The impact of fibromyalgia on health status according to the types, demographic background and pain index

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ABSTRACT

Objectives. *To compare fibromyalgia (FM) core symptoms, FM impact severity and health status between the recently defined type A and type B of fibromyalgia. To compare disease impact and health status between FM patients and non-FM chronic pain control group. Finally, to compare health related quality of life and disease symptom severity by demographic background and widespread pain index (WPI).*

Methods. *A total of 284 consecutive FM patients and 96 non-FM control patients were enrolled. The information of four questionnaires including the Fibromyalgia Survey Questionnaire (FSQ), the Fibromyalgia Impact Questionnaire (FIQ), the 12-item Short Form Health Survey (SF-12) and questionnaires regarding demographic features were collected from a local FM registry.*

Results. *Of all FM patients, 102 (94%) and 7 (6%) were type A and B, respectively. We found statistically significant differences in symptomatology, the FIQ scores and the SF-12 subscales across two type and control groups ($p<0.001$). However, when we compared these scores pairwise, except WPI there were no significant differences in other scores between type A and B. Also, there were no significant differences in FIQ and SF-12 scores across different age or educational status groups. Interestingly, patients with higher WPI had significantly higher FIQ (overall, symptom, and total) scores, worse PCS-12 and MCS-12 scores, and vice versa.*

Conclusion. *Type B constitutes a minor but important component of FM that probably has a marked impact on the patient's perceived illness severity and quality of life. Further, WPI probably is the most important single indicator of disease severity and quality of life in FM.*

Introduction

Fibromyalgia (FM) is a dimensional illness with continues nature of polysymptomatic distress which its etiopathogenesis is still debated and multifactorial (1-4). In addition to chronic widespread pain, frequently occurring symptoms include fatigue, unrefreshing sleep, cognitive difficulties, headache, anxiety and depression (1, 5, 6). Patients with FM often present with varying combinations and degrees of severity of these symptoms, which further complicates the ability to understand FM and makes its study challenging.

Development of the 2010 American College of Rheumatology (ACR) fibromyalgia criteria made it possible to categorise patients into two major types: 1) Type A, defined by widespread pain index (WPI) ≥7/19 pain sites and symptom severity (SS) score ≥5/12 and 2) Type B, defined by WPI between 3-6/19 and SS score ≥9/12.

Type B was a minor component of the fibromyalgia definition and has been added to the criteria to capture patients who have all of the symptoms of fibromyalgia, but not enough painful areas (1, 7). As expectable, type A FM patients have higher painful areas in contrast to type B patients which exhibit lower pain widespreadness and higher symptoms scores. Although it has been shown that anxiety, general psychological distress, physical function, and fatigue were worse in the type B group (1), it remains unclear whether the illness impact severity and health status are different between these two types of FM patients.

Due partly to the existence of multiple cluster symptoms in FM, this illness has become a worrying health condition in societies (8). Studies performed around the world showed that FM patients had a remarkably consistent pat-

tern of health status impairment, much more than that seen in other specific pain conditions which are widely accepted as impairing (9-12). Although there are universal reports of impairing quality of life in FM, it seems that patients' reported symptoms and their health status might differ depending on the geographical region (13, 14). For this reason, we designed this study firstly to assess clinical characteristics, symptom severity and quality of life of Iranian FM patients; secondly to characterise type A and B in an Iranian FM population and compare the patients' core symptoms, fibromyalgia impact severity and health status between the two types; thirdly to compare disease impact and health status between FM patients and patients in chronic pain control group; and finally to compare health-related quality of life and disease symptom severity by demographic background and WPI.

Methods

Data for this study were collected from an existing FM registry. This FM registry included patients who have been seen at the six tertiary center clinics including two teaching rheumatology clinics (Hazrat-e-Rasoul Akram General Hospital, a teaching hospital of Iran University of Medical Sciences [IUMS], and Razi General Hospital, a teaching hospital of Guilan University of Medical Sciences [GUMS]), three private rheumatology clinics and the Iranian Center for Medical Laser (ICML) affiliated to Academic Center for Education, Culture and Research (ACECR). We enrolled 284 consecutive FM patients and 96 chronic pain control patients from our registry. The recruitment of patients was done from September 2011 to April 2014 by three rheumatologists who were experienced in the diagnosis and management of chronic pain and fibromyalgia. All patients consented to be enrolled in the registry. Men were not included in this study. Furthermore, the control group was defined as a group of female non-FM patients with a painful non-inflammatory rheumatic condition such as osteoarthritis, periarthritis, and regional pain syndromes, and no concurrent diagnosis of FM at the time of enrollment. This study was approved by the Ethics Committee of Guilan University of Medical Sciences.

