

## Quality of care of rural rheumatoid arthritis patients in Austria

Rudolf Puchner · Hans Peter Brezinschek · Manfred Herold · Thomas Nothnagl · Andrea Studnicka-Benke · Josef Fritz · Burkhard F. Leeb

Received: 29 December 2013 / Accepted: 2 March 2014 / Published online: 28 March 2014  
© Springer-Verlag Wien 2014

### Summary

**Objectives** To determine how fast rheumatoid arthritis (RA) was diagnosed in a group of patients in a rural area and whether medical care and patient satisfaction were adequate in a predominantly non-urban settlement.

**Methods** When visiting their rheumatologist, patients with RA were asked to complete a questionnaire at home after the consultation and then return it to an indepen-

dent opinion research centre, where the data were collected and analysed. The form comprised various areas, namely demography, aspects of the diagnosis, medical care, therapeutic measures and the illness in a personal context.

**Results** Of 150 patients, 127 answered the questionnaire. A total of 63% of the patients lived in settlements of less than 5,000 inhabitants, and a further 18% in settlements of more than 5,000–50,000 inhabitants. The rheumatologist attended could be reached within 1 h for 90% of the patients.

In slightly fewer than 30% of the respondents, the diagnosis of RA was made within 3 months, and in 44%, within 6 months. In 75%, the diagnosis was made by a rheumatologist. After experiencing the first symptoms, 80% of the respondents contacted their general practitioner. A high degree of satisfaction appears to originate from the information supplied by the rheumatologist attended. Most patients believed they were involved in decision making regarding their therapy.

**Conclusion** The majority of the respondents came from rural areas. RA was diagnosed within 6 months for almost half of the patients questioned. Most patients believed they were well informed and involved in therapeutic decision making.

**Keywords** Quality of care · Influence of medical consultation on patient satisfaction · Rural patients in Austria · Rheumatoid arthritis · The patient's view

**Electronic supplementary material** The online version of this article (doi: 10.1007/s00508-014-0540-6) contains supplementary material, which is available to authorized users.

Dr. R. Puchner, MD (✉)  
Rheumatologist in private practice,  
Freiung 19, 4600 Wels, Austria  
e-mail: rudolf.puchner@cc-net.at

H. P. Brezinschek, MD, PhD  
Division of Rheumatology and Immunology, Department of  
Internal Medicine, Medical University of Graz,  
Graz, Austria

M. Herold, MD, PhD  
Department of Internal Medicine I,  
Medical University of Innsbruck,  
Innsbruck, Austria

T. Nothnagl, MD · B. F. Leeb, MD, PhD  
2nd Department of Medicine, Center for Rheumatology,  
Lower Austria State Hospital,  
Stockerau, Austria

A. Studnicka-Benke, MD  
Department of Internal Medicine III,  
Medical University of Salzburg,  
Salzburg, Austria

J. Fritz, DI  
Department of Medical Statistics, Informatics and Health  
Economics, Medical University of Innsbruck,  
Innsbruck, Austria

### Die Versorgungsqualität von Patienten mit rheumatoider Arthritis im ländlichen Raum

#### Zusammenfassung

**Ziel** Es soll festgestellt werden, wie schnell eine rheumatoide Arthritis (RA) bei Patienten in einer ländlichen Region diagnostiziert wird und ob die medizinische Ver-

sorgung und Patientenzufriedenheit in einer nicht-städtischen Umgebung entsprechend ist.

**Methoden** Ein Fragebogen wurde an Patienten mit rheumatoider Arthritis im Rahmen einer Visite bei ihrem Rheumatologen ausgehändigt. Dieser wurde zu Hause ausgefüllt und an ein unabhängiges Meinungsforschungsinstitut retourniert, wo die Daten gesammelt und analysiert wurden. Das Formular umfasst die Bereiche Demographie, Aspekte der Diagnose, medizinische Versorgung und die Krankheit in einem persönlichen Kontext.

**Ergebnisse** 127 Patienten beantworteten den Fragebogen; 63 % der Befragten waren aus Orten unter 5000 Einwohner, weitere 18 % aus Orten mit 5000 bis 50.000 Einwohnern. Der behandelnde Rheumatologe war für 90 % der Erkrankten innerhalb einer Stunde erreichbar.

Nur bei knapp 30 % der Befragten wurde innerhalb von 3 Monaten die Diagnose einer RA gestellt, bei 44 % innerhalb von 6 Monaten. Bei 80 % war der erste Ansprechpartner nach Auftreten von Symptomen der Hausarzt. Bei 75 % der Befragten wurde die Diagnose schließlich durch einen Rheumatologen gestellt. Es besteht hohe Zufriedenheit mit der Information durch die behandelnden Rheumatologen. Die meisten Patienten werden in die Entscheidung hinsichtlich ihrer Therapieform einbezogen.

