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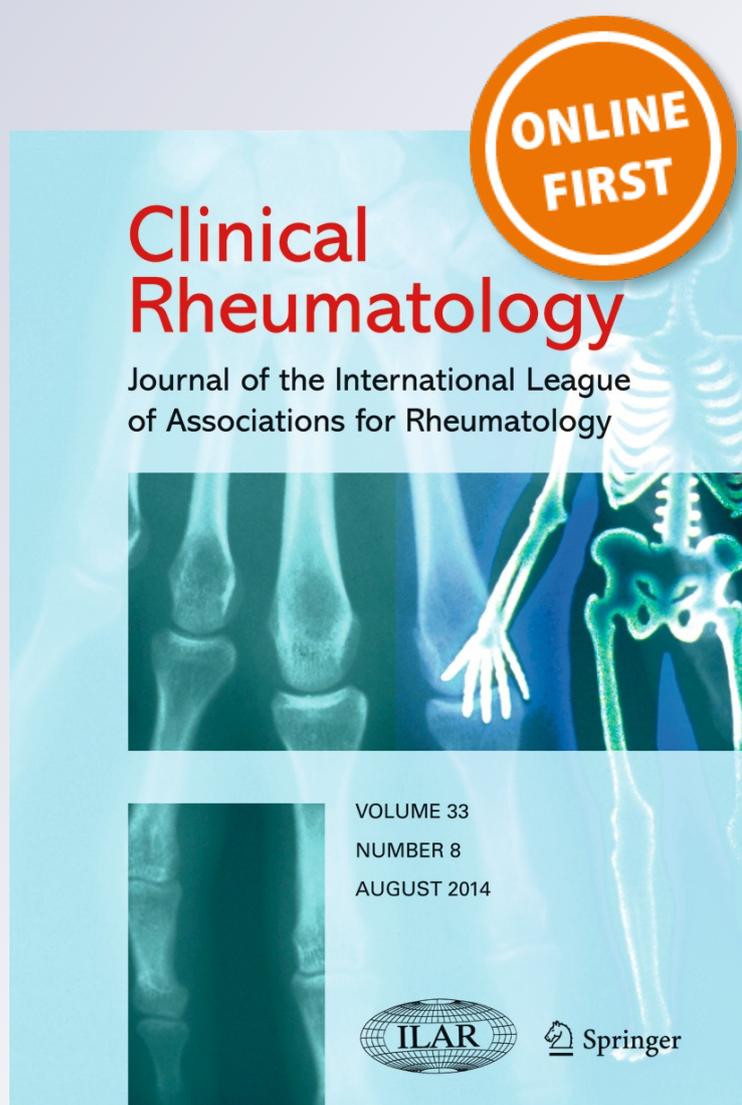
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Association of physicians' illness perception of fibromyalgia with frustration and resistance to accepting patients: a cross-sectional study

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Abstract The aim of this study was to elucidate whether physicians' illness perceptions correlate with their frustration or resistance to accepting patients with fibromyalgia (FM). In this cross-sectional postal survey, questionnaires were sent to member physicians of the Japan College of Rheumatology and Japan Rheumatism Foundation. Measures collected included the Brief Illness Perception Questionnaire with Causal Attribution, the Illness Invalidation Inventory, and the Difficult Doctor–Patient Relationship Questionnaire (DDPRQ-10). Multiple logistic regression was performed to examine associations between the DDPRQ-10 and resistance to accepting patients with FM for treatment. We analyzed data from 233 physicians who had experience in consulting with patients with FM. Only 44.2 % answered that they wanted to accept additional patients with FM. Physicians' frustration was associated with difficulty controlling symptoms, patients' emotional responses, and causal attribution of FM to patient internal factors. Conversely, lower levels of frustration were associated with causal attributions to biological factors and uncontrollable external factors. However, the “difficult patient” perception did not correlate with resistance to accepting patients with FM. Difficulty controlling symptoms with treatment was the one factor common to both physicians' frustration and resistance to accepting patients with FM. Physicians may hesitate to accept patients with FM not because of the stigmatic image of the “difficult patient,” but instead because of the difficulty in controlling the symptoms of FM. Thus, to improve the quality of consultation, physicians must continuously receive new information about the treatments and causes of FM.