Data-mining of the existing registry

Data regarding demographic features, clinical symptoms, 2010 modified ACR FM criteria and health related quality of life was extracted from the existed relevant questionnaires. In fact, we used the information from four questionnaires including the Fibromyalgia Survey Questionnaire (FSQ) (15, 16), the Fibromyalgia Impact Questionnaire (FIQ) (17), the 12-item Short Form Health Survey (SF-12) (18) and questionnaires regarding demographic features.

The FSQ, derived from 2010 modified ACR FM criteria, consists of two components: WPI and SS score. The WPI includes 19 pain sites (jaws, shoulders, upper arms, lower arms, hips, upper legs, lower legs, neck, chest, upper back, lower back, and abdomen). The SS score that ranges from 0 to 12, however, includes 3 major symptoms (fatigue, trouble thinking or remembering, waking up tired [unrefreshed]) and 3 additional symptoms (pain or cramps in lower abdomen, depression, headache). Patients who satisfied the 2010 criteria were divided into two separate types: (1) type A, defined as patients with WPI ≥7/19 pain sites and SS score ≥5/12; (2) type B, defined as patients with WPI between 3-6/19 and SS score ≥9/12 (7, 15).

The FIQ is a specific instrument assessing the disease impact on daily living of fibromyalgia patients. This instrument measures physical functioning, overall impact (missed days of work and job difficulty) and symptoms (depression, anxiety, morning tiredness, pain, stiffness, fatigue, and well-being over the past week). The maximum score for the FIQ is 100, with higher values indicating greater severity. In the severity analysis, a FIQ total score that ranged from 0 to <39 was found to represent a mild effect, ≥39 to <59 a moderate effect, and ≥59 to 100 a severe effect (19, 20).

Health status and quality of life were assessed by the version-1 of short-form health survey (SF-12) that includes two main domains: the physical component score (PCS) and the mental component score (MCS), and eight scales for assessing eight dimensions: physical functioning, physical role, social role, emotional role, bodily pain, general health, vitality and mental health. Scores range from 0 to 100 where 0 indicates the worst condition and 100 indicates the best possible condition (18). All questionnaires have been validated in Persian language (15, 17, 18).

Written informed consent was obtained from all the patients. This study was in compliance with the Helsinki Declaration and approved by the Local Ethics Committee.

Statistical analysis

Demographic qualitative variables and quantitative variables were compared between FM group and non-FM group by Chi-Square and Independent T-Tests, respectively.

Using One Sample Kolmogorov-Smirnov Test, we determined the normal distribution of data in target groups. Then, in variables with normal distributaion, Analiza variance for comparison between three groups and post-hoc Tukey HSD for comparison between two groups were used. On the other hand, nonparametric Kruskal-Wallis and Mann-Whitney U-tests were used for variables without normal distributaion,

All statistical tests were two-tailed, and *p*-values <0.05 were considered significant. Statistical analysis was performed using SPSS for Windows v. 21.0; SPSS, Chicago, IL, USA.

Results

We recruited 284 consecutive FM patients and 96 chronic pain control patients from our registry. All patients were female with the mean (±SD) age of 41±11 in FM patients and 48±11 in non-FM chronic pain patients. The mean (±SD) number of months in which patients had experienced FM symptoms before making FM diagnosis was 47.6±62.43. Other socio-demographic data are shown in Table I.

The most common painful regions of FM patients in the descending order of frequency were: neck (n=132 [76.7%]),

Table I. Demographic and baseline characteristics of FM patients and control non-FM patients.

