Comparison of Physician and Patient Global Assessments Over Time in Patients With Rheumatoid Arthritis

A Retrospective Analysis From the RADIUS Cohort

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Background: In rheumatoid arthritis (RA), there is discordance between patient and physician assessments of disease severity and treatment response.

Objective: This retrospective analysis of the RADIUS (RA Disease-Modifying Anti-Rheumatic Drug Intervention and Utilization Study) 1 cohort examined specific factors that influence differences in global assessments for therapeutic effectiveness of disease-modifying antirheumatic drugs made by physicians (physician global assessment [PhGA]) and patients (patient global assessment [PtGA]).

Methods: The RADIUS 1 cohort consisted of primarily community-based private practice patients with RA requiring either the addition of or a switch to a new biologic or nonbiologic disease-modifying antirheumatic drug and who were followed for up to 5 years by their rheumatologists. Periodic assessments included PhGA, PtGA, Health Assessment Questionnaire–Disability Index (HAQ-DI), 28-item tender/painful joint count (TJC28), swollen joint count (SJC28), pain Visual Analog Scale (VAS), and acute-phase reactants.

Results: Among 4359 patients (mean disease duration, 7.3 years), PhGA most highly correlated with TJC28 (0.6956; 95% confidence interval [CI], 0.6881–0.7030) and SJC28 (0.6757; 95% CI, 0.6678–0.6834). Moderate overall correlations were observed for PtGA with TJC28 (0.5000; 95% CI, 0.4890–0.5108) and less 50 with SJC28 (0.3754; 95% CI, 0.3628–0.3878). Patient global assessment most strongly correlated with pain VAS (0.8349; 95% CI, 0.8305–0.8392) and moderately correlated with HAQ-DI (0.5979; 95% CI, 0.5886–0.6071). Acute-phase reactants poorly correlated with PhGA and PtGA.

Conclusions: Low correlations between PhGA and acute-phase reactants suggest that these measurements have a limited contribution compared with the physical examination when physicians make global assessments. These results also suggest that physicians should consider patients' assessments of their disease activity (HAQ, pain VAS, and PtGA) and put joint counts into proper context.

Key Words: rheumatoid arthritis, RADIUS, physician global assessment, patient global assessment

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In patients with inflammatory conditions, including rheumatoid arthritis (RA), patient and physician assessments of disease severity and treatment response often do not align.[1–5] This discordance suggests that physicians and patients focus on different aspects of the disease or have differing perceptions of improvement. Knowing the factors that influence this discordance may aid physicians in identifying areas of concern to the patient.

The Rheumatoid Arthritis Disease-Modifying Anti-rheumatic Drug Intervention and Utilization Study (RADIUS) was a 5-year, multicenter, observational registry that assessed the use patterns, effectiveness, and safety of disease-modifying antirheumatic drugs (DMARDs) and biologics in more than 10,000 patients with RA (RADIUS 1 and 2).[6,7] The design of this trial provides real-world data of the use of these drugs by rheumatologists in RA patients. Previously reported results from RADIUS demonstrated a disconnect between global assessments for effectiveness made by physicians (physician global assessment [PhGA]) and those made by patients (patient global assessment [PtGA]), regardless of the treatment for RA.[7] Across all treatments evaluated, patients tended to report worse scores than did physicians, and patient assessments showed smaller improvements relative to baseline than physician assessments.[7]

Given that the observed discrepancies in global observations in RADIUS are consistent across therapies and over time, the objective of this retrospective analysis of RADIUS 1 cohort data was to evaluate specific factors that may influence differences between PhGA and PtGA.

MATERIALS AND METHODS

Study Design

RADIUS 1 was a US-based, prospective, multicenter, observational study designed to systematically collect and document use patterns, effectiveness, and safety of DMARD treatments currently being used in the management of RA (NCT00116714). Because of RADIUS 1's study design, the data represent a broad RA population and were therefore used for the current analysis. Patients in the RADIUS 1 cohort (N = 4968) were enrolled from October 2001 through January 2003 from community-based private practices (88%), academic institutions

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(7%), and hospitals (5%). Global assessments were conducted at baseline and at intervals deemed appropriate by their respective rheumatologist. Clinical data relevant to the routine care and management of the patient, including those related to usage patterns, effectiveness, and safety, were collected for up to 5 years.