Keywords Difficult patients · Fibromyalgia · Illness perceptions · Japan · Physician–patient relationship

Introduction

Fibromyalgia (FM) is a disorder of unknown origin characterized by widespread pain, muscle stiffness and tenderness, and nonspecific systemic complaints including fatigue, sleeplessness, and bowel symptoms. FM has often been diagnosed using the 1990 diagnostic criteria established by the American College of Rheumatology [1]. However, these criteria have been criticized for their lack of objective measures of abnormality and heavy reliance on subjective reports from patients [2]. This has created doubt among physicians regarding the disease concept of FM. Preliminary diagnostic criteria that include a greater variety of clinical symptoms were proposed in 2010 [3]; however, controversy remains.

Epidemiological surveys have shown that the prevalence of FM in Japan is similar to that in Western countries (around 1.6 %), with an estimated 2 million affected individuals [4]. Nevertheless, the awareness of FM is much lower in Japan than in other countries as measured by a 2006 survey in which only 38.4 % of primary care physicians in Japan were aware of the term FM [5–7]. The awareness rate has since improved; however, by 2011, as many as 63.0 % of Japanese rheumatologists had not consulted with a single patient with FM in the past year [8]. This suggests that improved FM awareness does not directly lead to acceptance of patients with FM; rather, the author of the study pointed out that rheumatologists may avoid treating patients with FM. Therefore, to understand why doctors hesitate to treat these patients, we must discuss physicians' interpretations or negative images and even stigmatic views of FM that lie behind these physicians' treatment-related behavior.

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Previous studies on physicians' impressions of illness can be roughly divided into two groups: those that focused on patient attributes from the viewpoint of the doctor–patient relationship and those that focused on the impressions of the diagnosis itself. Anecdotal studies of both types have accumulated. For instance, one qualitative interview-based study on physicians' perceptions of patients with FM and chronic fatigue syndrome showed that physicians consider these patients' symptoms to be less serious than the symptoms of other diseases with clear, objective abnormalities [9]. Physicians mentioned mainly negative impressions of patient characteristics; for example, some suggested that these patients are ambitious, active, illness-focused, and demanding and have a tendency to medicalize any potential symptoms.

Some previous quantitative studies have examined which patient characteristics are associated with difficult encounters or physician frustration [10–12]. For example, a study of patients with FM and rheumatoid arthritis revealed that the following patient-related variables were significantly correlated with physician frustration: a history of current or lifetime psychiatric care, a history of rape or physical abuse, a current somatization disorder, the patient's particular functional status, and the patient's personality [12]. This same study also reported that physicians recognize patients with FM to be substantially more “difficult” than patients with rheumatoid arthritis.

However, as stated by Hahn [13], “difficult patients” do not exist; to be more precise, a “difficult encounter” arises only out of the relationship between the patient and doctor. As we can see from the survey results, which reveal that physicians rate FM as the least prestigious among 38 diseases [14], it is important to understand physicians' interpretations of the diagnosis of any disease, especially a controversial illness such as FM.

The concept of illness perception is widely used to understand interpretations and beliefs about illness. Also termed “illness representation,” illness perception is a reaction by individuals facing health threats. The basis of this concept lies in Leventhal's Self-Regulation Model of Illness [15, 16]. In this model, affected individuals form cognitive and emotional representations of their illness, and these representations become the basis of subsequent coping behavior such as help-seeking behavior or self-evaluation. Many studies have examined the illness perceptions of patients with various medical conditions [17, 18].

Although many studies have investigated illness perception in patients, few have measured illness perception among physicians [19, 20]. In one such study by Pastor et al. (2012), 208 Spanish general practitioners were questioned about their views on FM [21]. The researchers then used The Brief Illness Perception Questionnaire (BIPQ) to examine whether these views correlated with either the physicians' clinical management behavior or the physicians' satisfaction

[22]. According to the results of the study, doctors considered the main cause of FM to be psychological and perceived FM to be a severe condition that is difficult to control. Additionally, the predictors of overall satisfaction with clinical management were clinical self-efficacy and controllability.

Based on the aforementioned studies, we can predict that physicians' interpretation of FM is a key factor affecting their behavior or perceived difficulty during consultation. Therefore, the purpose of this study was to elucidate whether physicians' illness perceptions are associated with their frustration or resistance to accepting patients with FM.