	FM patients (n=284)	Non-FM patients (n=96)	*p*-value
Age, mean ± SD	41 ± 11(18-80)	48 ± 11 (19-75)	0.000*
Literacy			0.008*
Under diploma	101 (35.8%)	49 (53.3%)	
Diploma	116 (41.1%)	31 (33.7%)	
Academic	65 (23.0%)	12 (13.0%)	
Marital status			0.050*
Single	31 (11.1%)	4 (4.3%)	
Married	249 (88.9%)	90 (95.7%)	
Habitancy			NS
Urban	155 (94.5%)	18 (94.7%)	
Rural	9 (5.5%)	1 (5.3%)	
FIQ scores			
Fiq function	3.65 ± 2.19	3.09 ± 1.78	0.013*
Fiq overal	8.32 ± 4.48	5.25 ± 4.42	0.000*
Fiq symptom	44.96 ± 12.18	27.20 ± 12.32	0.000*
Fiq total	57.08 ± 15.79	35.86 ± 15.40	0.000*
SF-12 subscales			
Physical functioning	46.55 ± 30.34	57.55 ± 31.44	0.003*
Role physical	47.89 ± 41.72	45.31 ± 40.44	NS
Bodily pain	54.95 ± 24.78	62.24 ± 24.60	0.013*
General health	25.00 ± 17.71	37.50 ± 20.52	0.000*
Vitality	37.18 ± 27.02	68.54 ± 27.03	0.000*
Social functioning	57.75 ± 28.77	67.19 ± 27.22	0.005*
Role emotional	48.94 ± 43.82	68.23 ± 37.08	0.000*
Mental health	51.09 ± 23.23	75.73 ± 17.09	0.000*
Physical Component Summary	43.42 ± 18.18	50.65 ± 21.39	0.003*
Mental Component Summary	48.58 ± 19.54	69.92 ± 19.22	0.001*

*p-values less than 0.05 were considered significant - N: not significant

right shoulder (n=114, [66.2%]), left shoulder (n= 107, [62.2%]), low back (n= 101 [58.7%]) and upper back (n= 100 [58.1%]). Furthermore, symptoms of these patients mostly included fatigue, reported in 169 (98.2%), nervousness in 163 (94.7%), depression in 151(87.7%), headache in 142 (82.5%) and insomnia in 142 (82.5%).

The mean (±SD) total score of FIQ in FM patients was 57.08±15.79. In addition, the mean (±SD) scores for the Physical Component Summary (PCS-12) and Mental Component Summary (MCS-12) in these patients were 43.42±18.18 and 48.58±19.54, respectively. Table I shows all the FIQ scores and the SF-12 subscales in detail.

FSQ data was only available for 109 FM patients. 102 and 7 of them were type A and B, respectively. Table II, illustrates the comparison of symptomatology, FIQ scores and SF-12 subscales between patients with FM type A, FM type B and patients in chronic pain control group. As it is shown in Table II, we found statistically significant differences between all of the intended scores across all the three groups. However, when we compared these scores pairwise, *i.e.* between type A and B together, the results were discordant. Indeed, except WPI, there was no significant difference in other scores between type A and B. In contrast, when either type A or B were separately compared with the non-FM control group, significant differences were found in most of the analysed scores such as FIQ scores and SF-12 scales (Table II).

Comparison of FIQ and SF-12 scores by demographics background (age and educational status) and WPI was done. Similarly, SF-12 score was compared by FIQ scores in different severity levels (mild, moderate, and severe). The results included no significant differences in FIQ and SF-12 scores between different age groups. The only exception was PCS-12 whose scores were significantly different between 18-24 yr group and 45-64 yr group (Mean ± SD: 54.38±10.40 and 40.65±19.41, respectively; 95% CI, 1.38 to 26.08; p=0.023). Moreover, comparison of FIQ and SF-12 scores by educational status showed no significant differences in these scores across FM patients who were different in educational status. Table III illustrates the results in detail.

When PCS-12 and MCS-12 scores were compared against FIQ score severity levels (mild, moderate, severe), FM patients with higher FIQ scores had significantly lower PCS-12 and MCS-12 scores (Table IV). Finally, when FIQ and SF-12 scores were compared against WPI, patients with higher WPI had significantly higher FIQ (overall, symptom, total) and worse PCS-12 and MCS-12 scores, and vice versa (Table V).

Discussion

This study showed that Iranian FM patients probably experience higher levels of pain widespreadness and a moderate to severe illness impact. Most clinical characteristics and patients' reported symptoms were consistent with previous studies done in other geographic regions (21-24). Although type B was seen in only a small minority of FM patients (6%), its disease impact and health status did not show to have any significant difference compared to the cardinal type of FM (type A).

