

# Japanese physicians' preferences for decision making in rheumatoid arthritis treatment

Akiko Aoki<sup>1</sup>  
Sadayoshi Ohbu<sup>2</sup>

<sup>1</sup>Department of Rheumatology, Tokyo Medical University Hachioji Medical Center, <sup>2</sup>Department of Sociology, Rikkyo University, Tokyo, Japan

**Background:** Rheumatoid arthritis (RA) is a complex chronic illness requiring continued medical care. During the past decade, the therapeutic options for RA have increased significantly; these often have a higher risk of adverse effects and are more expensive than traditional drugs. Rheumatologists may hence face difficulties when deciding on the optimal modality in initiating or changing treatment. The aim of this study was to explore the Japanese physicians' usual style of and preferences for decision making regarding RA treatment.

**Methods:** This was a cross-sectional study conducted using an Internet survey. Respondents were asked about their usual style of making treatment decisions (perceived style), and their perception of the importance of physicians' actions and patients' attitudes.

**Results:** Of the 485 physicians who were sent the questionnaire, 157 responded completely (response rate: 32.3%). Ninety-two percent of the respondents were men, and 57% were clinicians with more than 20 years of experience. Their specialties were general medicine (29%), rheumatology (27%), orthopedics (31%), and rehabilitation (12%). Sixty-one (39%) stated that they usually presented multiple treatment options to their patients and selected a decision for them, 42 (27%) shared the decision making with their patients, 34 (22%) let their patients choose the treatment, and 20 (13%) made the treatment decision for the patients. Physicians using the shared decision making (SDM) style desired for their patients to have supportive family and friends, to discuss with nurses, and to follow the doctors' directions more strongly compared with physicians using the other styles. There were no significant differences in sex, duration of clinical experience, major place of clinical work, and number of patients per month by the styles. More number of rheumatologists and physicians with specialist qualifications stated that they practiced SDM.

**Conclusion:** To enhance patient participation, physicians need to recognize the importance of discussing treatment options with patients in addition to giving them information.

**Keywords:** physician, decision making, rheumatoid arthritis

## Introduction

Rheumatoid arthritis (RA) is a complex chronic illness requiring continued medical care, including medication, rehabilitation, and surgical treatment in some cases. During the past decade, the therapeutic options for RA have increased significantly with the development of synthetic and biological disease-modifying antirheumatic drugs (DMARDs). Treatment strategies have fundamentally changed from controlling the symptoms to achieving remission.<sup>1</sup> New and highly effective DMARDs, including biologics, have a higher risk of adverse effects, such as serious infections,<sup>2</sup> heart failure, malignancy, and induction of autoimmunity. Furthermore, they are more expensive than traditional drugs. Rheumatologists may hence face difficulties when deciding on the optimal modality in initiating or changing treatment. The European

Correspondence: Akiko Aoki  
Department of Rheumatology, Tokyo Medical University Hachioji Medical Center, 1163 Tatemachi, Hachioji, Tokyo 193-0998, Japan  
Tel +81 42 665 5611  
Fax +81 42 665 1796  
Email [aaoki@tokyo-med.ac.jp](mailto:aaoki@tokyo-med.ac.jp)

League Against Rheumatism recommended the following three overarching principles for the management of RA in 2010 and 2013.<sup>3,4</sup>

1. Treatment of RA patients should aim to provide the best care and must be based on a shared decision between the patient and the rheumatologist.
2. Rheumatologists are the specialists who should primarily care for RA patients.
3. RA incurs high individual, societal, and medical costs, all of which should be considered in its management by the treating rheumatologist.

We previously reported that the majority of Japanese patients with RA desired to collaborate with the physicians in making treatment decisions.<sup>5,6</sup> However, only half of the patients were actually able to share the decision making with their physicians. A survey on arthritis patients in the Netherlands showed the same results; most patients preferred shared decision making (SDM) but patients' preferences were met in only half of the respondents.<sup>7</sup> SDM is a collaborative effort between a patient and a physician. However, there have been very few studies to date on physicians' preferences for treatment decision making in Japan. The aim of this study was to investigate the Japanese physicians' usual style of decision making regarding RA treatment.

## Methods

### Ethical aspects

All physicians who answered the email questionnaire agreed with the purpose of this study. Based on this context, the ethics committee of Tokyo Medical University Hachioji Medical Center determined that approval was not necessary.

### Survey

This was a cross-sectional study that was conducted between March 15, 2012 and March 21, 2012 using an Internet survey (PLAMED Co., Ltd., Tokyo, Japan). Emails with a link to the survey were sent to Japanese physicians who were treating RA patients. No honorarium was offered.

