Reumatología Clínica

Brief Report

Impact of the COVID-19 pandemic on rheumatology nursing consultation☆

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ARTICLE INFO

ABSTRACT

Objective: The COVID-19 pandemic has brought major changes to the model of patient care in Rheumatology. Our aim was to compare the change in the care delivered in a rheumatology nursing consultation before and during the pandemic.

Material and methods: Descriptive and observational study. Patient care was registered before and during the COVID-19 outbreak. The variables collected were age, sex, prevalent rheumatic disease, type of visit and reason for consultation.

Results: 254 consecutive patients were included before the COVID-19 pandemic for 20 days and 251 patients during COVID-19 for 10 working days. The mean age was 61 years before and 57 during the pandemic. Of both groups, 74% were women. The most frequently attended pathologies before and during COVID-19 were rheumatoid arthritis and spondyloarthropathies. Scheduled face-to-face visits decreased during COVID-19 (46.5% versus 1.6%), with an increased number of phone scheduled visits (2.8% versus 52.2%) and spontaneous consultations either by phone or e-mail (28.3% versus 45%). The type of scheduled visits during COVID-19 were for stable diseases (20% versus 37%) and monitoring (12% versus 38%). The reason for spontaneous consultation increased during COVID-19 and were mainly doubts regarding prevention measures and treatment optimization (13.8% versus 31.1%).

Conclusions: The first wave of COVID-19 brought to rheumatology nursing consultation a global increase in all activities in the number of visits per day, in the number of stable patient controls, in monitoring and answering patient concerns.

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Impacto de la COVID-19 en la consulta de enfermería reumatológica

RESUMEN

Objetivo: Comparar el cambio en la actividad asistencial realizada en una consulta de enfermería reumatológica antes y durante la pandemia.

Material y métodos: Estudio descriptivo y observacional de 254 pacientes consecutivos antes y 251 durante.

Resultados: El tipo de visita programada presencial disminuyó durante COVID-19 (46,5% vs 1,6%), aumentando la visita programada telefónica (2,8% vs 52,2%) y las consultas espontáneas a través del teléfono o email (28,3% vs 45%). Las funciones realizadas en las programadas fueron el control del paciente estable (20% vs 37%) y la gestión (12% vs 38%). El motivo de consulta espontánea incrementó durante la COVID-19 sobre todo: dudas respecto a medidas de prevención y optimización de tratamiento (13,8% vs 31,1%).

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Conclusiones: La primera ola de la COVID-19 generó en la consulta de enfermería un incremento global de todas las actividades: número de visitas/día, en el número de controles de pacientes estables, en gestión y en la resolución de dudas.

Introduction

The COVID-19 pandemic has become a stress test for health systems worldwide. Studies on its impact on nursing staff throughout the word highlight that it has affected 4 aspects: an increase in work load, in health (with high morbimortality), in a lack of continuous training and in an opportunity where nurses have been able to provide quality care.[1–3]

On 14th March 2020, a period of strict lockdown began for the Spanish population due to the first wave of the pandemic. All hospital rheumatology professionals had to adapt to this new situation, including rheumatology nursing, which has been present in Spain since 1980.[4] The consultation model went from being basically non face-to-face and nationally renowned nursing activities[5,6] were moulded to the requirements of the rheumatology services and even to the requirements of the hospital itself. Non face-to-face nursing care already existed in rheumatology units in Spain a long time before the pandemic. This care could be programmed into the nursing schedule, or spontaneously carried out, or given in accordance with patient request.[7]

The aim of this study was to describe and compare the activity carried out in a monographic rheumatology nursing consultation of long-standing in a university hospital before and during the first wave of the COVID-19 pandemic. This was the first study on the repercussions of COVID-19 in a specific rheumatology nursing consultation.

