mantoux test; (15) densitometry; (16) Schirmer test; (17) salivary flow; (18) pathergy; and (19) fat aspiration. The 4 activities performed in collaboration with the physician were: local injection, arthrocentesis, ultrasound and capillaroscopy. Finally, the 3 responsibilities in teaching and research were: collaboration in studies performed in the rheumatology department, research studies in the area of nursing and teaching nursing. Moreover, we recorded interest in 12 rheumatic diseases: rheumatoid arthritis (RA), early arthritis, ankylosing spondylitis, reactive arthritis, septic arthritis or spondylodiscitis, psoriatic arthritis, autoimmune

diseases (lupus, scleroderma and Sjögren's syndrome), rheumatic polymyalgia, metabolic bone diseases (osteoporosis, Paget's disease), arthrosis, crystal arthropathies and soft tissue diseases (tendinitis and carpal tunnel syndrome). All of the questions were designed for a dichotomous (yes/no) or a numerical response.

The data were introduced into a database for their later statistical study. The statistical analysis included a descriptive study of the variables, with the percentage and absolute number of the categorical variables. In the case of continuous variables, we calculated the mean and standard deviation. In every case, the level of significance employed was the usual 5% (α : .05). To compare the proportions, we used contingency tables and the inference method was Fisher's exact test. The data were processed utilizing the SPSS 15.0 statistical software package.

Results

Of the 80 surveys distributed, we gathered 69. Of those, 2 were eliminated due to errors in data introduction. Ultimately, 67 were analyzed.

In all, 97% of those who responded were women. The mean age was 49.8 ± 9 years and their specialized work experience had an average duration of 6 years. Concerning their commitment to their occupation, 46 of the professionals surveyed (68%) devoted their entire work day to rheumatology. The distribution of the surveys per autonomous communities is appended in [figure supplementary 1, available in on-line supplementary material](#).

Overall, 56% ($n=50$) spent their work day in outpatient clinics, 35% ($n=30$) in day hospitals and 9% ($n=8$) in inpatient wards and primary care. Regarding the availability of resources, 59% ($n=39$) had an office, 77.3% ($n=51$) had a phone agenda and 60% ($n=40$) scheduled and attended to patient visits. Of the 19 activities performed independently, the administration, monitoring, coordination and management of biologic drugs (90.9%; $n=61$), treatment follow-up (89.4%; $n=60$) and training in self-medication (89.4%; $n=60$) were carried out by the majority of the professionals. The most frequent collaborations with the physician were local injection (51.5%; $n=34$), followed by arthrocentesis (45.5%; $n=30$), ultrasound (28.8%; $n=19$) and capillaroscopy (24.2%; $n=16$). The activities in teaching and research were performed as collaborations in studies being conducted in the department (78.8%; $n=53$), studies on research in the area of nursing (51.5%; $n=34$) and teaching nursing to other professionals (50%; $n=34$) ([Table 1](#)).

The diseases most frequently attended to by nursing professionals were: RA, psoriatic arthritis, ankylosing spondylitis and metabolic bone diseases ([figure Supplementary 2; available in on-line supplementary material](#)).

Each of the activities were compared in accordance with the workplace of the professionals, that is, whether they worked in outpatient clinics or day hospital. Only those professionals working full-time in one of these 2 settings were included in the analysis. In favor of outpatient clinics, the responsibilities most frequently performed and those that showed the highest statistical significance were those carried out independently, like health education programs, nutrition education, the placement of splints and dressings, and those performed in collaboration (ultrasound, local injection, capillaroscopy and arthrocentesis) ([Table 2](#)).

In reference to the availability of structural resources, having one's own office significantly increased the execution of the following activities: education on body posture, exercises, therapies to improve mobility and reduce pain, administration, monitoring, coordination and management of biologic drugs, treatment follow-up, training in self-medication, clinical metrology, counseling on cardiovascular risk, placement of splints and dressings, pathergy tests and research studies in the nursing area ([Table 3](#)).

Table 1
Activities Carried out by Nursing Professionals and the Frequency.