**Fazit** Die Mehrheit der Befragten kam aus dem ländlichen Raum. Bei fast der Hälfte der Patienten wurde die Diagnose einer RA innerhalb von 6 Monaten gestellt. Die meisten Patienten fühlten sich gut informiert und in die therapeutische Entscheidungsfindung einbezogen.

**Schlüsselwörter** Versorgungsqualität · Patientenzufriedenheit · Rheumatoide Arthritis · Österreichische Patienten in ländlicher Region · Patientenperspektive

## Introduction

Inflammatory rheumatic diseases occur frequently in all age groups, job categories and social classes. They may cause frequent sick leave and occupational disability. Diseases such as rheumatoid arthritis (RA) are characterised by their chronic and progressive nature and may lead to premature loss of joint function. Joint damage may occur within the first year of the disease. After 2 years, approximately 75 % of patients already develop joint damage with erosions. The need for early diagnosis and prompt therapeutic measures is evident, and nowadays beyond any controversy, as an integral part of diagnostic paths and therapeutic guidelines [2, 4, 6, 10, 13, 14, 19, 20, 21, 23].

We surveyed data regarding the initial appearance of the disease, the time between first symptoms and a definite diagnosis, the first consultation with a physician and the distance to the nearest rheumatologist. One major aspect of the survey was that the vast majority of those invited to participate originated from a rural or small-town background.

Additionally, the personal view of the patient was of special interest in this study, in particular, what consequences do the occurrence and progression of the disease, the necessary medical consultations and, subsequently, the therapeutic measures have on patient satisfaction and quality of life, more than 10 years after the implementation of biologics [5, 7, 8, 11, 16, 17].

We set out to explore the quality of life and care of primary, rural, Austrian, RA patients taking into consideration that there is not much literature on rural patients with RA [1]. Quality of life comprises general physical and emotional well-being. Our special interest lies in whether medical care and patient satisfaction were adequate in a predominantly non-urban environment.

## Methods

A questionnaire was co-developed by the authors and Karmasin Motivforschung (Motivation Research, Vienna)—an independent institute researching communication and target groups. The rheumatologists provided the main focus and specialist input. The questionnaire contains 21 items and some questions concerning statistics and epidemiology and was divided into the following areas: demography, symptom description, aspects of diagnosis, medical care and therapy and the illness in a personal context.

The setting and compilation of questions, as well as the wording and sample size, were done with the help of Karmasin Motivforschung. Seven physicians participated (three from rural areas and four from provincial capitals). The selection of the participants was done by a steering committee chaired by the senior author (Burkhard Leeb). There was a preference for rheumatologists with a primarily rural patient population. Data were collected by office-based rheumatologists and by rheumatologists in hospital outpatient departments. In all, 57 patients were from Lower Austria, 31 from Upper Austria and 25 from Tyrol (14 patients came from other parts of Austria). These three federal provinces are very similar with respect to their history and their socio-economic status, compared with the other six provinces of Austria, but do have minor topographical differences, the Tyrol being more mountainous. Consecutive RA patients with established disease were included; the focus was not set on early RA patients.

The printed questionnaires, to be filled in personally (paper and pencil), were then distributed to the physicians formerly agreed upon. They were personally delivered. These physicians then gave their patients the appropriate papers (questionnaire, information hand-out, consent form—to be signed by both the patient and the physician) during consulting hours. The physicians explained the study to their patients and answered any questions. The questionnaires were filled in by the patients at home and returned in a stamped, addressed envelope provided to them, to Karmasin Motivforschung, between the 20 October 2010 and 19 April 2011.

Three telephone interviews with a second questionnaire followed in roughly monthly intervals. Of the 23, 1 item of the second form was also used for our study: the question 'How would you describe your personal state of health' of the first telephone interview, as the information collected here fits very well to the baseline questionnaire. The remaining data from the telephone interviews are out of the scope of this study, but are going to be reported subsequently. Data collection, processing of statistics and analyses were undertaken by the institute without any physician influence. A basically descriptive statistical analysis was applied. Therefore, also no formal sample size calculation was performed.

To assess any dependency between the current state of health of patients and the three parameters the size of settlement, the distance to the provincial capital and the time needed to travel to their rheumatologist, Kruskal–Wallis H tests for the comparison of the mean values were performed. Two-sided significance levels of 5% were applied.

All percentages in this article are rounded to whole numbers. Informed and written consent was obtained from all patients included in the study.

The project was reviewed and approved by the ethics board of the Medical University of Graz.

