Patient Decision-Making Related to Antirheumatic Drugs in Rheumatoid Arthritis: The Importance of Patient Trust of Physician

RICHARD W. MARTIN, ANDREW J. HEAD, JONATHAN RENÉ, TIMOTHY J. SWARTZ, JUSTUS J. FIECHTNER, BARBARA A. McINTOSH, and MARGARET HOLMES-ROVNER

ABSTRACT. ***Objective.*** To explore how rheumatoid arthritis (RA) antirheumatic drug-specific knowledge and numeric literacy, patient trust in physician, and demographic and disease-related factors relate to the confidence of patient decision-making related to disease modifying antirheumatic drugs (DMARD).
Methods. Data were analyzed from 628 randomly selected patients with RA receiving care in community rheumatology practices, who responded to a multicenter, cross-sectional mail survey. We used multiple regression models to predict patient confidence in DMARD decision-making related to their most recently initiated DMARD.
Results. Significant positive correlation was found between confidence in DMARD decision and trust in physician, DMARD-specific knowledge, and disease duration, but not risk-related numeric literacy, sex, or education. Negative correlations were found with disease severity and current bother with DMARD side effects. A multiple linear regression model of confidence in DMARD decision had an overall R = 0.788, R^2 = 0.620 ($p < 0.001$). The 4 dependent variables contributing significantly to the model were female sex, Medicaid insurance status, satisfaction with RA disease control, and trust in physician, with standardized ß = 0.077, –0.089, 0.147, and 0.687, respectively.
Conclusion. In this sample of community patients with RA, the patient trust in physician had substantially greater effect on confidence in DMARD decision than DMARD-specific knowledge, disease-related factors, or demographic characteristics. (First Release Feb 15 2008; J Rheumatol 2008;35:618–24)

Key Indexing Terms:
DECISION-MAKING
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Patients with chronic diseases such as rheumatoid arthritis (RA) are confronted with increasingly complex treatment choices that involve weighing benefits, risks, treatment intrusiveness and hassle, and financial costs. Traditionally the physician's role has been focused on providing information to improve patient understanding. However, patients have complex and evolving beliefs relating to disease modifying antirheumatic drugs (DMARD)[1,2]. Although preferences for decisional responsibility may vary, patient involvement in the process of medication decision-making can enhance patient satisfaction, understanding, and confidence in decision-making[3]. The process of decision-making can be supported and improved if physicians seek to identify causes of decisional uncertainty and help patients to clarify their personal goals[4]. The purpose of our study was to identify personal and social factors that mediate the confidence in DMARD decision. In the context of shared decision-making, O'Connor defines an effective decision as one that is informed, consistent with personal values, and acted on[4]. The quality of these patient decisions can be assessed by a number of indicators, most of which are affective ratings, including the decision-making process[5], satisfaction with decision[6], decisional conflict[4], anxiety[5], post-decisional regret[7], or confidence in decision[8]. In some cases, behavioral outcomes like adherence to a specific medication regimen have been used as an indicator of decision effectiveness[5]. Of these patient-centered decisional outcomes, we believe that confidence in decision is particularly meaningful as it has been found to correlate positively with patient enablement and expectation to adhere, while having negative correlations with anxiety about the treatment decision and concern about the patient's treatment[8]. We investigated how patient DMARD-specific knowledge,

From the Departments of Medicine and Rheumatology, and the Center for Ethics and the Humanities in the Life Sciences, College of Human Medicine, Michigan State University, Grand Rapids, Michgan, USA.

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R.W. Martin, MD, MA; A.J. Head, MD, Grand Rapids, MI; J. René, MD, Saginaw, MI; T.J. Swartz, MD, Kalamazoo, MI; J.J. Fiechtner, MD, MPH; M. Holmes-Rovner, PhD, East Lansing, MI; B.A. McIntosh, MD, Flint, Michigan, USA.