Patients

Patients enrolled in RADIUS 1 were at least 18 years of age, met the classification criteria for RA (according to the 1987 American Rheumatism Association definition), and were felt to have required either the addition of or a switch to a new biologic or nonbiologic DMARD as part of their existing therapy. Patients who were enrolled and had a verified informed consent form on file were eligible for analysis (n = 4359). Patients were excluded if they belonged to a concurrent clinical trial with protocol-specified visits or treatments or if they were from sites closed for significant good clinical practice violations. Individual patients for whom informed consent could not be verified were also excluded. Only visits with observed data were included in the analysis.

Assessments

End points for effectiveness included the following assessments. Physician global assessment and PtGA scores (Likert scale 0–10) were collected at baseline through 5 years after enrollment. Although our analysis was limited to the data that were collected, the standard outcome measurement was considered to be Clinical Disease Activity Index (CDAI).[8] Additional assessments included Health Assessment Questionnaire–Disability Index (HAQ-DI); 28-item tender/painful joint count (TJC28; prorated); 28-item swollen joint count (SJC28; prorated); pain Visual Analog Scale (VAS); duration of morning stiffness (in minutes); and acute-phase reactants C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR). If 14 or more joints were missing from the joint count, a prorated value was calculated by multiplying the average score from the available tender or swollen joints by 28 to provide an overall joint score.

Statistical Analysis

End points were summarized as the mean value (SD) and in the first, second (median), and third quartiles with respect to time. Spearman rank correlations were calculated between global assessment measures (PhGA and PtGA) and all of the previously mentioned end points at each time point and overall for all time points. We used weighted κ coefficient to measure the concordance of PhGA and PtGA. Fisher transformation was used to calculate 95% confidence interval (CI) for each correlation.[9] A Forest plot of the overall correlation data was generated.

RESULTS

Patients

The full eligible analysis population in RADIUS 1 comprised 4359 patients from 387 sites enrolled between October 2001 and January 2003. Demographics and patient characteristics are summarized in Table 1. Patients were primarily white (81%) and female (76%), with a mean age of 55.2 (SD, 13.7) years. Most patients had moderate to severe RA (mild, 13%; moderate, 61%; severe, 26%) as estimated by the investigator. Median duration of RA at baseline was 3.47 years. The percentage of patients who achieved remission, as assessed by CDAI (<2.8), was 0.4% at baseline, 5.1% at 6 months, and continued to improve to 12.4% at 5 years of follow-up.

Mean baseline global assessment values were 5.90 for PtGA and 5.85 for PhGA; subsequent values were consistently worse for PtGA than PhGA at each assessment, beginning with the first assessment (6 mo [4.46 vs 3.76], 1 year [4.35 vs 3.44], and then yearly for 5 years), and ranged from 4.05 to 4.46 for PtGA and 2.74 to 3.76 for PhGA over the 5 years of follow-up. There was stable status of concordance of PhGA and PtGA over time, suggesting that no improvements in perceptions occurred over time. Weighted κ coefficient was 0.49 (95% Cl, 0.46–0.51) at baseline and 0.54 (95% Cl, 0.51–0.57) after 6 months and remained at a similar level after 5 years (0.45 [95% Cl, 0.41–0.50]).

TABLE 1. Patient Demographics and Baseline Disease Characteristics

Characteristic	Value
Age, y	55.20 (13.70)
Female, n (%)	3327 (76.3)
White race, n (%)	3515 (80.6)
Duration of RA, median (IQR), y	3.47 (10.61)
PhGA	5.85 (1.92)
PtGA	5.90 (2.38)
TJC28[a], median (IQR)	12.00 (14.81)
SJC28[a], median (IQR)	10.00 (11.00)
HAQ-DI	1.30 (0.70)
Pain VAS	5.87 (2.50)
CDAI	35.63 (16.66)

Values are mean (SD) unless otherwise specified.

[a]If 14 or more joints were missing from the joint count, a prorated value was calculated by multiplying the average score from the available tender or swollen joints by 28 to provide an overall joint score.