Material and methods

A retrospective, observational study was conducted. The reasons for consultation of 254 patients from the rheumatology nursing monographic consultation of a university hospital before COVID-19 were recorded, and of 251 patients during the COVID-19 pandemic. Demographic variables of patients were age, sex and rheumatic pathology. Variables relating to the way in which the activity was performed were also included: face-to-face or through the phone or electronic mail, and on the content of the nursing activity offered to the patient: 1) programmed in the diary: education, procedures, cardiovascular risk control, review of vaccines, analytical control, control of stable patients, treatments and management and 2) spontaneous consultations/on-demand consultations: outbreak of their disease, side effects from treatments, activation of treatments, doubts and administrative issues.

The data was recorded on a database for statistical analysis. For quantitative variables mean and standard deviation were calculated. Statistical significance level was $P < .05$. For comparisons of proportions, contingency tables were used and for inference the Chi-squared test (likelihood-ratio test). For data processing the statistical package IBM SPSS 26.0 was used.

Results

The 254 patients included before COVID-19 corresponded to 20 working days (from 16th October to 21st November), whilst the 251 patients included during COVID-19 were obtained in 10 days (from 23rd March to 3rd April 2020). Mean age of the patients before the pandemic was 61 ± 17 years versus 57 ± 18 years during the pandemic. 74% of both groups were women. The pathologies treated most frequently before and during COVID-19 were rheumatoid arthritis (RA) (41.7% versus 26.7%) and spondyloarthritis (18.9% versus 18.4%). During COVID-19 there was a decrease in care to patients with RA and an increase in consultations of patients with systemic lupus erythematosus (SLE), Sjögren's syndrome and vasculitis (Table 1).

The face-to-face programmed type of visit fell significantly during COVID-19 (46.5% versus 1.6%) in the areas of education, procedures, vaccine review, cardiovascular risk evaluation ($P < .001$). This was not the case in analytical controls ($P = .243$) and treatments ($P = .723$). The non face-to-face—telephone—programmed visit increased (2.8% versus 52.2%) and spontaneous telephone or email consultations (28.3% versus 45%). The most common reason for spontaneous consultations of patients were doubts: on the protection measure against COVID-19, the impact of SARS-CoV-2 on the rheumatic disease, the need for adherence to immunosuppressant treatments, the dispensation of hospital treatments during confinement, difficulties with dispensation of hydroxychloroquine and other doubts relating to the difficulty of accessing primary care centres.

The functions carried out by nursing professionals in programmed visits which increased during COVID-19 were stable patient control (20% versus 37%) and management (12% versus 38%) ($P < .001$). The reason for spontaneous consultation (telephonically or through email) which significantly increased during COVID-19 were doubts (35 [13.8%] versus 78 [31.1%]) (Table 2).

Discussion

Nursing care since March 2020 has clearly been affected by the COVID-19 pandemic. This study shows how the first wave generated an increase in care pressure, a change in the way visits were made and in the activity carried out in a monographic rheumatology nursing consultation. The increase in the number of overall nursing visits made (programmed/spontaneous) per day was due to the emergency situation caused by the pandemic, to the situation of risk perceived by the patients (particularly those treated with immunosuppressants) and the reorganisation of our service (rheumatologists from external consultations were transferred to care for COVID-19 patients).

One study conducted in 2013 by the Nursing Workgroup of the Spanish rheumatology society (GTESER for its initials in Spanish) on rheumatology nursing activity in Spain and another later conducted in 2019,[5,6] reflected that the most frequently regularly attended pathologies in the nursing consultations were RA and spondyloarthritis under normal circumstances. Our current data also confirm that this tendency was repeated both before and during the pandemic. We are unaware of the reason why RA, despite being the most frequent, also reduced its frequency during the pandemic. One possibility is that the patients who follow a strict "T2T" control, regularly, presented with low activity inflammatory diseases and that the duration of the pandemic during the first wave (8 weeks, <3 months), did not constitute a major change in their inflammatory status.[8,9] We note that the number of patients who attended with SLE almost tripled ($P < .001$), and there was an increase consulting regarding Sjögren's syndrome ($P < .001$) and vasculitis (NS) during COVID-19. One hypothesis would be that the inflammatory load profile of systemic diseases with multi-organ involvement, such as SLE or vasculitis, generated greater fear of the virus coexisting with the disease, or also the possible effects of immunosuppressant treatments. However, in SLE and Sjögren's syndrome we found that the main reason was due to problems

Table 1
Descriptive analysis of the sample which regularly attends monographic rheumatology nursing consultation before and that observed ruing the first wave of the COVID-19 pandemic.