Address reprint requests to Dr. R.W. Martin, Department of Medicine, Rheumatology College of Human Medicine, Michigan State University, 1155 East Paris NE, Ste. 100, Grand Rapids, MI 49546.
E-mail: martin@mi-arthritis.com

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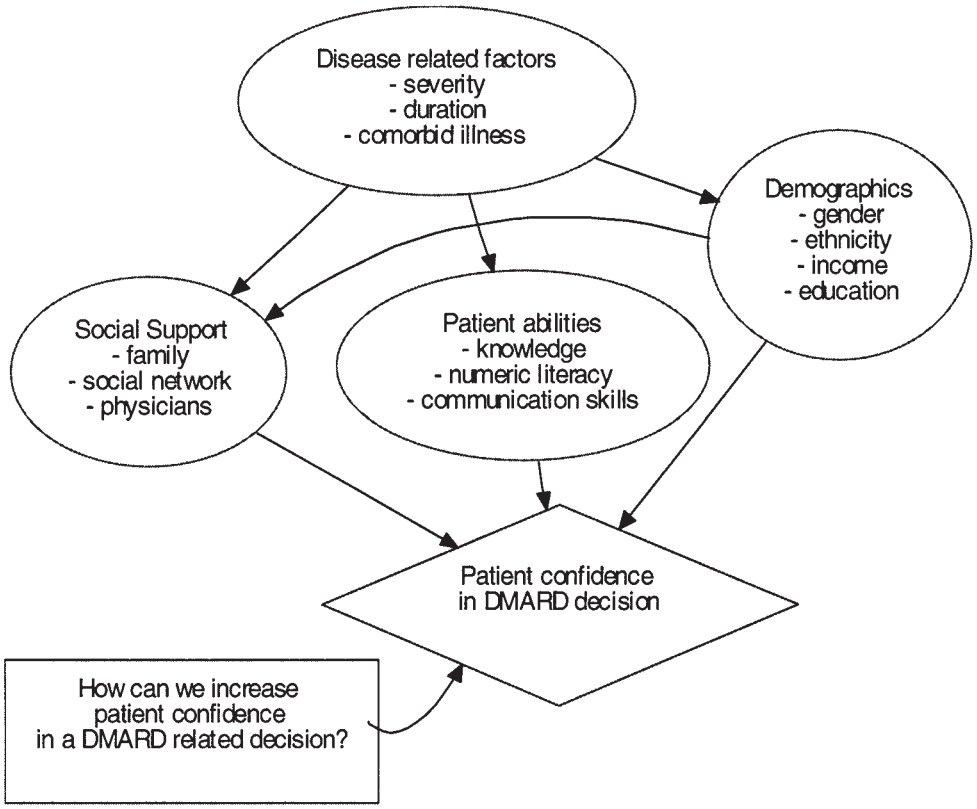

Figure 1. Influence of patient characteristics on confidence in DMARD decisions.

numeric literacy, demographic and disease related factors, and trust in physician relate to confidence in DMARD decisions (Figure 1).

MATERIALS AND METHODS

Design and setting. Prior to any study interventions the research protocol was reviewed and approved by the Michigan State University (MSU) Community Institutional Review Board. We conducted a multicenter, cross-sectional mail survey. A convenience sample of 5 community rheumatology practices — one in each of the 5 lower peninsula MSU College of Human Medicine clinical campuses (Grand Rapids, Saginaw, Flint, Lansing, and Kalamazoo) — were invited to participate. All were single-specialty community rheumatology practices. All rheumatologists were clinical faculty in the MSU College of Human Medicine. The practices varied in size and the number of rheumatologists on staff: 1 with 3, 2 with 2, and 2 with 1. Of the 9 physicians, 8 were men and one a woman, 2 were African American, 2 were international medical graduates, and all were fellowship-trained and board-certified in rheumatology. A sample frame was created by identifying all patients from administrative records as having received care in 2005 in each of the practices and who were billed under the International Classification of Diseases, Ninth Revision (ICD-9) code 714.0 (RA). Overall, 3650 patients were identified. From the patient account numbers a database was created for each practice and each patient was assigned a random number. Proportional sampling was taken such that patients at each site with the lowest sequential numbers were selected, with 200 patients selected from 4 of the practices and 100 from one of the single-physician practices. No other patient records were evaluated. All selected patients received a 4-contact mail survey using the methods described by Dillman[9]. These were presented in the following sequence, over a 3-week interval, from the patient's treating rheumatologist: introductory letter no. 1, letter no. 2 with an enclosed questionnaire and $5.00 incentive, reminder postcard, and letter no. 3 with replacement questionnaire. To maintain complete confidentiality, all mailings were anonymous, and neither the treating physician nor the coordinating study center had any knowledge of the identity of respondents or nonrespondents. Further, no identifiers were placed on surveys and as an added measure "to ensure confidentiality" the research coordinator who processed the survey was instructed to discard the return envelopes and make no record of their origin. As each patient had received care and was billed for service by a rheumatologist in the past year, we presumed that the vast majority of patients in fact had RA; however, the first 2 items on the questionnaire asked the patient to confirm having rheumatoid arthritis and to select the DMARD that s/he was currently taking. Patients were asked to not complete and to discard the questionnaire if they did not have a diagnosis of RA and if they were not currently taking a DMARD. In the completed sample all patients had RA and reported currently taking a DMARD.