IQR indicates interquartile range.

Assessments More Highly Correlated With PhGA Than PtGA

Correlations between PhGA and PtGA for all assessments are shown in Table 2. Physician global assessment was most highly correlated with TJC28 and SJC28. The overall correlations for PhGA with TJC28 and SJC28 were 0.6956 (95% CI, 0.6881–0.7030) and 0.6757 (95% CI, 0.6678–0.6834), respectively (Fig. 1). Patient global assessment demonstrated a moderate correlation with TJC28 that was greater than that seen with SJC28 (overall correlations were 0.5000 [0.4890–0.5108] and 0.3754 [0.3628–0.3878], respectively; Figure).

Assessments More Highly Correlated With PtGA Than PhGA

Patient global assessment most strongly correlated with pain VAS and moderately correlated with HAQ-DI (Table 1). The overall correlations for PtGA with pain VAS and HAQ-DI were 0.8349 (95% CI, 0.8305–0.8392) and 0.5979 (95% CI, 0.5886–0.6071), respectively (Figure; Table 3). Similar correlation patterns (ie, greater agreement with PtGA than PhGA) were observed in each of the individual components of HAQ-DI. Among the components of HAQ-DI, the overall correlations ranged from 0.4134 to 0.5279 with PtGA and from 0.3185 to 0.4190 with PhGA (Table 3).

Assessments With Similar Correlations Between PhGA and PtGA

Overall correlations between PhGA (0.6107; 95% CI, 0.6016–0.6196) and PtGA (0.5421; 95% CI, 0.5319–0.5522) were generally similar for duration morning stiffness (Figure).