### Questionnaire

Questions were developed with reference to the decision-making examples by Shepherd et al<sup>8</sup> and Murray et al,<sup>9</sup> and are listed in Table S1. In Question 1, respondents were asked to select one option that most accurately reflects their usual style in making a treatment decision (perceived style). Options offered were: 1) you select a treatment for your

patient on the basis of what you think is best (henceforth referred to as "paternalism"); 2) you present multiple options to your patient and make the decision for the patient; 3) you let your patient choose the treatment after presenting some treatment options; and 4) you discuss treatment options with your patient and then come to a decision together (henceforth referred to as SDM). Then, they were asked to rate the importance of physicians' actions and patients' attitudes, using the 5-point Likert scale (from 1= not important at all or not desirable at all to 5= very important or strongly desirable). We also asked the physicians how important they considered 12 factors when deciding on treatments. The 12 factors consisted of common indicators of disease activity in RA,<sup>10</sup> such as swollen and tender joint count, erythrocyte sedimentation ratio or C-reactive protein (CRP) level, measures of functional status, and predictive factors,<sup>11</sup> such as radiographic findings of the joint and presence of the anticyclic citrullinated peptide antibody. Respondents were also asked to indicate their sex, years of clinical experience, major place of clinical work, specialty, presence or absence of specialist qualifications received from the Japan College of Rheumatology or Japanese Orthopaedic Association, and the number of RA patients treated per month.

### Statistical analysis

Statistical analysis was performed using SPSS statistics version 22 for Windows.

## Results

### Response rate

Among the 485 physicians who were sent the questionnaire, 157 responded completely (response rate: 32.3%).

### Characteristics of the respondents

Characteristics of the respondents are shown in Table 1. Ninety-two percent of the respondents were men, and 57% were veteran clinicians with more than 20 years of experience. The specialties of the respondents were general medicine (29%), rheumatology (27%), orthopedics (31%), and rehabilitation (12%).

### Perceived styles of treatment decision making

Sixty-one respondents (39%) stated that they usually presented multiple treatment options to their patients and selected a decision for them, 42 (27%) shared the decision making with their patients, 34 (22%) let their patients choose

**Table 1** Characteristics of the respondents

Characteristic	Total n=157 (%)
Sex	
Woman	13 (8.3)
Man	144 (91.7)
Duration of clinical experience	
<10 years	15 (9.6)
10–19 years	52 (33.1)
≥20 years	90 (57.3)
Specialty	
General medicine	46 (29.3)
Rheumatology	43 (27.4)
Orthopedics	49 (31.2)
Rehabilitation	19 (12.1)
Major place of clinical work	
University hospital	37 (23.6)
Hospital	63 (40.1)
Clinic	57 (36.3)
Specialist qualifications	
Yes	78 (49.7)
No of patients treated in 1 month	
<10	58 (36.9)
10–49	52 (33.1)
>50	47 (29.9)

the treatment, and 20 (13%) made the treatment decision on the basis of what they thought was best for the patients (Table 2).

## Perceptions of physicians' actions by perceived styles

In all four groups of treatment decision-making styles, both giving information and making an effort to answer patients' questions were considered important to the same degree. Presenting multiple options and discussing with patients were considered more important by the physicians of the SDM style and those who let patients choose the option, compared with the other two groups (Table 2). From a different perspective, only 25 physicians (38%) stated that

they performed SDM among the 65 physicians who considered discussion with patients to be very important.

## Physicians' desire regarding patients' attitudes

Physicians whose perceived style was SDM wanted their patients to have supportive family and friends, to tell their desires and concerns about treatments to a nurse, and to follow the doctors' directions more strongly than physicians using the other styles (Table 3).

## Univariate analysis of perceived style by physicians' characteristics

The initial four styles of decision making were collapsed into two: SDM and non-SDM. We analyzed the data using crosstabs and chi-square tests to identify significant predictors of decision-making style. Results of the univariate analysis are presented in Table 4. There were no significant differences in sex, duration of clinical experience, major place of clinical work, and number of patients per month by the styles. Fewer physicians whose specialty was general medicine and who were working at clinics stated that they practiced SDM. More number of rheumatologists and physicians with specialist qualifications stated that they practiced SDM (Table 4).