Methods

Participants

The participants of this study comprised member physicians of either the Japan College of Rheumatology or the Japan Rheumatism Foundation. This population was chosen because such physicians are likely to encounter patients with FM. We compiled a list of 6,304 physicians using information openly available on the websites of the aforementioned associations. We removed duplicates and excluded doctors who do not generally treat adult patients with FM (e.g., oncologists, dialysis physicians, pediatricians, and doctors working in research institutes, public health care centers, and school or company infirmaries).

Survey procedure

A preliminary survey targeting 500 randomly selected physicians from the aforementioned list was conducted in December 2011. This preliminary survey enabled assessment of the response rate and validity and credibility of the measurements, which had been translated into Japanese.

The main survey was conducted in March 2012. We mailed survey questionnaires to 1,000 physicians randomly selected from the aforementioned list. Fourteen questionnaires were returned unanswered for various reasons (e.g., the physician had transferred to a different clinic). Of the 986 remaining questionnaires, 317 completed questionnaires were returned for a response rate of 32.2%. Eleven questionnaires were then excluded owing to missing physician characteristics. Finally, we analyzed the data of 233 of the 306 remaining questionnaires completed by physicians who answered that they had experience treating patients with FM. This study was approved by the medical ethics committee at The University of Tokyo Hospital.

Measures

The questionnaire was written in Japanese. The measures used in the questionnaires were originally written in a foreign language, and we followed the process recommended for translating patient-reported outcomes to assure language validity [22]. For the Illness Invalidation Inventory (3*I), we followed the translation process recommended by its authors: two native Japanese speakers, two native English speakers, and the researchers (M.H., H.I., and T.K.). We first created a sample of the questionnaire and distributed it to the patients with FM and rheumatologists to gain feedback. The preliminary survey was then conducted to ensure the credibility and validity of the measures, and the results were sufficient. We asked about the following variables in the questionnaire: Illness perception, Causal attribution, Negative response to patients, Physician frustration, Willingness to accept patients with FM, and Physician demographics.

Illness perceptions We used the BIPQ to evaluate illness perceptions [23]. This is the short version of the Illness Perception Questionnaire (IPQ) [24] and IPQ-Revised (IPQ-R) [25] and is publically available on the University of Bergen website [26]. Items are rated using a 0 to 10-point response scale; a higher score indicates a recognition of the illness as more threatening. The scale comprises eight items: Consequences (Item 1), Timeline (Item 2), Personal control (Item 3), Treatment control (Item 4), Identity (Item 5), Concern (Item 6), Understanding (Item 7), and Emotional response (Item 8). Items 1–5 assess cognitive representations of the illness, items 6 and 8 assess emotional representations of the illness, and item 7 assesses comprehension of the illness. Each item of the BIPQ assesses one dimension of illness perception. The BIPQ was modified from the patient's to the physician's point of view (modified questions are shown in Table 2).

Causal attribution Causal attribution was originally one part of the IPQ. Based on the responses to the preliminary survey, we employed the "Causes of My Illness" section from the IPQ-R [25] version, which proved easier to answer. A list of 18 possible causes of FM was presented. Participants were asked to rate each causal item on a 5-point scale from "strongly disagree" to "strongly agree." Participants rated the extent to which they considered each item to be a possible cause of FM irrespective of textbook descriptions or general information. Based on previous studies [25, 27, 28], we performed a principal components factor analysis to create subgroups of the 18 causal items. Varimax rotation produced five subscales: Patient's internal/psychological factors, Bio-medical risk factors, Stress, Lifestyle factors, and Uncontrollable external factors. All subscales demonstrated sufficient internal consistency compared with previous studies [29].

Negative responses to patients We used the 3*I to assess physicians' negative responses to patients [30]. The 3*I originally intended to measure negative social responses specific to patients with internal diseases such as FM [31], such as rejection, disbelief, and a lack of understanding. These social responses are termed "invalidation." This scale used in the 3*I is applicable to physicians and measures whether they recognize their own negative attitudes toward such patients. The physician version of the 3*I was obtained directly from the author. The scale comprises two subscales: Discounting (five items) and Lack of understanding (three items). Each item asks how often the physician reacted to a patient in a specific way during the past year. Participants scored themselves on a 5-point scale (1=never to 5=very often). Factor analysis revealed the same factor structure as in previous studies and good reliability (discounting, $\alpha=0.77$; lack of understanding, $\alpha=0.75$).