This study also revealed that FM patients might have worse physical and psychological scores than other painful disorders which are also expected to impair health status. Furthermore, the poorest physical and mental health status were found in FM patients with highest pain index (WPI). Of note, FM patients exhibited more impairment in physical than psychological health.

Distribution of pain locations in patients in this study was concordant with previous studies such as Bennett *et al*. study (25) which compared the results of the pain location survey in FM patients with that of other pain groups such as rheumatoid arthritis (RA) and lupus. Our study showed that the FM patients generally reported many more pain locations and higher WPI scores than the patients in the control group. Of note, axial pain (neck and lumbar) was the most prevalent area of pain in our FM patients. This result is compa-

Table II. Symptomatology, FIQ scores and SF-12 subscales in 2 types of FM and control non-FM patients.

	Type A (n=102) (mean ± SD)	Type B (n=7) (mean ± SD)	Control group (n=96) (mean ± SD)	*p*-value (It is defined between 3 groups)	*p*-value (It is defined between type A and type B groups)	*p*-value (It is defined between type A and contro groups)	*p*-value (It is defined between type B and control groups)
WPI	10.38 ± 3.25	5.29 ± 0.756	2.21 ± 2.38	0.000*	0.000*	0.000*	0.016*
ss_score	8.20 ± 1.76	9.28 ± 0.48	3.38 ± 2.17	0.000*	NS	0.000*	0.000*
pain vas†	7.78 ± 1.84	7.14 ± 2.34	5.74 ± 2.52	0.000*	NS	0.000*	NS
fatigue vas	7.75 ± 2.01	7.71 ± 2.05	3.82 ± 2.60	0.000*	NS	0.000*	0.000*
fiq function	3.86 ± 1.82	4.05 ± 2.01	3.09 ± 1.78	0.010*	NS	0.009*	NS
fiq overal	10.94 ± 4.39	10.21 ± 3.13	5.25 ± 4.42	0.000*	NS	0.000*	0.012*
fiq symptom	49.49 ± 11.00	49.71 ± 10.60	27.20 ± 12.32	0.000*	NS	0.000*	0.000*
fiq total	64.39 ± 14.76	63.83 ± 11.97	35.86 ± 15.40	0.000*	NS	0.000*	0.000*
Physical functioning	41.91 ± 29.04	32.14 ± 18.89	57.55 ± 31.43	0.001*	NS	0.001*	NS
Role physical	33.33 ± 33.98	21.42 ± 39.33	45.31 ± 40.44	0.039*	NS	NS	NS
Bodily pain	44.11 ± 22.57	46.42 ± 26.72	62.23 ± 24.60	0.000*	NS	0.000*	NS
General health	18.38 ± 15.70	21.42 ± 17.25	37.50 ± 20.51	0.000*	NS	0.000*	NS
Vitality	28.62 ± 23.79	25.71 ± 19.02	68.54 ± 27.02	0.000*	NS	0.000*	0.000*
Social functioning	47.79 ± 25.87	39.28 ± 24.39	67.18 ± 27.22	0.000*	NS	0.000*	0.021*
Role emotional	34.80 ± 39.67	28.57 ± 48.79	68.22 ± 37.07	0.000*	NS	0.000*	0.026*
Mental health	46.17 ± 22.29	35.71 ± 13.97	75.72 ± 17.09	0.000*	NS	0.000*	0.000*
Physical Component Summary	34.43 ± 16.98	30.35 ± 21.17	50.65 ± 21.39	0.000*	NS	0.000*	0.021*
Mental Component Summary	39.35 ± 19.86	32.32 ± 19.43	69.92 ± 19.22	0.000*	NS	0.000*	0.000*
MEAN (TPC,2)	16.87 ± 2.33	14.82 ± 2.73	-	0.028*	NS	-	-

**p*-values less than 0.05 were considered significant - NS: not significant. †visual analog scale.

rable with prior studies in which high rates of WPI and axial pain have been reported in FM patients as well (6, 22, 25). Indeed, this underscores the widespreadness and the axial nature of pain in FM. On the other hand, fatigue was observed in nearly all of our FM patients; the fact that is consistent with the previous literature showing it to be the second most reported symptom in FM (7, 26). At last, comparison of cardinal symptoms such as pain and fatigue between the FM and non-FM groups demonstrated higher scores in the former.