TABLE 2. Correlation of Assessments Between PhGA and PtGA Over Time

Assessment	Visit	n[a]	Physician Global Assessment (95% CI)	Patient Global Assessment (95% CI)
Tender/painful Joint Count 28[b]	Baseline	4359	0.4795 (0.4561–0.5022)	0.3401 (0.3132–0.3664)
	Month 6	3278	0.6598 (0.6398–0.6787)	0.4640 (0.4362–0.4907)
	Year 1	3059	0.6457 (0.6243–0.6660)	0.4811 (0.4529–0.5082)
	Year 2	2675	0.6495 (0.6267–0.6710)	0.4685 (0.4376–0.4981)
	Year 3	2338	0.6337 (0.6083–0.6576)	0.4602 (0.4266–0.4923)
	Year 4	2084	0.6414 (0.6148–0.6663)	0.4525 (0.4166–0.4868)
	Year 5	1204	0.6298 (0.5935–0.6633)	0.4684 (0.4215–0.5124)
Swollen Joint Count 28[b]	Baseline	4359	0.4772 (0.4536–0.5000)	0.2509 (0.2225–0.2789)
	Month 6	3278	0.6100 (0.5879–0.6312)	0.3149 (0.2832–0.3458)
	Year 1	3059	0.6208 (0.5983–0.6422)	0.3236 (0.2910–0.3554)
	Year 2	2675	0.6188 (0.5945–0.6419)	0.3327 (0.2977–0.3667)
	Year 3	2338	0.6215 (0.5955–0.6460)	0.2960 (0.2575–0.3335)
	Year 4	2084	0.6180 (0.5902–0.6442)	0.2982 (0.2574–0.3378)
	Year 5	1204	0.6575 (0.6232–0.6890)	0.3387 (0.2861–0.3890)
Health Assessment Questionnaire-Disability Index	Baseline	4359	0.4303 (0.4057–0.4542)	0.5251 (0.5031–0.5463)
	Month 6	3278	0.4850 (0.4582–0.5108)	0.5842 (0.5609–0.6064)
	Year 1	3059	0.4985 (0.4711–0.5247)	0.6095 (0.5865–0.6315)
	Year 2	2675	0.4540 (0.4230–0.4838)	0.6095 (0.5846–0.6330)
	Year 3	2338	0.4412 (0.4074–0.4737)	0.6057 (0.5787–0.6311)
	Year 4	2084	0.4480 (0.4123–0.4821)	0.6092 (0.5808–0.6359)
	Year 5	1204	0.4388 (0.3910–0.4840)	0.5916 (0.5528–0.6276)
Duration of morning stiffness	Baseline	4359	0.3956 (0.3702–0.4204)	0.3678 (0.3416–0.3933)
	Month 6	3278	0.5870 (0.5640–0.6091)	0.5176 (0.4918–0.5424)
	Year 1	3059	0.5872 (0.5634–0.6100)	0.5123 (0.4853–0.5382)
	Year 2	2675	0.5721 (0.5459–0.5971)	0.5352 (0.5071–0.5621)
	Year 3	2338	0.5595 (0.5307–0.5869)	0.5385 (0.5083–0.5673)
	Year 4	2084	0.5189 (0.4865–0.5497)	0.5377 (0.5058–0.5679)
	Year 5	1204	0.5584 (0.5176–0.5964)	0.5645 (0.5238–0.6023)
Pain Visual Analog Scale	Baseline	4359	0.4492 (0.4251–0.4726)	0.7404 (0.7265–0.7535)
	Month 6	3278	0.5755 (0.5520–0.5980)	0.8219 (0.8104–0.8328)
	Year 1	3059	0.5726 (0.5481–0.5960)	0.8308 (0.8193–0.8415)
	Year 2	2675	0.5577 (0.5306–0.5834)	0.8448 (0.8334–0.8554)
	Year 3	2338	0.5332 (0.5031–0.5619)	0.8585 (0.8472–0.8690)
	Year 4	2084	0.5307 (0.4985–0.5612)	0.8537 (0.8413–0.8650)
	Year 5	1204	0.5387 (0.4964–0.5782)	0.8797 (0.8659–0.8920)
C-reactive protein	Baseline	1939	0.1407 (0.0815–0.1987)	0.0947 (0.0348–0.1539)
	Month 6	1198	0.2007 (0.1255–0.2733)	0.1735 (0.0972–0.2475)
	Year 1	1065	0.2117 (0.1343–0.2862)	0.2052 (0.1270–0.2805)
	Year 2	977	0.2468 (0.1680–0.3221)	0.1780 (0.0967–0.2566)
	Year 3	932	0.1497 (0.0658–0.2312)	0.1702 (0.0855–0.2521)
	Year 4	874	0.1167 (0.0331–0.1985)	0.1584 (0.0745–0.2398)
	Year 5	493	0.2072 (0.0991–0.3098)	0.0388 (−0.0733–0.1499)
Erythrocyte Sedimentation Rate	Baseline	1939	0.1949 (0.1494–0.2396)	0.1377 (0.0911–0.1835)
	Month 6	1198	0.2310 (0.1738–0.2866)	0.1634 (0.1044–0.2211)
	Year 1	1065	0.1952 (0.1330–0.2557)	0.1627 (0.0992–0.2247)
	Year 2	977	0.2507 (0.1870–0.3120)	0.2263 (0.1612–0.2892)
	Year 3	932	0.1203 (0.0509–0.1883)	0.1598 (0.0904–0.2275)
	Year 4	874	0.2218 (0.1512–0.2899)	0.1533 (0.828–0.2259)
	Year 5	493	0.2255 (0.1291–0.3172)	0.1685 (0.0700–0.2633)

[a]Number of patients per time point with any data.

[b]If 14 or more joints were missing from the joint count, a prorated value was calculated by multiplying the average score from the available tender or swollen joints by 28 to provide an overall joint score.