Physician frustration We used the 10-item version of the Difficult Doctor–Patient Relationship Questionnaire (DDPRQ-10) [32]. The DDPRQ was originally developed to measure the specific characteristics that lead a physician to feel that a patient is "difficult" [10]. Each of the 10 items uses a 6-point Likert scale.

Willingness to accept patients with FM We asked the following question to assess physicians' willingness to accept patients with FM: "In your personal opinion, if a patient with FM or suspected to have FM wanted to see you for treatment, would you accept him or her as a patient?" The respondents chose either "Yes" or "No."

Physician demographics Participants reported their age, sex, years of clinical experience, hospital type, specialty, whether they were registered on the FM treatment network (Yes or No), and whether they had experience treating patients with FM (Yes or No).

Statistical analysis

We performed a multiple logistic regression analysis. The dependent variables were the DDPRQ-10 score and the willingness to accept patients with FM. According to a previous study, the total DDPRQ-10 score was used as a dichotomous variable in the analysis: we defined the 20 % of participants with the highest scores as cases (the "frustrated" group), and the remaining 80 % of participants served as controls [10]. The independent variables were Illness perception, Causal attribution, and Negative response to patients. We referred to the correlation coefficients between the variables to select the analytical model. If the number of cases was sufficient compared with the number of variables, we used the forced entry method to perform the multivariate analysis, which was intended to adjust the mutual effects between variables.

However, in analyzing the DDPRQ-10 variables, we encountered a risk of too many independent variables compared with the number of cases because the 20 % of physicians with the highest degree of frustration were defined as cases. Because more than 10 cases per variable are recommended [33], a more conservative approach was taken in which models were made for each one of the independent variables after the control variables had been input. We then checked the significance and odds ratios of each model. With reference to previous studies, control variables were selected according to the following criteria: significant correlation to dependent or independent variables ($p < 0.05$), absence of multicollinearity, and a significant contribution to the multivariate model. Data were analyzed using IBM SPSS Statistics for Windows, Version 20.0 (IBM Corp., Armonk, NY, USA).

Results

Physician demographics (Table 1)

Of the 233 target physicians who had experience with FM consultation, 90.1 % were male, the mean age±standard deviation (SD) was 53.1±10.9 years (range, 33–84 years), and the mean duration of clinical experience was 27.1±10.4 years (range, 6–62 years). With respect to hospital type, 39.5 % of physicians were working in private practice, 29.6 % were working at a general hospital, and 20.6 % were working at a university hospital. Most of the physicians were specialists in rheumatology (44.2 %), followed by orthopedics (27.7 %) and internal medicine (18.3 %). Only 5.6 % of the physicians answered “Yes” to the question “Is your hospital registered with the FM consultation network?”

Table 1 Physician demographics ($n=233$)

Sex: male, n (%)	210 (90.1)
Age, mean (SD) range	53.1 (10.9), 33–84
Years of clinical experience, mean (SD), range	27.1 (10.4), 6–62
Hospital type, n (%)	
Private practice	92 (39.5)
General hospital	69 (29.6)
University hospital	48 (20.6)
Other	24 (10.3)
Specialty, n (%) *multiple answer	
Rheumatology	174 (44.2)
Orthopedics	109 (27.7)
Internal medicine	72 (18.3)
General/private practice	24 (6.1)
Pain clinic	2 (0.5)
Other	12 (3.3)
Member of FM consultation network, Yes, n (%)	13 (5.6)

Willingness to accept patients with FM (Table 2)

For the question “In your personal opinion, if a patient with FM or suspected to have FM wanted to see you for treatment, would you accept him or her as a patient?,” more than half of the physicians (55.8 %) answered “No.” With respect to the physicians’ specialties, more than half of the orthopedics, internal medicine, and rheumatology specialists did not want to accept patients with FM. We asked the 130 physicians (55.8 %) who responded “No” to this question to choose a reason from among several choices; the most common reason was “It is better to consult an FM specialist (19.5 %)” followed by “FM is a psychiatric disease (14.4 %),” “A substantial amount of time is required to care for these patients (14.1 %),” “Many are ‘difficult’ patients (13.5 %),” “I am not confident in FM treatment (12.9 %),” and “I am doubtful of the disease concept of FM (12.9 %).”