Patients. The population was men and women with RA treated in community rheumatology practices.

Study measurements. The survey instrument assessed the following patient variables:

Demographics: age, sex, ethnicity-race, education, and health insurance including Medicaid eligibility.

Disease related factors: RA disease duration, DMARD usage, and duration of use. The Health Assessment Questionnaire II (HAQ II)[10], a validated instrument measuring functional impairment, was used as an indicator of RA severity. This is a 10-item derivation of the original 24-item Stanford modified HAQ. It assesses functional impairment in 5 domains (arising, walking, gripping, reaching, and ability to perform activities). A score of 0 indicates no limitations in activities of daily living (ADL) and score of 3 dependence on others in all ADL domains. Patient appraisal of the adequacy of current RA control was assessed by the item, "How *satisfied* are you

with the current control of your rheumatoid arthritis?" This was formatted as a 5-point Likert scale anchored with 1 corresponding to "not at all" and 5 as "completely satisfied." Depression was assessed by inquiring if a physician had diagnosed depression and treated it with a medication in the past 5 years. Current DMARD side effects were determined by asking, "Of the DMARD(s) you are currently taking, are you having any side effects that bother you?" using a 5-point Likert scale anchored with "not at all" and "quite a bit."

RA-specific health literacy: The RA DMARD Knowledge Profile is a 19-item instrument that assesses DMARD-specific knowledge and numeric literacy. Six content areas are sampled: RA pathogenesis, RA clinical features, treatment specifics, treatment rationale and outcomes, risk communication, and monitoring. It was developed for the purpose of assessing RA-specific health literacy. It reflects rheumatologists' standards for minimal knowledge required to participate in DMARD selection decisions, is reliable, and demonstrates evidence of construct and criterion validity[11]. Four numeric literacy items tested patients' ability to correctly interpret a numeric statement of treatment risk: a frequency, a probability, multiply a probability, and convert a probability to a percentage.

Supportive relationships: Current marital status was considered to be an indicator of general social support. In addition we adapted the 7-item Primary Care Assessment Survey summary scale of physician trust[12] to relate to views about the patient's rheumatologist. Items rate patients' view of their physician's expertise, honesty, balance of presenting risks, and advocacy for the patient. We reworded the 2 questions that specifically addressed the explanation of medication risks to be specific to the patient's current DMARD. The revised questions were reworded as follows. "My rheumatologist minimized the risk of the DMARD so I would not worry about taking it." "In his/her explanation my rheumatologist fairly balanced the possible risks and benefits of taking the DMARD."

Quality of DMARD decision-making: The Combined Outcome Measure for Risk Communication and Treatment Decision Making Effectiveness (COMRADE) is a validated instrument developed to assess the quality of risk communication and treatment decision-making[8]. It contains a 10-question index that measures confidence in decision as an indicator of the quality of treatment decision-making. Items cover the 4 domains of shared decision-making: whether patients feel the choice was adequately informed and consistent with their values, the level of uncertainty about the decision experienced, and satisfaction with the decision. We utilized the confidence in decision scale as the primary outcome of our study assessing the quality of patients' choice to take their current DMARD. The scale was introduced in the survey instrument with a question asking patients to confirm if they had a diagnosis of RA. Next, a definition and list of DMARD were presented and patients were asked to mark "all of the DMARDs you are taking now." Instructions were then given, "The next series of questions are about working with your rheumatologist to choose *the most recent DMARD* that you started (marked in question <last>). Please mark each question that follows regarding your opinion about your discussion and decision making process with your rheumatologist to choose that DMARD."