Activities	Nursing professionals % (n)
<i>Activities performed independently</i>	
Health education programs	69.7 (47)
Education on body posture, exercises, therapies to improve mobility and reduce pain	71.2 (48)
Nutrition education (osteoporosis, arthrosis, gout, etc.)	71.2 (47)
Keeping track of patients	84 (57)
Administration, monitoring, coordination and management of biologic drugs	90.9 (61)
Treatment follow-up (biologic and nonbiologic)	89.4 (60)
Training in treatment self-medication	89.4 (60)
Clinical metrology	50 (34)
Osteoporosis and fracture unit	42.4 (29)
Counseling on cardiovascular risk	37.9 (25)
Smoking cessation programs	18.2 (12)
Placement of splints and dressings	25.8 (17)
Relaxation techniques	18.2 (12)
Mantoux test	40.9 (28)
Densitometry	15.2 (11)
Schirmer test	31.8 (21)
Salivary flow	15.2 (10)
Pathergy	16.7 (12)
Fine-needle aspiration of subcutaneous fat	9.1 (6)
<i>Activities carried out in collaboration</i>	
Local injection	51.5 (34)
Arthrocentesis	45.5 (30)
Ultrasound	28.8 (19)
Capillaroscopy	24.2 (16)
<i>Research/Teaching</i>	
Collaboration in studies performed in the rheumatology department	78.8 (53)
Research studies in the area of nursing	51.5 (34)
Teaching other nurses	50 (34)

Having all of the structural resources evaluated (office, phone line and one's own nursing agenda) significantly increased the following activities: education on body posture, exercises, therapies to improve mobility and reduce pain, nutrition education, keeping track of patients, administration, monitoring, coordination and management of biologic drugs, training in self-medication, counseling on cardiovascular risk, placement of splints and dressings and research studies in the nursing area ([Table 3](#)).

The comparison of each activity performed in accordance with whether or not the professional worked exclusively in rheumatology was significantly in favor of exclusiveness: programs for health education and nutrition education relied much more on nursing personnel. Health education programs 37 (80.4%) vs 10 (47.6%), $P=.01$, and nutrition education 36 (78.3%) vs 11 (52.4%), $P=.045$. Likewise, full-time nursing professionals were also more involved in metrology activities (26; 56.5%), therapy training (43; 93.5%), Mantoux test (22; 47.8%), counseling on cardiovascular risk (21; 45.7%), collaboration in research studies of their departments (39; 84.8%) and in studies on nursing (27; 58.7%), although statistical significance was not reached.

Discussion

The results of the present study show that the participants in the survey had an overall mean age that was fairly advanced. Only somewhat more than half had their own office and, this fact, together with their working full-time in rheumatology, signified that they were involved in a larger number of activities. This is the first study that evaluates the extent of those activities for Spanish professionals using the activity registry detailed by the GTER.

The most recent study in Spain describing and analyzing the situation of nursing professionals was performed in 2001.⁵ In that

Table 2
Frequency of Performing Each Activity Depending on the Workplace of the Professional.

Activities	Outpatient clinic n=35 n (%)	Day hospital n=15 n (%)	P*
<i>Activities performed independently</i>			
Health education programs	28 (80)	7 (46.7)	.040
Education on body posture, exercises, therapies to improve mobility and reduce pain	27 (77.1)	8 (53.3)	.107
Nutrition education	27 (77.1)	7 (46.7)	.049
Keeping track of patients	32 (91.4)	11 (73.3)	.176
Administration, monitoring, coordination and management of biologic drugs	31 (88.6)	15 (100)	.302
Treatment follow-up (biologic and nonbiologic)	30 (85.7)	13 (86.7)	1.000
Training in treatment self-medication	33 (94.3)	11 (73.3)	.058
Clinical metrology	17 (48.6)	5 (33.3)	.367
Osteoporosis and fracture unit	19 (54.3)	4 (26.7)	.121
Counseling on cardiovascular risk	14 (40)	3 (20)	.209
Smoking cessation programs	8 (22.9)	1 (6.7)	.247
Placement of splints and dressings	15 (42.9)	0 (0)	.002
Relaxation techniques	5 (14.3)	2 (13.3)	1.000
Mantoux test	16 (45.7)	4 (26.7)	.345
Densitometry	7 (20)	0 (0)	.087
Schirmer test	14 (40)	2 (13.3)	.099
Salivary flow	8 (22.9)	2 (13.3)	.702
Pathergy	9 (25.7)	1 (6.7)	.246
Fine-needle aspiration of subcutaneous fat	3 (8.6)	0 (0)	.545
<i>Activities carried out in collaboration</i>			
Local injections	23 (65.7)	4 (26.7)	.015
Arthrocentesis	21 (60)	2 (13.3)	.004
Ultrasound	14 (40)	1 (6.7)	.021
Capillaroscopy	11 (31.4)	0 (0)	.021
<i>Research/Teaching</i>			
Collaboration in studies performed in the rheumatology department	29 (82.9)	12 (80)	1.000
Research studies in the area of nursing	18 (51.4)	7 (46.7)	1.000
Teaching other nurses	17 (48.6)	8 (53.3)	1.000