## Results

A total of 127 (103 female and 24 male) patients from the whole of Austria with a particular emphasis on Lower Austria, Upper Austria and Tyrol completed the questionnaire (of 150 distributed), resulting in a response rate of 85%. Of the participants, 14 (11%) were less than 45, 45 (35%) were between 45 and 60 and 67 (53%) were 60 years of age and older. One participant (1%) did not answer this question. Time since diagnosis of RA at the time of filling in the questionnaire was, on average, 9.6 (mean:  $9.6 \pm 8.3$ ) years (Table 1). Further information on the marital status and level of education can be seen in Table 1.

A total of 80 (63%) patients lived in settlements of less than 5,000 inhabitants, a further 23 (18%) in settlements of less than 50,000 inhabitants, 21 (17%) in settlements of more than 50,000 inhabitants and 3 (2%) did not answer the question. The distance to their provincial capital was less than 20 km for 23 (18%) of the participants, between 21 and 50 km for 51 (40%), between 51 and 100 km for 36 (28%) and more than 100 km for 14 (11%). Three participants (2%) did not answer this question (Table 1).

The time needed to reach the physician was up to 15 min for 14 (11%) of the participants, 15–30 min for 38 (30%), 30–60 min for 62 (49%), 1–2 h for 8 (6%) and more than 2 h for 2 (2%). Three participants (2%) did not answer this question (Table 1).

## Subjective health status

The question 'How would you describe your personal state of health' was answered on a numerical rating scale

**Table 1** Patient data

	Number of patients	Percentage
	127	100
<i>Sex</i>		
Male	24	18.9
Female	103	81.1
<i>Age (years)</i>		
Less than 45	14	11.0
Between 45 and 60	45	35.4
More than 60	67	52.8
<i>Marital status</i>		
Single	8	6.3
Married	93	73.2
Divorced/separated	11	8.7
Widowed	14	11.0
n.s.	1	0.8
<i>Level of education</i>		
Compulsory education	68	53.5
Education to certificate level	28	22.0
College/university	26	20.5
n.s.	5	3.9
<i>Size of home town (population)</i>		
Less than 5,000	80	63.0
Between 5,000 and 50,000	23	18.1
More than 50,000	21	16.5
n.s.	3	2.4
<i>Distance to provincial capital</i>		
Up to 20 km	23	18
21–50 km	51	40
51–100 km	36	28
More than 100 km	14	11
n.s.	3	2
<i>Travel time to rheumatologist</i>		
Less than 15 min	14	11
Between 15 and 30 min	38	30
Between 30 min and 1 h	62	49
Between 1 and 2 h	8	6
More than 2 h	2	2
n.s.	3	2
<i>Time since diagnosis of disease (years)</i>		
Mean $\pm$ SD: $9.6 \pm 8.3$	76 <sup>a</sup>	59.8
SD standard deviation, n.s. not specified		
<sup>a</sup> Data were not available for the remaining 51 patients		

of 1 (very good) to 5 (very bad). The participants generally described the state of their health as being average. An additional analysis was done to see whether there was any relationship with regard to the three parameters the size of settlement, the time needed to reach the rheumatologist and the distance to the provincial capital. No obvious differences could be seen in the descriptive analyses within any of these three parameters, and the

**Table 2** ‘How would you describe your personal state of health today?’—was asked and answered on a numerical rating scale of 1 (very good) to 5 (very bad)

	How would you describe your personal state of health today?						Mean
	Answers overall <sup>b</sup> N (%)	1 (Very good) N (%)	2 N (%)	3 N (%)	4 N (%)	5 (Very bad) N (%)	
Size of home town (population) $p=0.699^a$							
Up to 5,000	65 (100)	7 (11)	22 (34)	30 (46)	5 (8)	1 (2)	2.55
Between 5,000 and 50,000	22 (100)	3 (14)	5 (23)	11 (50)	2 (9)	1 (5)	2.68
More than 50,000	20 (100)	3 (15)	8 (40)	6 (30)	2 (10)	1 (5)	2.50
Distance to provincial capital $p=0.721^a$							
Up to 20 km	18 (100)	4 (22)	6 (33)	6 (33)	2 (11)	0 (0)	2.33
Between 21 and 50 km	48 (100)	3 (6)	16 (33)	26 (54)	2 (4)	1 (2)	2.63
Between 51 and 100 km	28 (100)	4 (14)	9 (32)	11 (39)	4 (14)	0 (0)	2.54
More than 100 km	13 (100)	2 (15)	4 (31)	5 (38)	0 (0)	2 (15)	2.69
Travel time to rheumatologist $p=0.436^a$							
Less than 15 min	14 (100)	1 (7)	3 (21)	8 (57)	1 (7)	1 (7)	2.86
Between 15 and 30 min	32 (100)	3 (9)	12 (38)	12 (38)	4 (13)	1 (3)	2.63
Between 30 min and 1 h	53 (100)	9 (17)	17 (32)	24 (45)	3 (6)	0 (0)	2.40
Between 1 and 2 h	6 (100)	0 (0)	2 (33)	3 (50)	1 (17)	0 (0)	2.83
More than 2 h	2 (100)	0 (0)	1 (50)	0 (0)	0 (0)	1 (50)	3.50

<sup>a</sup> $p$ -Value from a Kruskal–Wallis H test comparing all non-missing groups  
<sup>b</sup>Answers to the question were not available for all patients; therefore,  $N$  of this table differs from the number of patients in Table 1

Kruskal–Wallis H tests performed did not yield any statistically significant differences either (Table 2).