In this study, and in accordance with previous findings, patients with FM had a moderate to severe impact of illness. Of note, the mean total FIQ result was 57.08±15.79 meaning that our patients were moderately affected cases. It is comparable with preceding studies showing scores ranging from 42.30 to 63.60 (19, 22, 27). It can indicate that the FM impact in Iranian patients who were seen in tertiary level of care is probably similar to FM impact in patients of other regions.

The present study is one of the few studies that assesses and compares the characteristics, illness impact and health status between defined subgroups of FM patients. Wolfe *et al*. reported that although type B FM patients had not enough painful areas, they had all of the symptoms of FM, psychological distress and physical functioning which were worse than type A. Of note, other dimensions of quality of life were similar in both groups in that study (1). Our results indicated that type B might have better scores only in pain variables (including WPI and pain VAS). Other measures, however, such as SS score, FIQ scores (total, function, overall and symptom scores), SF-12 subscales, PCS-12 and MCS-12 scores were similar between two types. It thus seems that patients' symptom severity and their quality of life were not different between patients with type A and B. This supports the idea that type B constitutes a minor but important component of FM that probably has a marked impact on the patient's perceived illness severity and quality of life. It supports that type B has been tapped into the new FM diagnostic criteria appropriately and it is in the low WPI area of FM continuum but still in the high distress intensity region.

Table III. Comparison of FIQ scores and SF-12 subscales by age groups in FM patients.

	18-24yr (n=16) (mean ± SD)	25-44yr (n=168) (mean ± SD)	45-64yr (n=93) (mean ± SD)	>65 yr (n=4) (mean ± SD)	*p*-value between groups
Fiq function	4.42 ± 2.43	3.64 ± 2.05	3.61 ± 2.40	2.51 ± 2.04	NS
Fiq overal	7.41 ± 3.71	8.26 ± 4.51	8.58 ± 4.57	10.01 ± 5.35	NS
Fiq symptom	44.59 ± 11.34	45.77 ± 11.16	44.15 ± 13.95	43.00 ± 11.51	NS
Fiq total	59.32 ± 17.50	57.48 ± 14.38	56.67 ± 17.85	55.52 ± 14.94	NS
Physical Component Summary	54.38 ± 10.40	43.69 ± 17.23	40.65 ± 19.41	34.38 ± 13.01	0.025*
Mental Component Summary	54.83 ± 14.42	48.10 ± 18.64	47.98 ± 21.41	37.50 ± 19.18	NS

**p*-values less than 0.05 were considered significant- NS: not significant.

Table IV. Comparison of SF-12 subscales by FIQ score severity level in FM patients.

FIQ total score	<39 (n=37) (mean ± SD)	40-59 (n=109) (mean ± SD)	>60 (n=136) (mean ± SD)	*p*-value between groups
Physical Component Summary	58.51 ± 19.45	47.12 ± 16.56	36.30 ± 15.72	0.000*
Mental Component Summary	64.12 ± 19.38	53.65 ± 18.43	40.10 ± 16.23	0.000*

*p-values less than 0.05 were considered significant.

Table V. Comparison of FIQ scores and SF-12 subscales by WPI in FM patients.

	<3 (n=15) (mean ± SD)	3-6 (n=49) (mean ± SD)	7-9 (n=55) (mean ± SD)	>9 (n=53) (mean ± SD)	*p*-value between groups
Fiq function	2.82 ± 2.27	3.29 ± 1.92	4.00 ± 1.82	3.78 ± 1.77	0.027*
Fiq overal	6.86 ± 4.78	8.17 ± 4.39	10.06 ± 4.58	11.60 ± 4.22	0.000*
Fiq symptom	36.53 ± 17.02	39.96 ± 12.96	46.67 ± 11.29	51.21 ± 10.62	0.000*
Fiq total	47.84 ± 17.51	51.56 ± 16.81	61.94 ± 15.07	65.51 ± 14.74	0.000*
Physical Component Summary	45.42 ± 24.72	45.92 ± 23.44	39.20 ± 18.34	30.07 ± 14.09	0.000*
Mental Component Summary	53.00 ± 25.36	50.18 ± 21.40	45.02 ± 20.77	35.19 ± 17.87	0.000*

*p-values less than 0.05 were considered significant.