P*: Fisher's exact test.

study, a total of 47 rheumatology nurses were registered. The description of the health care activity was defined in terms of health education, administration and control of treatments, ancillary examinations, research and patient appointment organization. In our study, conducted 12 years later, there were 67 professionals, for an increase of 42.5%. Our report provides a thorough description of the health care activity and functions carried out by the nursing staff, including the 26 activities that the GTERER recorded. We specified in detail activities like health education programs, keeping track of patients, metrology, Schirmer test, Mantoux test or collaboration in arthrocentesis, probably included in the study by Padró et al. in the variables cataloged as the basic program or technical help, although we cannot say. Therefore, it is not possible to compare variables or draw any conclusions in that respect.

Based on data provided by different nursing professionals, the GTERER gathered a list of up to 26 diverse activities. In this line, the direct participation of nurses in the registry of the activity is essential. Despite that fact, the only report published on this subject⁵ was designed with surveys that were completed by the heads of different rheumatology departments. In our study, all of the nursing professionals responded directly to the questionnaire and, in no case, was a different professional (department head or other health care professional) the person involved in carrying out the survey. We consider that, thus, we will avoid information biases in data registration.

Of the 26 activities that were detailed by the GTERER, there was one that evaluated the involvement of the nursing staff in research studies conducted in their department. The only article⁵ that points out the participation in this aspect shows that 40% were concerned with this activity. Our report found that the inclusion of nursing professionals in research studies had increased to nearly 80% of those surveyed. We consider that this fact may be attributable to 2

factors: (1) the majority of the nurses questioned worked in tertiary care centers; and (2) most rheumatology research studies require techniques (electrocardiograms, blood extraction, blood pressure measuring, etc.) and specialized tests in which the nurse participates actively because of his or her proximity to the patient and due to usual clinical practice.

The availability of one's own office and agenda is considered a very important necessity in the performance of the activity of nursing professionals specialized in rheumatology. Among the standards of health care quality in a rheumatology nursing clinic, Muñoz et al. refer to the availability of the nurse's own office and agenda.⁶ In this respect, Carbonell et al. describe the advantages of the nurse's having an office and her own agenda through their individual experience in Alicante, in southeastern Spain.⁷ In our work, we have observed that somewhat more than half of those surveyed had their own office and agenda. Relating the office space and a personal agenda to the number of activities carried out by the nursing staff, we found that the group of professionals who had these structural resources performed a significantly greater number of activities involving prevention, education, studying diseases and therapies, research and telephone counseling.

Activities like health education are considered a standard of basic health care quality in a rheumatology nursing office.⁶ In our study, when we compare the activities done by nursing professionals depending on whether their commitment is full-time or part-time, in rheumatology, we found that health care education programs were being conducted in up to 80% of cases when the nurse in charge was working full-time.

Although the disorders being attended to are many, RA is, because of its seriousness, complexity and incidence, the disease that requires a substantial part of the work of these professionals. The clinical practice guidelines for the management of

Table 3
Frequency of Performing Each Activity Depending on the Availability of Structural Resources.