### Symptom history

The first RA symptoms occurred in 28 (22%) cases before the age of 30 years, in 19 (15%) between the age of 30 and 40 years, in a further 28 (22%) between the age of 40 and 50 years, in 38 cases (30%) between the age of 50 and 60 years and in 13 (10%) after the age of 60 years. The question was not answered by 1% of patients.

The first symptoms appeared as pain in finger and wrist joints in 98 (77%) patients; 86 (68%) presented initially with swollen, painful joints, 74 (58%) with morning stiffness, 62 (49%) with pain in the feet, knees or ankles, 44 (35%) with shoulder and/or back pain and 30 (24%) presented with extreme fatigue (multiple answers were allowed).

The diagnosis of RA was made within 3 months in 35 (28%) patients, within 4–6 months in 20 (16%), within 7–12 months in 18 (14%), within 13–24 months in 21 (17%), within 3–4 years in 13 (10%) and within 5 years in 16 (13%). Four participants (3%) did not answer this question (Fig. 1).

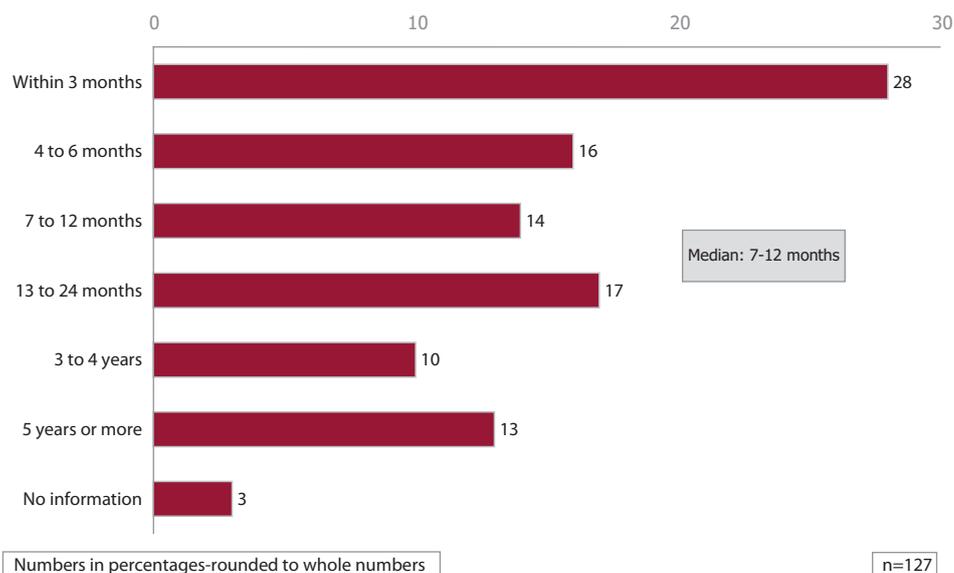
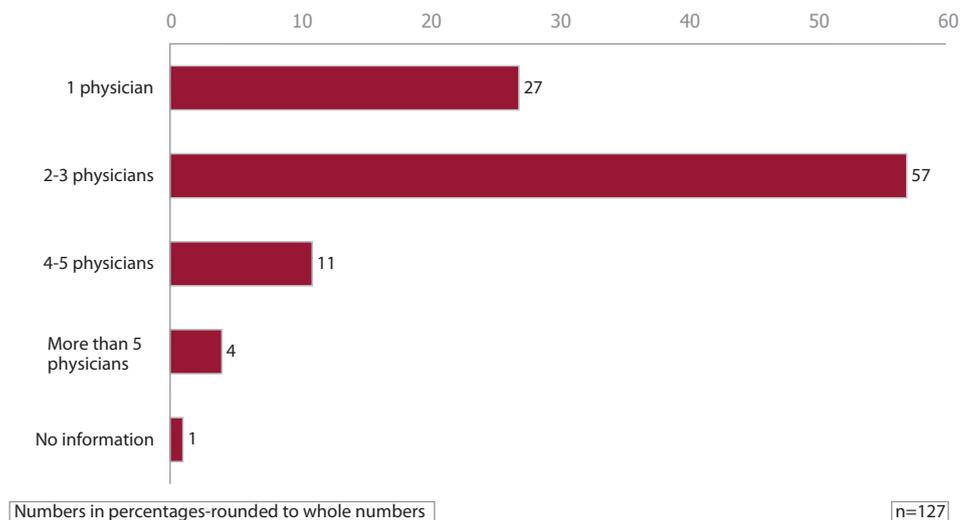
After having experienced the first symptoms, 102 (80%) patients initially consulted a general practitioner (GP), 16 (13%) went to see a rheumatologist, 5 (4%) to an

orthopaedic specialist, 3 (2%) to a specialist for internal medicine and 1 (1%) to some other physician.