The survey instrument was tested for clarity in a convenience sample of patients with RA. After completing the written questionnaire, we interviewed each patient, probing comprehension of the instructions and soliciting alternative wording if ambiguities were identified. Based on the feedback from this pretesting, the instrument was revised to its final form.

Statistical analysis. Descriptive analyses were performed to provide information on general characteristics of the study population. For continuous variables, Pearson correlation coefficients were computed. Between-group differences were assessed using the independent samples t-test. To aid interpreting the meaning of between-group differences of confidence in DMARD decision scores, effect sizes for 2 independent groups were calculated using Cohen's d[13]. Effect size (ES) is an index that measures the magnitude of a treatment effect and allows standardizing of reporting of the difference between groups. It has a maximum ES of 1.0 and minimum of 0. It is calculated as $ES = M_1 - M_2/\sigma_{pooled}$. Multivariate analyses were used to assess the potential confounding and interaction effects of other independent variables. Based on *a priori* hypotheses a multiple linear regression model was developed. Confidence in DMARD decision is defined as the dependent variable and 9 independent variables were entered into the model in block that we considered in our conceptualization of potential determinants: trust in physician, HAQ II, Medicaid insurance status, age, female sex, minority classification, current married state, RA duration, and DMARD knowledge. Statistical analysis was performed with SPSS v. 11.5[14].

RESULTS

The overall survey response rate was 74%. Completed surveys were optically scanned. To ensure the accuracy of the scanning process, 20% of the completed sample was manually cross-checked, which disclosed a scanning error rate of < 0.5%. For the dependent variable, missing data were 4.6%. Missing values were replaced with median values by interpolation.

Univariate analysis. Patient characteristics are presented in Table 1. For the purpose of analysis, patients of Hispanic or African descent were classified as minority. Low education was defined as attainment of less than high school graduation. As in Food and Drug Administration-monitored clinical trials, early RA was defined as disease duration ≤ 3 years. High or low functional impairment, as defined by the

Table 1. Patient demographics.

Characteristic	Mean
Age, yrs	57.7 (14.2)
Female, %	72.9
Race, %	
Non-Hispanic White	90.0
Non-Hispanic Black	5.4
Hispanic Latino	1.4
Asian	1.5
American Indian	0.5
Other	1.2
HAQ II score	0.90 (0.58)
HAQ II > 1.25, %	34.6
Early RA (< 3 yrs), %	22.1
History of depression, %	21.0
Past use of anti-TNF, %	12.0
Current use of anti-TNF, %	36.0
Education attainment, %	
Less than 9th grade	2.1
9–12th grade	12.1
High school graduate	24.4
Some college	37.7
Bachelor's degree	12.3
Graduate school	6.7
Now married, %	62.6
Insurance, %	
Private	47.7
Medicaid	11.5
Medicare	39.7
Health maintenance organization	22.3
Veteran Administration	1.0
None	5.0

HAQ: Health Assessment Questionnaire; RA: rheumatoid arthritis; TNF: tumor necrosis factor.

HAQ II, was dichotomized as low if < 1.25 or high if ≥ 1.25, as suggested by Siegert, *et al*[15].

Bivariate analysis. Correlations of continuous patient characteristics and confidence in DMARD decision are presented in Table 2. Significant positive correlation was present between confidence in DMARD decision and trust, DMARD-specific knowledge, and disease duration, but not numeric literacy. There were negative correlations between confidence in DMARD decision and HAQ II and current bother with DMARD side effect. COMRADE responses are reported as classified by the 4 shared decision-making domains. Mean scores (standard deviation) are informed decision 4.16 (1.18), decisional values clarity 4.20 (1.12), decisional uncertainty 4.14 (1.15), and decision effectiveness 4.27 (1.18). In Table 3 the items and results of the confidence in DMARD decision between selected groups are compared. As a point of reference, Cohen has suggested interpreting ES as small, d = 0.2, medium, d = 0.5, and large, d = 0.8[13]. Membership in a minority, Medicaid, early onset, greater functional impairment as indicated by higher HAQ II scores, and patients of below median age were correlated with lower confidence in DMARD decision. Higher levels of confidence in DMARD decision were present in married patients. There were no between-group differences in confidence in DMARD decision by low education or sex.