Illness perception and causal attribution of FM (Table 3)

Descriptive statistics about illness perception revealed particularly high scores for the following three items: consequences, concern, and emotional response. This suggests that physicians consider FM to greatly affect the subjective aspects of

Table 2 Willingness to accept patients with FM ($n=233$)

	n (%)
Does not want to accept patients with FM ($n=233$)	130 (55.8)
Specialty of physicians who do not want to accept patients *percentage within each specialty	
Rheumatology ($n=174$)	93 (53.4)
Orthopedics ($n=109$)	60 (55.0)
Internal medicine ($n=72$)	39 (54.2)
General/private practice ($n=24$)	11 (45.8)
Pain clinic ($n=2$)	1 (50.0)
Other ($n=13$)	5 (38.5)
Reason for rejection ($n=334$) *percentage of all multiple answers	
It is better to consult an FM specialist	65 (19.5)
FM is a psychiatric disease	48 (14.4)
A substantial amount of time is required to care for these patients	47 (14.1)
Many are “difficult” patients	45 (13.5)
I am not confident in FM treatment	43 (12.9)
I am doubtful of the disease concept of FM	43 (12.9)
Out of my specialty	24 (7.2)
Policy of hospital or organization	7 (2.1)
Other	12 (3.6)

We asked the following question: “In your personal opinion, if a patient with FM or suspected to have FM wanted to see you for treatment, would you accept him or her as a patient?” and the respondents chose “Yes” or “No.”

Table 3 Physicians' illness perceptions and causal attribution

Illness perception items (range 0–10) *(r) stands for reverse items	Mean (SD)
Consequences: How much does fibromyalgia affect the patient's life? (n=219)	8.16 (1.55)
Timeline: How long do you think fibromyalgia will continue? (n=218)	7.22 (1.46)
Personal control (r): In general, how much control do you think patients have over fibromyalgia in general? (n=219)	6.06 (1.73)
Treatment control (r): How much do you think general treatment can help fibromyalgia? (n=219)	5.98 (1.79)
Identity: How much do patients experience symptoms from fibromyalgia? (n=219)	7.40 (1.60)
Concern: In general, how much are patients concerned about fibromyalgia? (n=220)	8.40 (1.56)
Understanding (r): In general, how much do you feel patients understand about fibromyalgia? (n=220)	5.22 (2.08)
Emotional response: In general, how much does fibromyalgia affect patients emotionally? (e.g., anger, fear, confusion, or depression) (n=218)	8.14 (1.51)
Causal attribution items (range 1–5) (n=218)	Mean (SD)
Patient's internal/psychological factors	14.09 (3.08)
Patient's emotional state e.g., feeling down, lonely, anxious, empty	3.96 (0.76)
Patient's personality	3.89 (0.91)
Patient's mental attitude e.g., thinking about life negatively	3.55 (0.99)
Patient's own behavior	2.69 (1.09)
Biomedical risk factors	12.43 (3.63)
Altered immunity	2.75 (1.05)
Hereditary—it runs in patient's family	2.78 (1.04)
A germ or virus	2.36 (1.01)
Diet or eating habits	2.33 (1.04)
Pollution in the environment	2.22 (0.93)
Stress	11.53 (1.91)
Stress or worry	4.07 (0.73)
Overwork	3.65 (0.87)
Family problems or worries caused the patient's illness	3.81 (0.82)
Lifestyle factors	7.04 (2.56)
Ageing	2.43 (1.02)
Smoking	2.34 (1.03)
Alcohol	2.27 (0.98)
Uncontrollable external factors	8.08 (2.41)
Accident or injury	3.07 (1.12)
Poor medical care in the patient's past	2.83 (1.08)
Chance or bad luck	2.18 (1.06)

patients' lives and that physicians believe that patients are concerned and emotionally affected by FM. Conversely, the score for understanding was low, indicating that physicians believe that patients have a poor understanding of their

illness. Additionally, the Timeline score was not high, indicating that physicians tend to consider that the disease courses of FM are not serious. With respect to the five dimensions of causal attribution, we found that physicians consider internal/psychological factors and lifestyle factors to be the most and least probable causes of FM, respectively.