In 34 (27%) of the participants, RA was diagnosed by the physician initially visited. In 73 (57%) of the cases, the patient had to consult two to three physicians before a diagnosis was made, 14 (11%) consulted four to five physicians, while 5 (4%) had to consult more than five physicians to be diagnosed with RA. One (1%) participant did not answer this question (Fig. 2). Finally, the diagnosis was made by a rheumatologist in 92 (73%) of the participants, by a GP in 19 (15%), by a specialist for internal medicine in 8 (6%), by an orthopaedic specialist in 6 (5%) and by some other physician in 1 (1%). One participant (1%) did not reply to this question. Once diagnosed, the patients enrolled regularly visited their physician (rheumatologist) and had their control visits every 3–6 months according to the recommendations of the rheumatological societies.

### Medical care

A total of 65 (51%) of the patients reported being very satisfied with the information offered by their physicians during the diagnostic process. A further 30 (24%) were satisfied, 17 (13%) were neutral, 9 (7%) expressed being not particularly happy with the information provided and 4 (3%) appeared to be completely dissatisfied. A total of 105 (83%) participants reported that their physi-

**Fig. 1** Diagnosis of RA after onset of disease**Fig. 2** Number of consultations before a diagnosis of RA was made

cians included them in therapeutic decision making, 16 (13%) were not involved and 6 (5%) did not answer this question.

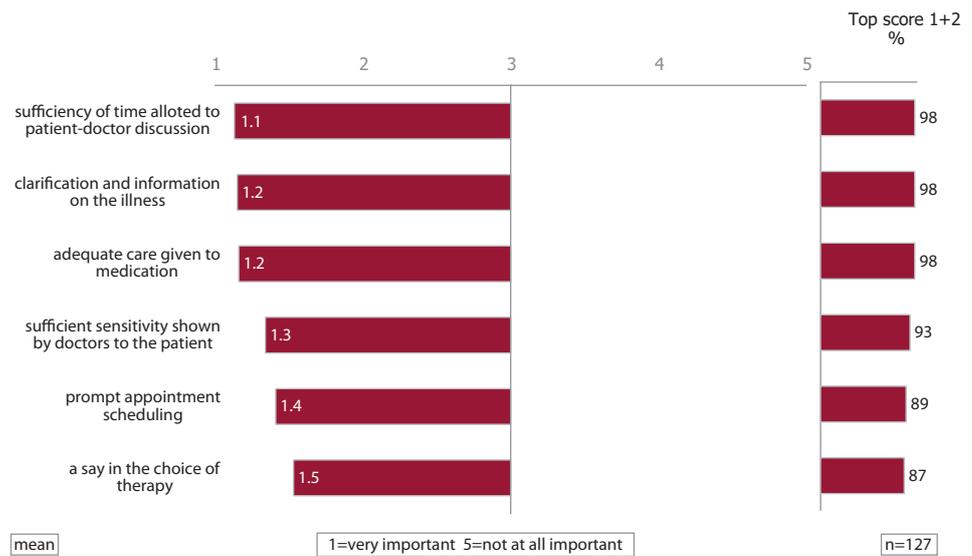
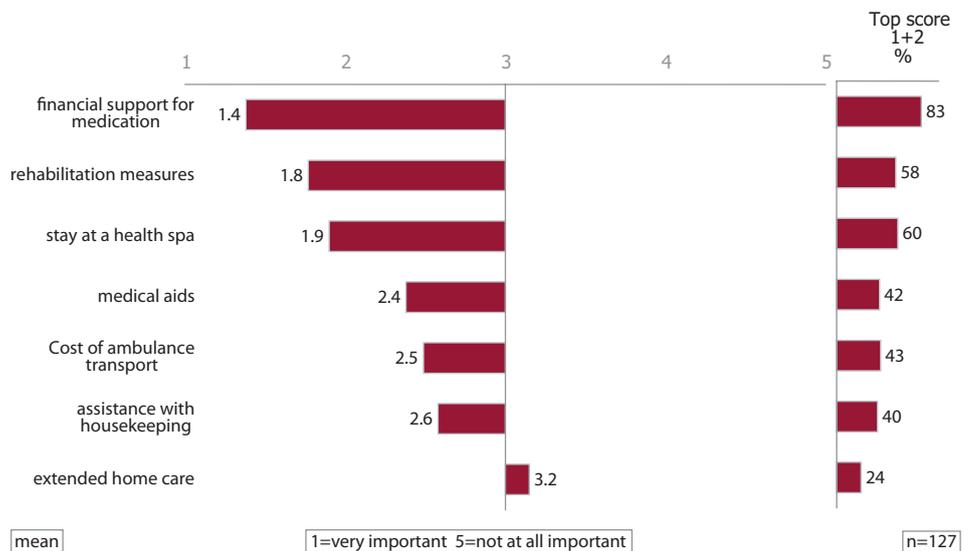
The answers to the question ‘How important are the following aspects of medical care to you?’ ranged from 1 (very important) to 5 (not at all important). Sufficient time allotted to patient/physician discussion was revealed to be the most important (mean: 1.1), followed by information regarding the disease and clarifying discussion (mean: 1.2), adequate drug treatment (mean: 1.2), sufficient physician empathy (mean: 1.3), prompt appointment scheduling (mean: 1.4) and, finally, involvement in therapeutic decision making, particularly treatment with drugs (mean: 1.5; Fig. 3).