Table 2. Correlation of patient characteristics with confidence in DMARD decision.

Independent Variable	Pearson Correlation with Confidence in DMARD Decision	p (2-tailed)
Age	0.08	NS
Education	0.03	NS
Duration of RA	0.12	0.01
HAQ II disability score	–0.25	0.01
Satisfaction with control of RA	0.41	0.01
Current bother by DMARD side effects	–0.12	0.01
DMARD Knowledge Profile – Numeric literacy subscale	0.07	NS
DMARD Knowledge Profile – Knowledge subscale	0.18	0.01
Patient Trust in Physician	0.75	0.01

NS: not significant; DMARD: disease modifying antirheumatic drugs; RA: rheumatoid arthritis; HAQ: Health Assessment Questionnaire.

Multivariate analysis. The results of linear regression models with confidence in DMARD decision as the dependent variable are shown in Tables 4 and 5. With an overall R = 0.766 and R^2 = 0.587 (p < .001), the hypothesized multiple linear regression model 1 is robust and explains 58.7% of the variance in decision quality. When the full model is considered, the standardized regression coefficients disclose a 7-fold greater effect of trust in physician than any other explanatory variable.

For the majority of patients the choice to initiate their most recent DMARD was an established decision that had been made months to years earlier. We considered that patient appraisals of the adequacy of current RA control or current bother from DMARD side effects could have a modifying effect on the relationship between the hypothesized independent variables and confidence in DMARD decision. To assess this potential effect we computed the correlation between confidence in DMARD decision and bother by DMARD side effects (r = –0.12, p < 0.01) and satisfaction with control of RA (r = 0.41, p < 0.01). Next, we developed a second multiple regression model that included all of the original independent variables and added bother by DMARD side effects and satisfaction with control of RA as possible predictors. These results are denoted as model 2 in Table 4. With the addition of these 2 covariates the overall R = 0.778 and R^2 = 0.622 (p < 0.001) represents more than a 5% difference in the R^2, which we judge is significant. The parameter coefficients for model 2 are presented in Table 5. Only 4 independent variables significantly contributed to the model: female sex, Medicaid insurance status, patient trust in physician, and satisfaction with disease control. We examined collinearity diagnostics (data not shown), and the

Table 3. Between-group comparison of confidence in DMARD decision — Independent samples test.

Independent Variable	Decision Quality, mean (σ), Group 1	Decision Quality, mean (σ), Group 2	Difference	p (2-tailed)	Cohen's d Effect Size
Minority vs non-minority	35.85 (13.39)	42.61 (9.88)	–6.76	0.001	–0.58
Below median age vs other	41.15 (11.09)	43.26 (9.19)	–2.11	0.015	–0.21
Medicaid vs non-Medicaid	34.95 (14.08)	42.96 (9.43)	–8.02	0.001	–0.67
Low education vs other	40.58 (10.93)	42.39 (10.17)	–1.81	NS	–0.23
Currently married vs other	43.00 (9.61)	40.44 (11.35)	2.55	0.005	0.24
Female vs male sex	42.35 (10.46)	41.59 (9.90)	0.77	NS	0.08
Early vs established RA (≤ 3 yrs)	39.94 (11.24)	42.77 (9.92)	–2.83	0.029	–0.27
High vs low HAQ II (< 1.25)	38.00 (12.27)	43.63 (8.91)	–5.64	0.001	–0.53

DMARD: disease modifying antirheumatic drugs; RA: rheumatoid arthritis; HAQ: Health Assessment Questionnaire.

Table 4. Multiple linear regression of confidence in DMARD decision — Model 1 and 2 summary.

Model	R	R^2	Adjusted R^2	SE of Estimate	Change Statistics				
					R^2 Change	F Change	df1	df2	Significant F Change
1	0.766 (a)	0.587	0.580	6.56599	0.587	78.939	9	499	0.000
2	0.788 (b)	0.620	0.611	5.98947	0.620	68.774	11	463	0.000

a. Predictors: (constant), DMARD knowledge, minority, age, Patient Trust in Physician, female, RA duration, Medicaid, now married, HAQ II.
b. Predictors: (constant), satisfaction with RA control, DMARD knowledge, RA duration, Medicaid, female, age, minority, Patient Trust in Physician, now married, bother by DMARD side effects, HAQ II.
Dependent variable: confidence in DMARD Decision. DMARD: disease modifying antirheumatic drugs; RA: rheumatoid arthritis; HAQ: Health Assessment Questionnaire.