Moreover, compared to the chronic pain control group, FM patients had significantly more impaired FIQ scores, all eight scales of the SF-12 and both component summary scores. These findings are also in line with the previous studies performed around the world suggesting that FM patients have a remarkably consistent pattern of health status impairment and disease impact, even more than that seen in other rheumatic disorders such as RA, osteoarthritis and lupus (9-12). Nevertheless, due to the subjective nature of symptoms and lack of physical or laboratory findings in FM, patients may be faced with disbelief and distrust about the legitimacy of their illness from family and/or even from health care providers and receive much less attention than other chronic pain disorders. This is what has recently been referred to as "invalidation" (28, 29). Regarding this concept of invalidation, now, it is the time to pay more attention to FM patients with poorer health status and higher negative impact on their life and providing them with better recognition and disease management.

Interestingly, our FM patients reported higher impairment in physical health status rather than mental health status. This is comparable with the results of Segura-Jiménez *et al*. study which showed that generally physical dimensions of quality of life are more impaired than its mental dimensions (23). These data reinforce the idea that FM is not a pure psychological or pure somatic illness but it is a more physical illness in which pain and physical disability impacts patients' physical quality of life, more severely. This characteristic of the disease underscores the importance of focusing more on the efficacy of physical treatment in FM management.

To provide a more detailed interpretive context for understanding the health status and disease impact severity, SF-12 and FIQ in FM patients were compared against demographic features and WPI. Except minor significant differences between the two age groups, there were no important differences in quality of life and disease severity between subgroups of FM patients who were different in age and educational status. Notably, previous studies have shown controversial results regarding the influence of age on quality of life and disease impact in FM. In fact, while some studies suggest that elderly patients have a worse health status and disease severity when compared with younger patients (12, 27), others did not find differences according to age (30, 31). For instance, Campos *et al*. showed that after controlling the age effect on health status, the disease had less impact on physical and social dimensions in elderly (more than 60 years) women with FM than in younger patients (30). We found only PCS-12 scores being significantly lower in patient aged 45-65 compared to the youngest group (24, 29). Taken all together and using the present results, it seems while the increasing age is not associated with more FM impact, the predominant FM age group which is between 40 to 60 years may exhibit higher negative impact on healthiness rather than other age groups.

Our study is the first study that has attempted to identify the impact of WPI on disease severity and health status. In this regard, our results suggests that the more WPI that is reported by patients, the higher the FIQ scores, the worse the SF-12 scores, the greater the disease severity and the poorer the quality of life. This actually reflects the fact that the pain index is the most important indicator of disease severity and quality of life in FM. It is thus recommended that WPI be considered as a simple and effective surrogate marker for fibromyalgia impact severity and health status assessment.

The present study also tried to identify FM patients with higher impairment in illness severity and quality of life. Concerning this, our findings showed that 45-65 year old FM patients with higher WPI, had poorer health status and worse illness impact. Such information may help health professionals to establish which FM populations they should direct their research to; this will enable improvement to the clinical management and the health status.

In conducting this study we had some limitations as well. Firstly, there were significant differences in demographic characteristics (*e.g*. age) and literacy level between patients in FM and control. For example, FM patients were a little younger than non-FM controls (41±11 vs 48±11); the fact that, however, does not seem to be clinically significant. Secondly, since we only enrolled women who had referred to tertiary care centers, results of this study cannot be extrapolated to men or

to the general population samples. At last, as the number of FM patients in type B subgroup was low, interpretation of their scores and comparison of them with type A subgroup must be exercised with caution.

To summarise, our FM population had similar characteristics, illness impact severity and health status to that of patients in other geographic regions. They exhibited a negative impact on quality of life, with particular focus on physical dimensions even much more than that seen in other chronic pain disorders. Interestingly, symptom severity and quality of life were not different between type A and B FM patients. Future studies are warranted to characterise FM type A and B subgroups and to identify impact disease severity and health status in these groups. Such studies can provide a novel approach for a more realised understanding of the continuum nature of FM and also management of varying features of this disorder. It must be emphasised that identification of patients with poor illness severity and quality of life is the most important issue in their treatment and outcome. In this line, it seems that WPI can be used as a simple and efficient surrogate marker for more complex and time-consuming measures commonly used to assess health status and FM impact severity. This will give clinicians an opportunity for a more rapid and also efficient clinical assessment of disease impact in FM.

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