## Physicians' views of the importance of various factors for treatment decision making

Adverse effects were considered to be equally important as the effects of a treatment in deciding on a treatment by the physicians. Factors indicating disease activity were also considered important. The financial burden of the treatment on the patients was considered important to the same degree as disease activity. The rate of physicians who considered

**Table 2** Perceived styles of physicians' actions

Perceived style	Physicians n (%)	Number (%) of physicians who answered "very important"			
		Provide information to patients	Present multiple options to patients	Make an effort to answer questions	Discuss options with patients
Q1:1 Select a treatment for the patient	20 (12.7)	9 (45)	0 (0)	10 (50)	5 (25)
Q1:2 Present many treatment options and select one	61 (38.9)	27 (44.3)	12 (19.7)	22 (36.1)	19 (31.1)
Q1:3 Let the patient choose	34 (21.7)	18 (52.9)	16 (47.1)	17 (50)	16 (47.1)
Q1:4 Shared decision making	42 (26.8)	27 (64.3)	19 (45.2)	24 (57.1)	25 (59.5)
Total	157	81 (51.6)	47 (29.9)	73 (46.5)	65 (41.4)
P-value		0.22	<0.01	0.18	0.01

**Note:** Questions are listed in Table S1.

**Abbreviation:** Q, question.

**Table 3** Physicians' desires regarding patients' attitudes

Perceived style	Patients, n	Have correct information	Actively research information	Number (%) of physicians who answered "strongly desired"				
				Have supportive family and friends	State desires to the physician	State desires to the nurse	Ask questions	Follow the doctor's directions
Q1:1 Select a treatment for the patient	20	7 (35)	3 (15)	4 (20)	4 (20)	1 (5)	5 (25)	9 (45)
Q1:2 Present many treatment options and select one	61	26 (42.6)	7 (11.5)	8 (13.1)	14 (23)	6 (9.8)	21 (34.4)	28 (45.9)
Q1:3 Let the patient choose	34	15 (44.1)	5 (14.7)	8 (23.5)	8 (23.5)	4 (11.8)	8 (23.5)	12 (35.3)
Q1:4 Shared decision making	42	23 (54.8)	7 (16.7)	17 (40.5)	13 (31)	12 (28.6)	20 (47.6)	28 (66.7)
Total	157	71 (45.2)	22 (14)	37 (23.6)	39 (24.8)	23 (14.6)	54 (34.4)	77 (49)
P-value		0.46	0.9	0.02	0.74	0.03	0.12	0.04

**Note:** Questions are listed in Table S1.

**Abbreviation:** Q, question.

that the patients' preference for treatment was very important was 14% (Table 5).

## Discussion

Although 41% of the physicians answered that discussion between physicians and patients was very important, only 27% stated that they were actually practicing SDM in the RA outpatient setting. A survey of doctors practicing mainly oncology in Australia showed that 62% practiced SDM,<sup>8</sup> and a study of physicians in the USA reported that 73% practiced SDM.<sup>9</sup> A recent systematic review reported that physicians' attitudes toward SDM tended to vary by specialty.<sup>12</sup> German researchers reported that cultural differences had a significant influence on patients' behavior regarding medical encounters.<sup>13</sup> However, there are no studies to our knowledge regarding the role of cultural differences in determining the physicians' attitudes toward decision making for treatment.

Most physicians considered providing information and answering patients' questions to be very important regardless of whether or not they practiced SDM. A survey in the UK found that RA patients had a high desire for information.<sup>14</sup> We believe that Japanese patients also want to be informed similarly, and therefore physicians should respond to this need.

We did not analyze the reasons of discordance between perceived style and preferred style of treatment. A systematic review<sup>12</sup> divided the barriers against implementing SDM into three types: physician-related, patient-related, and condition/treatment-related. Nota et al<sup>15</sup> investigated the barriers against arthritis patient participation by in-depth semi-structured interview, and reported three types: 1) doctor-related barriers, mostly concerning communication skills and a paternalistic attitude; 2) patient-related barriers, such as lack of knowledge, lack of awareness of having a choice, and lack of assertiveness; and 3) contextual barriers, such as too little time to decide.

## Limitations

There are some limitations to this study that need to be considered. First, the data of this study were based on self-reports from physicians rather than observation. Second, the small sample size, particularly of female physicians and physicians with less than 10 years of clinical experience, limited our ability to detect differences among groups. Third, the numbers of RA patients treated in a month by the physicians were relatively small. Despite these limitations, our findings provided important information about the overall attitude of Japanese physicians.