Table 5. Multiple linear regression of confidence in DMARD decision — Model 2 coefficients.

	Standardized Coefficients Beta	t	Significance	95% CI for B	
				Lower Bound	Upper Bound
(Constant)		–0.583	0.561	–11.930	6.480
Age	–0.026	–0.656	0.513	–0.081	0.041
Female	0.077	2.011	0.045	0.035	3.262
Minority	–0.059	–1.516	0.131	–4.934	0.640
Medicaid	–0.089	–2.196	0.029	–5.487	–0.300
RA duration	0.062	1.626	0.105	–0.113	1.185
HAQ II	–0.070	–1.552	0.122	–2.383	0.281
Now married	–0.069	–1.729	0.085	–2.999	0.194
Patient Trust in Physician	0.687	17.201	0.000	8.221	10.346
DMARD knowledge	0.007	0.179	0.858	–0.167	0.201
Bother by DMARD side effect	0.051	1.268	0.206	–0.315	1.458
Satisfaction with current RA control	0.147	3.231	0.001	0.497	2.044

Dependent variable: confidence in DMARD decision.

lowest tolerance statistic is 0.852. As this is > 0.1 there is a low likelihood of influential collinearity between independent variables in a sample of this size[16]. Note: of the 2 variables that were added in model 2, satisfaction with RA control, but not bother by DMARD side effects, had a significant standardized regression coefficient of 0.147. In model 1 (data not shown) there were 3 significant independent variables; however, only patient trust in physician contributed in both model 1 and 2. In model 2, satisfaction with RA control, female sex, and Medicaid status combined for a minor standardized coefficient weighting of 0.136, with patient trust in physician still providing the dominant influence in the model. So including satisfaction with RA control had a significant influence on the interrelationships of variables in the model, but did not have a substantial influence on the main effects. These data demonstrate that in this sample of community patients with RA, the patient-physician relationship, as indicated by patient trust in physician, has substantially greater effect on the quality of DMARD decisions than patient knowledge, disease-related factors, or demographic characteristics.

DISCUSSION

A treatment decision can have longterm consequences, and involve important uncertainties and tradeoffs. The ability to comprehend risk information is one of the key competencies needed for patients to participate in treatment decisions. Thus in the setting of choosing a new medication, the goal of risk communication is to facilitate informed choice with greater patient autonomy[17]. People are considered to be autonomous if they choose to take a medication they believe may help them reach a valued health goal. Self-determination theory (SDT) proposes that a patient's intrinsic motivations are developed over time, are promoted or hindered by contextual factors, and lead to the feelings of competence (self-efficacy) that regulate behavior[18]. So according to SDT, when physicians are autonomy-supportive, patients are more likely to be autonomously motivated. Examples of autonomy support include eliciting and acknowledging patient perspectives, supporting their initiatives, offering choice about treatment options, and providing relevant information while the physician minimizes pressure and control. Several studies provide evidence that autonomy

support by healthcare workers positively affects patient motivation and health behaviors, specifically related to medication adherence[19] and diabetes management[20].

One path by which the effects of autonomy support may be mediated is by improving patient confidence in DMARD decision related to taking a new medication. Patient attitudes towards treatment decision, satisfaction, and regret are associated with decision certainty, intentions, and likelihood to act on treatment decisions[4,6,7]. We explored the relationships among multiple factors and the quality of patient decision-making. The findings demonstrate the magnitude of the effect of patient trust in physician was substantially greater than disease-related factors, demographics, and RA-specific knowledge, or numeric literacy on patient confidence in DMARD decision. The findings strongly emphasize the importance of physician characteristics, such as those that lead to patient trust, in patient decision-making.