A total of 77 (61%) patients were treated with methotrexate, 13 (10%) with leflunomide, 7 (6%) with sulphasalazine and 4 (3%) with chloroquine/hydroxychloroquine; 55 (44%) patients took glucocorticoids

simultaneously on a daily basis. Biologics were used to treat 49 (38%) of the participants. Only 17 (13%) took alternative or complementary remedies, and 5 (4%) did not answer this question. More than one answer to the questions on medication was permitted, as some patients take several disease-modifying antirheumatic drugs at the same time.

#### Employment status

A total of 98 (77%) participants were employed before the onset of RA, and of these, 26 (27%) had to stop working due to the disease; 4 (15%) of these in the first year, 6 (23%) between the second and fifth year, a further 6 (23%) between the fifth and the tenth year and 7 (27%) after 10 years of affliction with the illness. Three (12%) participants did not answer this question.

**Fig. 3** Importance of different aspects of medical care**Fig. 4** Importance of financial support

### Financial support

On a scale of 1 (very important) to 5 (not at all important), patients rated the importance of the following on their current situation—financial support for medication (mean: 1.4), rehabilitation measures (mean: 1.8), health spa rehabilitation treatment (mean: 1.9) and home help (mean: 3.2; Fig. 4).

### Future expectations

The last question was as follows: ‘What is your prediction for your disease in ten years’ time?’ There was a wide variation in how the prognosis was seen. Approximately one-third (34%) of the participants expected their situation to be unchanged in 10 years’ time, and much the

same number (33%) foresaw a deterioration; 29% optimistically anticipated an improvement.

### Discussion

The patients surveyed in our study can be regarded as a cross-section of RA patients, as typically treated by rheumatologists in Austria. In approximately one-third (30%) of all survey participants, the diagnosis of RA could be established relatively quickly, within 3 months of first symptoms. In fewer than half of the patients (44%), it took a maximum of 6 months before RA could be diagnosed. Sadly, in 40%, it took between one and several years to establish a diagnosis (Fig. 1). These results are very much in line with a 2010 Dutch study, in which only 31% of RA patients were correctly identified within a time frame of less than 3 months. In the same study,

van der Linden et al. [22] were able to prove that patients who did not present to a rheumatologist within 12 weeks of onset had a worse disease outcome. The results of a German study by Westhoff et al. [26] showed that only 20 % of patients with RA visited a rheumatologist within 3 months and 39 % within 6 months, although rheumatologists make the diagnosis and initiate therapy in the majority of patients. In the German observation, correlating with our study, 73 % of the patients were initially diagnosed by a rheumatologist [26, 27].

There are grounds for speculation that our Austrian patients living in rural areas have similar access to a rheumatologist, and accordingly a speedy diagnosis, as those living in more urban areas. Both the German and the Dutch studies prove conclusively that the key to early and effective intervention lies in the reduction of waiting time to see a rheumatologist [12]. A total of 80 % of the participants in this survey approached their GP after the occurrence of first symptoms, who then initiated treatment or referred them to a rheumatologist due to the severity. A diagnosis could be made in 73 % by the rheumatologist and in 15 % by the GP. Considering these figures, and also in planning further education, it is important to note that the incidence of inflammatory rheumatic disease is relatively low. It has been calculated that a German GP sees 0.45 cases of incidental RA per year, in other words, one patient every 2 years [26].