Factors associated with physician frustration during FM consultation (Table 4)

The mean total DDPRQ-10 score was 36.0±8.3 points (range, 10–60 points). When we controlled for sex and years of clinical experience, physician frustration was significantly correlated with difficulty controlling symptoms with treatment (OR=1.35, 95 % confidence interval [95 % CI]=1.09–1.66, *p*=0.01) and the impact of the patient's emotional response (OR=1.52, 95 % CI=1.13–2.04, *p*=0.01). With respect to causal attribution, physicians who most strongly considered that FM is caused by internal/psychological factors were more likely to report frustration during consultation (OR=1.20, 95 % CI=1.05–1.37, *p*=0.01). In contrast, a stronger consideration of biomedical risk factors (OR=0.85, 95 % CI=0.77–0.95, *p*=0.003) or uncontrollable external factors (OR=0.86, 95 % CI=0.74–0.99, *p*=0.04) as causes of FM was associated with less frustration. In terms of negative responses to patients, physicians who more frequently recognized their attitudes such as discounting (OR=1.28, 95 % CI=1.14–1.44, *p*<0.001) or a lack of understanding (OR=1.34, 95% CI=1.13–1.60, *p*<0.001) reported much more frustration during consultation.

Factors associated with resistance to accepting patients with FM (Table 5)

When asked, "In your personal opinion, if a patient with FM or suspected to have FM wanted to see you for treatment, would you accept him or her as a patient?", 130 (55.8 %) respondents answered "No." We defined these physicians as the cases (resistance group) and performed a multiple logistic regression analysis while controlling for sex, years of experience, hospital type, and registration with the FM consultation network. We found that as physicians reported more difficulty in controlling symptoms with treatment (OR=1.37, 95 % CI=1.09–1.73, *p*=0.01) and more frequently recognized their attitudes such as a lack of understanding (OR=1.61, 95 % CI=1.28–2.03, *p*<0.001), they were more likely to report resistance to accepting patients with FM. However, the more strongly that a physician felt about biomedical risk factors as causes of FM, the less resistance they showed to accepting patients with FM (OR=0.85, 95 % CI=0.75–0.97, *p*=0.01). We found no significant correlations between causal attribution to internal/psychological factors and resistance to accepting patients with FM.

Table 4 Association of physician frustration with illness perception, causal attribution, and negative responses

Variables associated with physician frustration	Number	Odds ratios (95 % CI)	<i>p</i>	Likelihood ratio test χ^2 (<i>p</i>)
Control variables				
Sex(female)	220	0.75 (0.23–2.40)	0.63	4.70 (0.10)
Years of Clinical experience		0.96 (0.93–1.00)	0.04*	
Illness perceptions (1 point increments)				
Consequences	208	1.22 (0.95–1.57)	0.12	8.00 (0.05)
Time line	208	1.26 (0.99–1.61)	0.06	9.00 (0.03)
Personal control (r)	208	1.25 (1.00–1.57)	0.05	9.72 (0.02)
Treatment control (r)	208	1.35 (1.09–1.66)	0.01*	13.86 (0.003)
Identity	208	1.28 (1.00–1.64)	0.05	9.68 (0.02)
Concern	209	1.25 (0.95–1.64)	0.11	8.42 (0.04)
Coherence (r)	209	0.97 (0.82–1.15)	0.73	5.69 (0.13)
Emotional response	208	1.52 (1.13–2.04)	0.01*	14.65 (0.002)
Causal attribution (1 point increments)				
Patient's internal/psychological factors	210	1.20 (1.05–1.37)	0.01*	13.55 (0.004)
Biomedical risk factors	207	0.85 (0.77–0.95)	0.003**	15.10 (0.002)
Stress	209	1.09 (0.89–1.32)	0.41	6.11 (0.11)
Lifestyle factors	210	0.92 (0.80–1.06)	0.25	6.73 (0.08)
Uncontrollable external factors	209	0.86 (0.74–0.99)	0.04*	9.76 (0.02)
Negative responses (1 point increments)				
Discounting	213	1.28 (1.14–1.44)	<0.001***	24.46 (<0.001)
Lack of understanding (r)	215	1.34 (1.13–1.60)	<0.001***	17.32 (0.001)