Variables	Before COVID-19 Mean (SD)	During COVID-19 Mean (SD)	P^a
Age (years)	61 (±17)	57 (±18)	.053
	n (%)	n (%)	
Sex			
Men	66 (26)	64 (25.5)	.919
Women	188(74)	187(74.5)	
			P^b
Rheumatological diagnosis			
Rheumatoid arthritis	106 (41.7)	67 (26.7)	<.001
Spondyloarthritis	48 (18.9)	46 (18.4)	
Systemic lupus erythematosus	10 (3.9)	26 (10.4)	
Systemic sclerosis	16 (6.3)	13 (5.2)	
Vasculitis	32 (12.6)	42 (16.7)	
Sjögren's syndrome	2 (.8)	19 (7.6)	
Gout	7 (2.8)	5 (2)	
Osteoarthritis	2 (.8)	0	
Fibromyalgia	0	0	
Osteoporosis	11 (4.3)	5 (2)	
Others	20 (7.9)	28 (11.2)	

SD: Standard Deviation.
[a] Fisher's test.
[b] Chi-squared (likelihood ratio).

Table 2
Change observed in the frequency of interventions carried out by rheumatology nursing before and during the pandemic.

	Before 254, n (%)	During 251, n (%)	P^a
Visits programmed			
Education			
Face-to-face	61 (35)	3 (42.9)	.676
Non Face-to-face	10 (12.7)	15 (6.1)	.073
Procedures			
Face-to-face	18 (10.3)	1 (14,3)	.750
Non Face-to-face	2 (2.5)	0 (0)	.017
Stable patient control			
Face-to-face	49 (28.2)	0 (0)	.049
Non Face-to-face	2 (2.5)	93 (38,1)	<.001
Analytical control			
Face-to-face	24 (13,8)	0 (0)	.154
Non Face-to-face	2 (2,5)	34 (14)	.001
Review of vaccines			
Face-to-face	38 (21,8)	0 (0)	.066
Non Face-to-face	0 (0)	6 (2,5)	.065
Cardiovascular risk			
Face-to-face	40 (23)	0 (0)	.059
Non Face-to-face	2 (2,5)	0 (0)	.017
Treatments			
Face-to-face	4 (2,3)	4 (57,1)	<.001
Non Face-to-face	0 (0)	1 (.4)	.453
Management			
Face-to-face	9 (5.2)	1 (14.3)	.379
Non Face-to-face	22 (27.8)	96 (39.5)	.058
Spontaneous consultations			
Face-to-face			
Outbreak	15 (5.9)	4 (1.6)	<.001
Side effect	3 (1.2)	0 (0)	
Activate treatment	1 (.4)	1 (.4)	
Doubts	5 (2)	0 (0)	
Administrative	4 (1.6)	0 (0)	
Non Face-to-face			
Outbreak	11 (4.3)	8 (3.2)	<.001
Side effect	5 (2)	2 (.8)	
Activate treatment	3 (1.2)	1 (.4)	
Doubts	35 (13.8)	78 (31.1)	
Administrative	14 (5.5)	3 (1.2)	

[a] Chi-squared (likelihood ratio).

in distribution of hydroxychloroquine and its management by the pharmacy offices and hospital pharmacies.