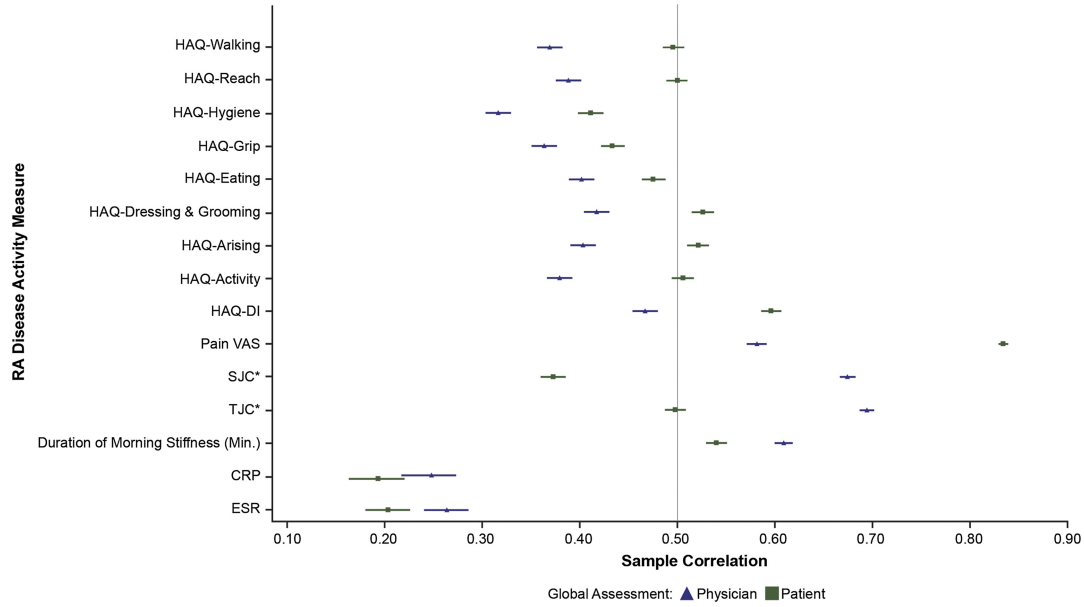

FIGURE 1. Overall correlation of assessments between physician and patient global assessments for disease activity measures. HAQ-DI=Health Assessment Questionnaire -Disability Index; PhGA=Physician Global Assessment; PtGA=Patient Global Assessment; VAS=Visual Analog Scale.

C-reactive protein and ESR showed similarly poor correlations between PhGA and PtGA (Table 3). The correlations over time for CRP ranged from 0.1167 to 0.2468 for PhGA and from 0.0388 to 0.2052 for PtGA. For ESR, the correlations over time ranged from 0.1203 to 0.2507 for PhGA and from 0.1377 to 0.2263 (Table 2).

DISCUSSION

RADIUS was a "real-world" study that examined a large group of RA patients in a variety of clinical settings over a long follow-up period. It was initiated prior to the concept of "treatment to target," and treatment decisions were designated by the physician and not determined by disease activity measures. Furthermore, the RADIUS population reflects a level of disease that is not frequently seen in present RA clinical trials as the therapeutic arsenal was more limited at RADIUS study initiation as compared with today. The results derived from this study therefore provide information on specific factors that influenced differences in global assessments of RA disease activity, as assessed by both physicians and patients, in a less-constrained environment (observational "real-world" study) as compared with a randomized controlled trial. These results therefore may also serve as a benchmark for future observational "real-world" studies.

In the present analysis of RADIUS cohort 1 data, we found that TJC28 and SJC28 were more highly correlated with PhGA

TABLE 3. Overall Correlation of Assessments Between PhGA and PtGA

Assessment	PhGA (95% CI)	PtGA (95% CI)
TJC28[a]	0.6956 (0.6881–0.7030)	0.5000 (0.4890–0.5108)
SJC28[a]	0.6757 (0.6678–0.6834)	0.3754 (0.3628–0.3878)
HAQ-DI	0.4694 (0.4581–0.4805)	0.5979 (0.5886–0.6071)
HAQ, dressing and grooming	0.4190 (0.4071–0.4308)	0.5279 (0.5175–0.5382)
HAQ, arising	0.4054 (0.3933–0.4173)	0.5227 (0.5122–0.5331)
HAQ, eating	0.4039 (0.3918–0.4158)	0.4777 (0.4665–0.4888)
HAQ, walking	0.3713 (0.3589–0.3836)	0.4975 (0.4866–0.5082)
HAQ, hygiene	0.3185 (0.3055–0.3313)	0.4134 (0.4013–0.4252)
HAQ, reach	0.3908 (0.3786–0.4029)	0.5019 (0.4910–0.5125)
HAQ, grip	0.3657 (0.3532–0.3780)	0.4361 (0.4243–0.4476)
HAQ, activity	0.3818 (0.3695–0.3940)	0.5074 (0.4966–0.5180)
Duration of morning stiffness	0.6107 (0.6016–0.6196)	0.5421 (0.5319–0.5522)
Pain VAS	0.5835 (0.5739–0.5928)	0.8349 (0.8305–0.8392)
CRP	0.2459 (0.2176–0.2737)	0.1912 (0.1620–0.2200)
ESR	0.2633 (0.2406–0.2857)	0.2032 (0.1796–0.2264)