**Table 4** Univariate analysis of perceived style by physician characteristics

Characteristic	SDM 42 n (%)	Non-SDM 115 n (%)	$\chi^2$ (df)
Sex			
Woman	1 (7.7)	12 (92.3)	=3.27 (1)
Man	41 (28.5)	103 (71.5)	
Duration of clinical experience			
<10 years	5 (33.3)	10 (66.7)	=0.68 (2)
10–19 years	15 (28.8)	37 (71.2)	
>20 years	22 (24.4)	68 (75.6)	
Specialty			
General medicine	7 (15.2)*	39 (84.8)*	=7.23 (3)
Rheumatology	17 (39.5)*	26 (60.5)*	
Orthopedics	14 (28.6)	35 (71.4)	
Rehabilitation	4 (21.1)	15 (78.9)	
Major place of clinical work			
University hospital	14 (37.8)	23 (62.2)	=4.96 (2)
Hospital	18 (28.6)	45 (71.4)	
Clinic	10 (17.5)*	47 (82.5)*	
Specialist qualifications			
Yes	27 (34.6)	51 (65.4)	=4.94 (1)**
No	15 (19.0)	64 (81.0)	
No of patients treated in 1 month			
<10	14 (24.1)	44 (75.9)	=3.08 (2)
10–49	11 (21.2)	41 (78.8)	
>50	17 (36.2)	30 (63.8)	

**Notes:** \*Absolute value of adjusted residual >1.96; \*\* $P < 0.05$ .

**Abbreviations:** SDM, shared decision making; df, degrees of freedom.

## Conclusion

To enhance patient participation, physicians need to recognize the importance of discussing treatment options with patients in addition to providing them with information. In the future, we would like to survey the factors preventing the widespread practice of SDM for RA treatment in Japan.

## Acknowledgments

A research grant from St Luke's Life Science Institute was received in 2011. The abstract of this paper was presented at the 36th Annual Meeting of the Society for Medical Decision Making, October 18–22, 2014 in Miami as a poster presentation with interim findings. The poster's abstract was published in the "36th Annual Meeting of the Society for

**Table 5** Physicians' perception of the importance of various factors in deciding on a treatment

Physicians' perception	Number of physicians who answered each option					Rate of no 5 (%)	Rate of no 4+5 (%)
	1	2	3	4	5		
	Not important				Very important		
Q4:11 Information about adverse effects of the treatment	0	3	6	87	61	38.9	94.3
Q4:10 Information about treatment effects	0	2	9	89	57	36.3	93.0
Q4:6 Acute-phase reactions (abnormal serum CRP or ESR)	0	2	8	91	56	35.7	93.6
Q4:3 Radiographic changes of typical erosion in the affected joints	0	2	16	83	56	35.7	88.5
Q4:8 Functional status (disability), usually assessed by HAQ score	0	2	12	94	49	31.2	91.1
Q4:2 Number of swollen or tender joints	0	2	17	92	46	29.3	87.9
Q4:5 Serum anti-CCP antibody	0	2	22	88	44	28.0	84.1
Q4:7 Activity of daily living at home, school, workplace, etc	0	2	11	103	41	26.1	91.7
Q4:12 Patients' financial burden of treatment	0	3	16	101	37	23.6	87.9
Q4:1 Patients' age	0	6	20	94	35	22.3	82.2
Q4:9 Patients' preferences for treatment	0	5	24	106	22	14.0	81.5
Q4:4 Serum rheumatoid factor	0	10	41	83	18	11.5	64.3

**Note:** Questions are listed in Table S1.

**Abbreviations:** Q, question; ESR, erythrocyte sedimentation rate; HAQ, health assessment questionnaire; CRP, C-reactive protein; CCP, cyclic citrullinated peptide.

Medical Decision Making: Abstracts” in *Medical Decision Making*, January 2015. The actual paper, however, has never been published.

## Author contributions

All authors contributed toward data analysis, drafting, and critically revising the paper and agree to be accountable for all aspects of the work.

## Disclosure

The authors report no conflicts of interest in this work.