The impact of the first wave of COVID-19 transformed the nature of care in outpatient consultations. Spanish rheumatology,[10] nephrology[11] and neurology[12] services changed their face-to-face care almost totally to non face-to-face care (telephone or telematic). In our study the scheduled visits were carried out non face-to-face, basically over the phone. Non face-to-face spontaneous consultation (via phone or email) doubled, probably due to the fact that the service kept the normal nursing telephone number and created a specific email which was distributed by social media (Twitter, corporate web) and by the administrative staff of the centre. Also, the service scheduled a pilot plan of synchronized telemedicine with the Departament de Salut (Generalitat of Catalonia), which simplified and prioritized the telematic care process as a pilot test.

Activities such as education were reduced to a quarter thanks to different reasons, among which we would highlight that during the first wave of the pandemic no face-to-face initial visits to the doctor could be made. To resolve this issue, videos were made to reinforce aspects of education such as the administration technique for subcutaneous treatments of biological therapies or methotrexate. Activities such as procedures (blood extraction, PPD, Shirmer test, questionnaires or treatment administration) and cardiovascular risk visits decreased almost completely due to the total lockdown of the population.

Pallarés et al. described this new form of non face-to-face care as an opportunity to control patients with chronic diseases, underlining the favourable reception of it by the patients and enhancing the key role played by nurses for these activities.[13] Along these lines, authors like Tornero-Molina et al. consider that rheumatic patients may be followed-up and assessed through non face-to-face visits (telemedicine), and achieve a high level of satisfaction for the patient and the doctor.[10] In our study stable patient control almost doubled through phone consultation, which could have been to attend to patients who had programmed medical controls but who could not attend them due to medical facility closures. The vaccines control visits were reduced by a sixth since many analytical tests with serological revision were cancelled. Also, all patient vaccination programmes were temporarily cancelled, due to the reorganisation of infectious disease services.

Treatments for ulcers of patients with systemic sclerosis were maintained despite the state of emergency to attend to patients who were unable to contact primary care for follow-up. Management doubled for several reasons. One of them was the lockdown and the other the reorganization/reprogramming which took place because of the pandemic.

Despite the most common reason for spontaneous consultation being related to COVID-19, recent data on the severity of infection by SARS-CoV-2 in hospitalised patients with chronic inflammatory rheumatic diseases or results for the BIOBADASER cohort confirmed that these patients did not present with a more severe COVID-19 infection, despite receiving immunosuppressant therapy.[14]

One weakness of our study is that it assessed the impact of COVID-19 in a single monographic rheumatology nursing consultation, which made it impossible to extrapolate the results to other services and all the more so, given the huge variability in working activity of this group of professionals within rheumatology.

The care offered by specialised nursing staff in our centre was an effective and essential intervention during the first wave of the pandemic, with activities such as control of the stable patient management and resolution of doubts from patients with rheumatic diseases such as RA, spondyloarthritis, vasculitis and SLE. On the one hand, further research studies are needed to assess satisfaction both of the team and the patient on non face-to-face care carried out by the nurse specialising in rheumatology and on the other,

there is a need for studies to assess the activity of other nursing consultations on a national level. Furthermore, the creation of protocols and guidelines are essential to reach a consensus on the work carried out by these professionals on a national level. Infection by SARS-CoV-2 has been proven to be a multi-organ disease, triggered by a virus, which may lead to a severe disease with high morbidity and potentially mortal due to thrombosis and/or the cytokine release and respiratory distress síndrome.[15] This has completely transformed the care profile of our services and specialties. Despite this, in recent literature there is no exhaustive description of how nursing care in rheumatology has been affected.

To conclude, COVID-19 has brought about an increase in care pressure and a change in the type of activity carried out in monographic nursing consultations. This rheumatology nursing activity within the units/services is still in its development phase but it continues to be an essential resource for marinating quality care during the different waves of the pandemic.

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S.P. Fernández Sánchez, F. Rodríguez Muñoz, A. Laiz et al.

Reumatología Clínica 18 (2022) 231–235

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