[a]If 14 or more joints were missing from the joint count, a prorated value was calculated by multiplying the average score from the available tender or swollen joints by 28 to provide an overall joint score.

than with PtGA. This result would not be unexpected because TJC28 and SJC28 are relatively objective, quantifiable measures that are physician-assessed components (ie, joint counts). Furthermore, the correlation between PtGA and TJC28 was somewhat higher than the correlation between PtGA and SJC28, which may reflect the fact that TJC28 is a more subjective patient-determined assessment than SJC28. Physician global assessment and PtGA are in agreement for morning stiffness (correlated equally well), which might be expected because physicians rely on patient reporting for this measure.

In contrast, HAQ-DI and pain VAS were more highly correlated with PtGA than PhGA. Health Assessment Questionnaire individual components were generally not strongly correlated with either global assessment measure, but the correlation was slightly stronger for PtGA compared with PhGA. This reinforces the concept that patients are more focused on their ability to perform everyday functions than on swollen or tender joints, which were more correlative with physician assessments. Pain VAS correlated more strongly with PtGA than PhGA. Because physicians tend to focus heavily on joint swelling and tenderness, they may be giving insufficient consideration to pain and limitations on activity, which would resonate more with patients.

Both CRP and ESR correlated poorly with PhGA and PtGA. This suggests that acute-phase reactants, although useful in some situations for evaluating physiologic disease activity, are not closely related to how patients are actually feeling, further emphasizing the importance of the PhGA and PtGA in assessing response to treatment. For example, a patient may have an ESR result within normal limits but be experiencing a lot of pain. Thus, although the active inflammatory component of the patient's disease may be well controlled by medication, the patient's self-assessment may be considerably worse because they are experiencing considerable pain and/or disability from articular impairment from old disease (ligament contraction) or from extra-articular issues not reflected by acute-phase reactant or other comorbid articular disease such as concomitant osteoarthritis. This pattern of long-term disease progression of RA has been described by Kirwan et al.[10] In the early stages of RA, symptoms related to joint inflammation are the main determinant of disability, but in the later stages of the disease, the effects of joint destruction become the primary determinant of functional loss, with increasingly severe disability despite stable or even diminished inflammation.[10] Physicians also typically see acute-phase reactant results following patients examination and after making assessments. The values for CRP and ESR may therefore not contribute to PhGA made during the patient visit. Moreover, composite measures that need values for acute-phase reactants to calculate (ie, Disease Activity Score 28 [DAS28] and the Simplified Disease Activity Index [SDAI]) have been shown to strongly correlate with the CDAI (a composite index that does not require acute-phase reactant values for calculation) for prediction of radiographic progression over 3 years, suggesting that acute-phase reactants add little information beyond the combination of clinical variable in the SDAI.[11] Accordingly, composite indexes of patient-reported measures such as RAPID3 (Routine Assessment of Patient Index Data 3) are being used to assess disease activity/severity. RAPID3 has been shown to correlate well with PhGA and PtGA, as well as with composite measures such as DAS28 and CDAI.[12]

There is recent evidence that suggests that in RA patients who are near remission, SJC as a clinical marker of inflammation was more predictive of radiographic progression than CRP used as a laboratory marker of inflammation.[13] Recent clinical trial data for tocilizumab revealed similar efficacy for tocilizumab regardless of whether an acute-phase reactant (CRP or ESR) was included in assessment.[14] The role for CRP in assessments of therapeutic effectiveness remains unclear. However, the American College of Rheumatology and the European League Against Rheumatism (ACR/EULAR) provisional definitions of remission include CRP levels.[15]