Trust in physician is a patient-based construct, where values are assigned to a physician's abilities and attributes. It is a dynamic, situational, multidimensional construct that encompasses expertise, trustworthiness, goodwill, and confidentiality[21]. In our study, the Trust in Primary Care Physician Scale was used to quantify patient perception of physician expertise, goodwill, and honesty leading to a continuous rating scale of the overall attribute trust. This psychometric approach is similar to that of other published instruments that seek to assess trust in physician[21]. The importance of physician trust has been previously noted in rheumatic diseases. Freburger and colleagues[22] found that patient trust was significantly associated with age, race, education level, perceived role in decision-making, and medical skepticism. Berrios-Rivera, *et al*[23] described the correlations between elements of a positive style of rheumatologist-patient communication such as patient centeredness and trust. Kjeken, *et al* found that higher involvement in medical decisions was significantly associated with satisfaction of rheumatic care[24]. A related Veterans Affairs study by Piette, *et al* found that in low-income diabetic patients, cost-related adherence problems were strongly associated with low levels of physician trust and depressive symptoms[25]. The authors concluded that trust in physician may moderate non-adherence due to cost pressures.

The Elaboration Likelihood Model of Persuasion[26] may provide insights to understand the mechanisms by which trust in physician supports patient autonomy in the decision-making. There are 2 basic routes of persuasion that lead to making a decision and acting to take a medication. The first, central processing, refers to a patient reflecting on and evaluating the content of health information provided about the medication. The second, peripheral processing, which involves focusing on clues not directly related to the substance of health information, such as the physician's characteristics (goodwill, expertise, trustworthiness, extroversion, composure, sociability) or more global assessments of the health system interface. Communication scientists observe that there is a tradeoff between central and peripheral processing such that an individual tends to favor one over another[27]. This preference is determined by a person's motivation and ability to process information. Other factors such as time constraints, mood, and personality traits can also affect an individual's preference for central or peripheral processing. The results of our study demonstrate the relatively greater effect of patient peripheral processing as influenced by perception of physician characteristics over central processing, as would be expected with higher levels of disease-specific knowledge. This means that in some patients the way in which the treating physician interacts is more important than the actual content of the information presented. It provides further evidence of the powerful influence of the physician-patient relationship on patient-centered outcomes like quality of medical decisions.

Our study has a number of limitations and strengths. The creation of the sample frame was based on billing records using ICD-9 code 714. This could have resulted in coverage error of individuals with milder, earlier, or seronegative RA seen in a practice, but charged with a different ICD-9 code. As this was an anonymous mail survey, although there was an excellent response rate, there could be differential nonresponse of subgroups of patients and we cannot compare the characteristics of responders versus nonresponders to identify trends. For example, in the completed sample, only 6.8% were members of a minority, which is less than half of the proportion within the general population of Michigan. It is possible that there could be a systematic bias due to selective nonresponse by patients who had poor interpersonal relationships with their physician or low level of confidence in their DMARD decision. Also, we did not collect data by individual practice or physician, which makes us unable to explore relationships between specific physician variables, trust, and decision quality. This should be pursued in future studies designed specifically to address this question. Finally, the cross-sectional design allows a description of association between independent and dependent variables, but is not the strongest experimental design to assert causation between variables. There are, however, a number of unique strengths of our study that do support the generalizability of its findings. There is a geographically dispersed community rheumatology practice sample frame, random sampling of subjects, and a high response rate. Validated instruments were used to assess patient variables from multiple viewpoints and a highly accurate optical scanning procedure was utilized, both of which minimize survey measurement error.

The implication of our study for rheumatologists is that, for moral, legal, and empirical reasons, they must continue to inform patients about medication options, encourage social support of care, be alert for depression, and be sensitive to ethnic and economic barriers to care. However, they

should recognize that the nature of their doctor-patient interaction may have a stronger influence than the factual content in enabling quality patient medication decisions. A recent Cochrane Review evaluated interventions for improving patients' trust in doctors[28]. Only one randomized controlled trial was identified that used a training intervention to increase physician behavior known to be associated with trust[29]. Ratings of 5 physician behaviors at baseline correlated with patient trust at 6 months: "let you tell your story"; listening carefully; asking thoughtful questions; never interrupting; always taking time and explaining what you need to know about your problems. There were no significant differences between the intervention or control group in these 5 behaviors or in overall patient trust of physician. The results of this high quality trial confirm that additional qualitative and experimental research is needed to identify what aspects of the medical interaction increase patient trust of physician and optimally support shared decision-making. Finally, translation of these fundamental insights into effective training programs available to medical learners as well as practicing physicians has the potential to have great influence on the quality of future patient decision-making.

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