Activities	Availability of an office		P*	Availability of all 3 resources (office, phone line and nursing agenda)		P*
	Yes n=40 n (%)	No n=27 n (%)		Yes n=32 n (%)	No n=35 n (%)	
<i>Activities performed independently</i>						
Health education programs	32 (80)	15 (55.6)	.055	26 (81.3)	21 (60)	.067
Education on body posture, exercises, therapies to improve mobility and reduce pain	33 (82.5)	15 (55.6)	.026	27 (84.4)	21 (60)	.033
Nutrition education	32 (80)	15 (55.6)	.055	27 (84.4)	20 (57.1)	.018
Keeping track of patients	36 (90)	21 (77.8)	.294	31 (96.9)	26 (74.3)	.014
Administration, monitoring, coordination and management of biologic drugs	40 (100)	21 (77.8)	.003	32 (100)	29 (82.9)	.025
Treatment follow-up (biologic and nonbiologic)	39 (97.5)	21 (77.8)	.015	32 (100)	28 (80)	.012
Training in treatment self-medication	40 (100)	20 (74.15)	.001	32 (100)	28 (80)	.012
Clinical metrology	27 (67.5)	7 (25.9)	.001	20 (62.5)	14 (40)	.088
Osteoporosis and fracture unit	19 (47.5)	10 (37)	.457	17 (53.1)	12 (34.3)	.144
Counseling on cardiovascular risk	20 (50)	5 (18.5)	.011	16 (50)	9 (25.7)	.047
Smoking cessation programs	9 (22.5)	3 (11.1)	.335	9 (28.1)	3 (8.6)	.055
Placement of splints and dressings	14 (35)	3 (11.1)	.044	14 (43.8)	3 (8.6)	.002
Relaxation techniques	7 (17.5)	5 (18.5)	1.000	5 (15.6)	7 (20)	.755
Mantoux test	20 (50)	8 (29.6)	.131	16 (50)	12 (34.3)	.223
Densitometry	7 (17.5)	4 (14.8)	1.000	5 (15.6)	6 (17.1)	1.000
Schirmer test	15 (37.5)	6 (22.2)	.283	13 (40.6)	8 (22.9)	.187
Salivary flow	7 (17.5)	3 (11.1)	.728	7 (21.9)	3 (8.6)	.175
Pathergy	11 (27.5)	1 (3.7)	.020	9 (28.1)	3 (8.6)	.055
Fine-needle aspiration of subcutaneous fat	4 (10)	2 (7.4)	1.000	4 (12.5)	2 (5.7)	.414
<i>Activities carried out in collaboration</i>						
Local injection	22 (55)	13 (48.1)	.625	18 (56.3)	17 (48.6)	.627
Arthrocentesis	21 (52.5)	10 (37)	.318	18 (56.3)	13 (37.1)	.145
Ultrasound	13 (32.5)	7 (25.9)	.599	11 (34.4)	9 (25.7)	.594
Capillaroscopy	11 (27.5)	6 (22.2)	.777	9 (28.1)	8 (22.9)	.780
<i>Research/Teaching</i>						
Collaboration in studies performed in the rheumatology department	35 (87.5)	18 (66.7)	.064	28 (87.5)	25 (71.4)	.138
Research studies in the area of nursing	25 (62.5)	9 (33.3)	.026	21 (65.6)	13 (37.1)	.028
Teaching other nurses	24 (60)	10 (37)	.084	20 (62.5)	14 (40)	.088

P*: Fisher's exact test.

RA in Spain recommend the active incorporation of a nurse from the onset of the disease. The purpose is to evaluate the inflammatory activity, facilitate the early detection of secondary effects of the medication and other associated comorbidities, and to improve education related to health in general.⁸ In this respect, in 2012, the European League Against Rheumatism published a work with the specific recommendations for nursing in the management of chronic inflammatory arthritis.⁹ Our results demonstrate that, while all those surveyed are caring for patients with RA and monitoring, administering and managing biologic drugs, not all are involved in health education or in controlling for comorbidities.

The standards for processing time and health care quality in rheumatology, published by the Spanish Society of Rheumatology, recommend that every rheumatology department should have a nursing professional.¹⁰ One of the limitations of our study was

our lack of data concerning those departments that do not have nursing, since the criteria for participation was to be, precisely, a nursing professional with full-time or part-time commitment to the specialty. Thus, there may be centers in which the survey did not arrive.

In conclusion, we wish to indicate that choosing to specialize in rheumatology on the part of nursing professionals is a context that is young and still being developed, although it has increased significantly in recent years. Although its efficacy has been demonstrated in a number of studies,^{11–14} this specialty is still not recognized in Spain. This may explain why there are so few full-time professionals, and a lack of resources in nearly half of the departments surveyed. For this reason, getting nursing professionals into the rheumatology departments is the first objective to accomplish. Undoubtedly, there is still a long road ahead, but continuing education, research and excellence in our daily work, the best arguments

to achieve our goal: integrated and quality care for every patient who has a rheumatic disease.

Ethical Disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that no patient data appear in this article.

Right to privacy and informed consent. The authors declare that no patient data appear in this article.

Conflicts of Interest

The authors declare they have no conflicts of interest.

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Appendix A. Supplementary Data

Supplementary data associated with this article can be found, in the online version, at <http://dx.doi.org/10.1016/j.reumae.2016.02.005>.

Annex 1. Working Group on Nursing of the Spanish Society of Rheumatology (SER)

Matilde Garro Lara
M.ª Montserrat Jordana Ollé
Ana M. Bilbao Cantarero
Amelia Carbonell Jordá
Eduardo Fernández Ulloa
M.ª Dolores Gil del Gallego
M.ª José León Cabezas
Nieves Martínez Alberola
Elena Rodríguez Arteaga
M.ª Encarnación Roncal Marqueta
Susana Escandón Peláez

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