Patients showed a high level of satisfaction with the information they received from the diagnosing physician, with an average rating of 1.9, 75 % choosing the top scores of 1 and 2. Only 10 % expressed their dissatisfaction. A 2004 study by Jacobi et al. [9] found 26 % of the respective participants dissatisfied with the information received on medication and therapy. This indicates a favoured situation in our survey, which may also be caused by the fact that most of the patients questioned mentioned that they were substantially involved in therapeutic decision making.

Time for the patient, comprehensible explanations and in-depth monitoring of the disease course and medication are commonly seen as the cornerstones of good clinical care. Patients allocated a fundamentally high relevance to all facets of medical care, with a particular focus on sufficient time for patient/physician consultation (Fig. 3), which of course constitutes an important aspect for future negotiations with insurance companies. RA treatment utilising disease-modifying drugs, in particular biologics, calls for a great deal of experience and sufficient time for information and patient monitoring. This obviously goes hand in hand with a great responsibility of the physicians for their patients, which in turn has to be remunerated by the health services (social security).

A total of 27 % of those questioned had to leave their jobs within 10 years of onset of the disease, and of these, 15 % within the first year. This can be seen to be very much in line with the Austrian Patient Report on RA, which asserts that 24 % of Austrian RA patients had to take early retirement due to the disease [18]. In a 2004 overview of cross-sectional studies, including patients

with RA, by Verstappen et al. [24], disability rates ranged from 13 % after a mean disease duration of 6 months to 67 % after 15 years. A 2010 study by Verstappen et al. analysed the working status of patients with RA at the time of their inclusion into the *British Society for Rheumatology Biologics Register* and then again after 3 years. At inclusion, 49 % of RA patients were already incapable of work (median disease duration: 11 years). Three years after registration, 73.5 % of patients with RA being treated with biologics were still employed compared with 71 % of patients in a naive control cohort. After a median disease duration of only 4 years on entry into the registry, 36 % of the control group were already disabled [25]. There is a high tendency towards work incapacity even in RA patients undergoing treatment with biologics, but in particular, if this treatment was not initiated at an appropriate stage [25].

Financial relief, particularly for medication costs, constituted a primary concern for the patients included in this survey. Although remedies are paid for by the health service when indicated, patients are very aware of the high costs of treatment in some cases (Fig. 4).

Patients saw their own personal future in hugely different ways. Approximately one-third expected that their state of health would be basically unchanged in 10 years' time, the same number expected a deterioration and, fortunately, almost 30 % were optimistic about their future and expected an improvement. Although relatively low, this is a pleasantly positive assessment of the prognosis for a chronic progressive joint disease. Such patient and physician expectations would have been inconceivable just 10 years ago before the introduction of new therapeutic schedules including biologics [3].

Limitations of the study included the small number of patients and the majority of female (103 female vs. 24 male) participants. Further investigation with a larger sample is necessary. Furthermore, the majority of the answers to the question 'How would you describe your personal state of health today?' was 2 or 3 on the 5-point rating scale (1 (very good) to 5 (very bad)). This entailed all means being near a value of 2.5 and a low power of discrimination of the question. A refinement of the scaling of this or similar questions should be considered in future examinations. In summary, we can argue that Austrian patients from rural areas with RA should have the same preconditions for obtaining the correct diagnosis and treatment within an appropriate time as patients from more urban areas.

We anticipate that better cooperation between GPs, rheumatologists and patients will result in improved clinical decision making, as well as improved patient compliance and ultimately in improved patient care.

#### Acknowledgments

This project was supported by an unrestricted educational grant from Roche Austria.

#### Conflicts of interest

The authors declare that there is no conflict of interest.