## References

- 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;9:631–637.
- Sakaki R, Kumano Y, Tanaka M, et al. Time-dependent increased risk for serious infection from continuous use of tumor necrosis factor antagonists over three years in patients with rheumatoid arthritis. *Arthritis Care Res*. 2012;64:1125–1134.
- 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;69:964–975.
- Smolen JS, Landewe R, Breedveld FC, et al. EULAR recommendations for the management of rheumatoid arthritis with synthetic and biological disease-modifying antirheumatic drugs: 2013 update. *Ann Rheum Dis*. 2014;73:492–509.
- Aoki A, Suda A, Nagaoka S, et al. [Preference for involvement in treatment decision-making for Japanese rheumatoid arthritis patients: a questionnaire survey]. *J General Fam Med*. 2011;34:24–31. Japanese.
- Aoki A, Suda A, Nagaoka S, et al. Preferences of Japanese rheumatoid arthritis patients in treatment decision-making. *Mod Rheumatol*. 2012;23:891–896.
- Nota I, Drossaert HC, Taal E, et al. Patient participation in decision about disease modifying anti-rheumatic drugs: a cross-sectional survey. *BMC Musculoskeletal Disord*. 2014;15:333.
- Shepherd HL, Tattersall MHN, Butow PN. The context influences doctors’ support of shared decision-making in cancer care. *Brit J Cancer*. 2007;97:6–13.
- Murray E, Pollack L, White M, Lo B. Clinical decision-making: physicians’ preferences and experiences. *BMC Fam Pract*. 2007;8:10.
- Aletaha D, Smolen JS. The definition and measurement of disease modification in inflammatory rheumatic diseases. *Rheum Dis Clin North Am*. 2006;32:9–44.
- Courvoisier N, Dougados M, Cantagrel A, et al. Prognostic factors of 10-year radiographic outcome in early rheumatoid arthritis: a prospective study. *Arthritis Res Ther*. 2008;10:R106.
- Pollard S, Bansback N, Bryan S. Physician attitudes toward shared decision making: a systematic review. *Patient Educ Couns*. 2015;98:1046–1057.
- Hamann J, Bieber C, Elwyn G, et al. How do patients from eastern and western Germany compare with regard to their preferences for shared decision making? *Eur J Pub Health*. 2011;22:469–473.
- Neame R, Hammond A, Deighton C. Need for information and for involvement in decision making among patients with rheumatoid arthritis: a questionnaire survey. *Arthritis Rheum*. 2005;53:249–255.
- Nota I, Drossaert CHC, Taal E, et al. Arthritis patients’ motives for (not) wanting to be involved in medical decision-making and the factors that hinder or promote patient involvement. *Clin Rheumatol*. 2014;14:1–11.



## Supplementary material

**Table S1** Questions of the Internet survey

Q1	Which of the following is your usual method of deciding on a treatment for RA in the outpatient setting? Please select 1 of the 4 options.
	1 You select a treatment for your patient on the basis of what you think is best.
	2 You present multiple options to your patient but make the decision for the patient.
	3 You let your patient choose the treatment after presenting some treatment options.
	4 You discuss treatment options with your patient and then come to a decision together.
Q2	How important are the following actions for physicians when they decide on treatments? Please rate the importance on a 5-point scale (5: very important – 1: not important at all).
	1 Physicians give information about treatment to patients.
	2 Physicians present multiple treatment options to patients.
	3 Physicians make an effort to answer patients' questions.
	4 Physicians discuss treatment options with patients.
Q3	How much do you want your patients to do the following for effective RA treatment? Please rate the importance on a 5-point scale (5: strongly – 1: not at all).
	1 Have correct information about treatments.
	2 Actively research information about treatments.
	3 Have supportive family and friends.
	4 State their desires and concerns about treatments to the physician.
	5 State their desires and concerns about treatments to a nurse.
	6 Ask medical staff questions about the disease and treatments.
	7 Follow the doctor's directions.
Q4	How important is the following information for you to decide on a treatment? Please rate the importance on a 5-point scale (5: very important – 1: not important at all).
	1 Patient's age
	2 Number of swollen or tender joints
	3 Radiographic changes of typical erosion in the affected joints
	4 Serum rheumatoid factor
	5 Serum anti-CCP antibody
	6 Acute-phase reactants (abnormal serum CRP or ESR)
	7 Activity of daily living at home, school, workplace, etc
	8 Functional status (disability), usually assessed by HAQ score
	9 Patient's preferences for treatment
	10 Information about the effects of the treatment
	11 Information about adverse effects of the treatment
	12 Financial burden of the treatment on the patient

**Abbreviations:** RA, rheumatoid arthritis; CCP, cyclic citrullinated peptide; CRP, C-reactive protein; ESR, erythrocyte sedimentation rate; HAQ, health assessment questionnaire.

### Patient Preference and Adherence

Dovepress

### Publish your work in this journal

Patient Preference and Adherence is an international, peer-reviewed, open access journal that focuses on the growing importance of patient preference and adherence throughout the therapeutic continuum. Patient satisfaction, acceptability, quality of life, compliance, persistence and their role in developing new therapeutic modalities and compounds to optimize

clinical outcomes for existing disease states are major areas of interest for the journal. This journal has been accepted for indexing on PubMed Central. The manuscript management system is completely online and includes a very quick and fair peer-review system, which is all easy to use. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <http://www.dovepress.com/patient-preference-and-adherence-journal>