Discordance between physicians and patients with respect to assessment of disease severity has been noted in other studies. Barton et al.[3] showed that patients typically scored disease severity as worse compared with physician assessment of disease severity. In a comparison of physician- and patient-rated RA disease activity using VAS, high pain score, HAQ, and TJC were associated with higher patient rating of disease activity, whereas CRP was associated with higher physician rating of disease activity.[16] A recent study reported that pain and fatigue were the most important independent determinants of PtGA of RA disease activity (assessed by VAS), whereas SJC, ESR, and TJC were the most important determinants of PhGA of RA disease activity.[5] Indeed, pain control, improvement of function, and discussion of medication effects were the 3 most important expectations during a rheumatology clinic visit in RA patients from a multinational study (4 centers in China and 1 center each in Japan and the United States)[17]: physicians also chose pain control as their most important expectation for the clinic visit, followed by inquiry about adverse effects and objective assessment of disease activity. Similarly, Studenic et al.[18] recently showed that pain was the most important contributor to PtGA and explained 76% of the variability between PtGA and PhGA, whereas SJC was the most important contributor to PhGA (explained 61% of the variability between PhGA and PtGA). Published data[5,18] and the results reported here suggest that PtGA is based more heavily on patients' subjective perception of pain and discomfort and/or their own mental and physical well-being and may be influenced by patient mood. In contrast, physicians weigh clinical signs and symptoms more heavily because these measures can be objectively verified and may not consider subjective parameters.

When making decisions for treatment escalation, rheumatologists have been shown to place the greatest importance on disease activity scores and the least importance on patient-reported symptoms.[19] With regard to decisions to escalate care, rheumatologists ranked swollen joints as the most influential factor, whereas patients ranked physical function as the most influential factor.[20] Physicians may gravitate toward objective measures to determine whether a patient is worsening or benefiting from treatment and may not place sufficient emphasis on patient-reported variables. Furthermore, in our study, the differences between PhGA and PtGA began at the first visit; at baseline, there was no difference observed in PhGA and PtGA. This could be due to the fact that, for many investigators, RADIUS was the first clinical trial, and the rapid decrease in PhGA could be due to investigator enthusiasm regarding anticipated improvement. It should be noted that patients enrolled in the RADIUS trial when a new therapeutic regimen was initiated. Thus, physicians and patients could have had different expectations regarding the therapeutic benefit from this intervention.

Determining which factors correlate best with PhGA and PtGA and which contribute to physicians' and patients' perceptions may help establish an improved standard for treatment assessment as well as patient-physician dialogue. In an analysis of clinical trial data, an ACR/EULAR review committee found that the addition of patient-reported outcomes (PtGA or patient-reported pain by VAS) added important information to physician-linked measures. It noted that patient-reported outcomes,

after controlling for TJC, SJC, and CRP, discriminated significantly between treatments.[15]

Despite the limitations associated with observational studies and the RADIUS 1 registry (eg, lack of a randomized control group, lack of prespecified study visits, and possible selection bias[6]), our findings are derived from a large real-world RA population. Indeed, many RA trials require that patients have an elevated CRP or ESR to be included in the study[21–24]; however, the resultant study populations may not reflect the broader spectrum of RA patients seen by rheumatologists in a real-world setting, as a significant proportion (about one third to one half) of patients with active RA will not have CRP and/or ESR elevations.[25,26] We also determined correlations at 7 time points over a 5-year period to determine stability over time as well as to provide validity to the overall correlations. Moreover, the patient assessments assessed in this study are easily implemented, with limited requirements for equipment or time for scoring or calculations. Further work is warranted to better characterize this phenomenon and understand the appropriate magnitude of impact this discrepancy has on the physician-patient assessment relationship and outcomes.

These results, from observational, real-life assessments of treatment effectiveness in RADIUS 1, were consistent with the differing contributions of physician and patient assessments observed in the ACR/EULAR analyses and in other published literature. These data also offer insight into what influences the patients' opinions of disease and how it differs from what influences the physicians' opinions of disease. We conclude that physicians should give thorough consideration to patients' assessments of their RA disease activity (HAQ, pain VAS, and PtGA), and physicians should view joint counts in context as part of the overall assessment of how their patients are doing. Future attention should be focused on determining the proper weighting of components within an improved composite index.

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