## References

- Basu N, Steven M. A comparison of rural and urban rheumatoid arthritis populations. *Scott Med J*. 2009;54(1):7-9.
- Bejarano V, Quinn M, Conaghan PG, et al.; Yorkshire Early Arthritis Register Consortium. Effect of the early use of the anti-tumor necrosis factor adalimumab on the prevention of job loss in patients with early rheumatoid arthritis. *Arthritis Rheum*. 2008;59:1467-74.
- Buitinga L, Braakman-Jansen LM, van de Laar MA. Future expectations and worst-case future scenarios of patients with rheumatoid arthritis: a focus group study. *Musculoskeletal Care*. 2012;10(4):240-7.
- Bykerk V, Emery P. Delay in receiving rheumatology care leads to long term harm. *Arthritis Rheum*. 2010;62:3519-21.
- Carr A, Hewlett S, Hughes R, Mitchell H, Ryan S, Carr M, Kirwan J. Rheumatology outcomes: the patient's perspective. *J Rheumatol*. 2003;30:880-3.
- Goekoop-Ruiterman YP, de Vries-Bouwstra JK, Allaart CE, et al. Clinical and radiographic outcomes of four different treatment strategies in patients with early rheumatoid arthritis (the BeSt study): a randomized, controlled trial. *Arthritis Rheum*. 2005;52:3381-90.
- Gromnica-Ihle E, Rink M. Treat to target from the patient perspective. *Z Rheumatol*. 2011;70:678-84.
- Hill J, Bird H, Johnson S. Effect of patient education on adherence to drug treatment for rheumatoid arthritis: a randomised controlled trial. *Ann Rheum Dis*. 2001;60:869-75.
- Jaccobi C, Boshuizen H, Rupp I, et al. Quality of rheumatoid arthritis care: the patient's perspective. *Int J Qual Health Care*. 2004;16:73-81.
- Kalden JR, Müller-Ladner U, Schmiedt RE. Strategies for improved healthcare of people with the endemic disease rheumatism exemplified by rheumatoid arthritis. *Z Rheumatol*. 2011;70:641-50.
- Kjeken I, Dagfinrud H, Mowinckel P, et al. Rheumatology care: involvement in medical decisions, received information, satisfaction with care, and unmet health care needs in patients with rheumatoid arthritis and ankylosing spondylitis. *Arthritis Rheum*. 2006;55:394-401.
- Krüger K, Karberg K. Treat-to-target from the perspective of office-based rheumatology. *Z Rheumatol*. 2011;70:664-9.
- Machold KP, Stamm TA, Nell VPK, et al. Very recent onset rheumatoid arthritis: clinical and serological patient characteristics associated with radiograph progression over the first years of disease. *Rheumatology (Oxford)*. 2007;46:342-9.
- Mottonen T, Hannonen P, Korpela M, et al.; FIN-RACO Trial Group. Delay to institution of therapy and induction of remission using single-drug or combination-disease-modifying antirheumatic drug therapy in early rheumatoid arthritis. *Arthritis Rheum*. 2002;46:894-8.
- Nell VP, Machold KP, Eberl G, et al. Benefit of very early referral and very early therapy with disease-modifying, anti-rheumatic drugs in patients with early rheumatoid arthritis. *Rheumatology (Oxford)*. 2004;43:906-14.
- Puchner R. Job satisfaction and future prospects among Austrian rheumatologists. *Z Rheumatol*. 2010;69:818-29.
- Sanderson T, Morris M, Calnan M, Richards P, Hewlett S. Patient perspective of measuring treatment efficacy: the rheumatoid arthritis patient priorities for pharmacologic interventions outcomes. *Arthritis Care Res (Hoboken)*. 2010;62:647-56.
- Schiava-Winkler U. Österreichischer Patientenbericht Rheumatoide Arthritis 2009. PERI Consulting GmbH Lazarettgasse 19/OH4, 1090 Wien. [http://www.patientenbericht.at/files/ergebnisse/Ergebnisse\\_Rheumatoide\\_Arthritis.pdf](http://www.patientenbericht.at/files/ergebnisse/Ergebnisse_Rheumatoide_Arthritis.pdf).
- Schipper LG, van Hulst LT, Grol R, et al. Meta-analysis of tight control strategies in rheumatoid arthritis: protocolized treatment has additional value with respect to the clinical outcome. *Rheumatology*. 2010;49:2154-64.
- Smolen JS, Aletaha D, Bijlsma JW, et al.; T2T Expert Committee. Treating rheumatoid arthritis to target: recommendations of an international task force. *Ann Rheum Dis*. 2010;69:631-7.
- Smolen JS, Landewe R, Breedveld FC, et al. EULAR recommendations for the management of rheumatoid arthritis with synthetic and biological disease-modifying antirheumatic drugs. *Ann Rheum Dis*. 2010;69:964-75.
- Van der Linden MP, le Cessie S, Raza K, et al. Long-term impact of delay in assessment of patients with early arthritis. *Arthritis Rheum*. 2010;62:3537-46.
- Van Nies JA, De Jong Z, Van der Helm-van Mil AH, et al. Improved treatment strategies reduce the increased mortality risk in early RA patients. *Rheumatology*. 2010;49:2210-6.
- Verstappen SM, Bijlsma JW, Verkleij H, et al. Overview of work disability in rheumatoid arthritis patients as observed in cross-sectional and longitudinal surveys. *Arthritis Rheum*. 2004;51:488-97.
- Verstappen SM, Watson KT, Lunt M, et al. Working status in patients with rheumatoid arthritis, ankylosing spondylitis and psoriatic arthritis: results from the British Society for Rheumatology Biologics Register. *Rheumatology*. 2010;49:1570-7.
- Westhoff G, Edelmann E, Kekow J, Zink A. Diagnostic spectrum, treatment indication and symptom duration in initial referrals to the rheumatologist. *Z Rheumatol*. 2010;69:910-8.
- Zink A, Huscher D, Schneider M. How closely does rheumatology treatment follow the guidelines? Ambition and reality. *Z Rheumatol*. 2010;9:318-26.