* $p < .05$, ** $p < .01$, *** $p < .001$

DDPRQ-10 scores were dichotomized, identifying the 20 % with the highest scores as having the most frustration in consultations as cases (frustrated group). Using forced entry methods, models were made for each one of the independent variables after we input the control variables. Variables that do not have notes were used as continuous variables

Discussion

Physicians' frustration in FM consultation

The average DDPRQ-10 score in this study was 36.0±8.3 points. Comparison of this score with the average score reported in primary care settings in the USA (20.8±8.5) [13] and the average score given by rheumatologists who care for patients with FM (29.3±9.9) [12] clearly indicates that the physicians in our study face considerable frustration with patients with FM.

Multiple logistic regression showed a strong correlation between physicians' frustration and the recognition of their own negative responses to patients. Although there is a paucity of empirical studies on this topic, one study identified a relationship between emotional responses and physicians' satisfaction with interpersonal management of FM [21]. Among the illness perception items, difficulty in controlling symptoms with treatment and the emotional impact on patients were associated with physicians' frustration. This result corresponds with that in a study showing that Japanese psychiatrists feel the most difficulty with pain control, unidentified complaints, and patient personality types [34].

With respect to causal attribution, physicians who strongly considered patient internal/psychological factors as causes of FM had significantly higher difficult doctor–patient relationship scores. In contrast, physicians who strongly considered biomedical factors or external factors as causes of FM had significantly lower difficult doctor–patient relationship scores. One study that used the DDPRQ to examine the relationship between characteristics of patients with FM or rheumatic arthritis and physicians' frustration showed that a history of psychiatric disease and the patient's personality were associated with physicians' frustration [12]. However, direct comparison of these results should be performed with caution because the aforementioned study evaluated individual patients who were actually seen in consultation, while our study measured the awareness toward patients with FM in general. Despite this difference in study design, our results indicate that physicians may have an image of patients with FM as “difficult” or “troublesome,” which has also been described in many studies [12, 32, 35], and such a perception is strongly associated with physicians' frustration.

Many studies on the stigma felt by patients with somatization or functional somatic syndromes (FSS) such as FM have been performed. Looper and Kirmayer [36] clearly showed

Table 5 Association of resistance to accepting FM patients with illness perception, causal attribution, and negative responses

Variables associated with resistance to accepting FM patients (<i>n</i> =117)	Odds ratios (95 % CI)	<i>p</i>
<i>n</i> =204		
Control variables		
Sex (female)	2.51 (0.68–9.24)	0.17
Physicians' years of experience (1 year increments)	0.96 (0.93–1.01)	0.09
Hospital type (University or General Hospital)	0.74 (0.35–1.55)	0.42
Registration with FM consultation network (No)	16.35 (2.29–116.88)	0.01*
Illness perceptions (1 point increments)		
Consequences	0.73 (0.51–1.04)	0.08
Time line	1.27 (0.96–1.69)	0.09
Personal control (r)	0.89 (0.70–1.13)	0.33
Treatment control (r)	1.37 (1.09–1.73)	0.01*
Identity	1.03 (0.77–1.38)	0.84
Concern	1.06 (0.74–1.52)	0.76
Coherence (r)	0.83 (0.69–1.00)	0.05
Emotional response	1.28 (0.90–1.80)	0.17
Causal attribution (1 point increments)		
Patient's internal/psychological factors	0.98 (0.83–1.15)	0.77
Biomedical risk factors	0.85 (0.75–0.97)	0.01*
Stress	1.10 (0.86–1.42)	0.45
Lifestyle factors	0.92 (0.77–1.11)	0.38
Uncontrollable external factors	1.16 (0.94–1.43)	0.16
Negative responses (1 point increments)		
Discounting	1.05 (0.92–1.19)	0.47
Lack of understanding (r)	1.61 (1.28–2.03)	<0.001***
Nagelkerke R ²	0.38	

p*<.05, *p*<.01, ****p*<.001

One hundred seventeen respondents who answered “No” to the question “In your personal opinion, if a patient with FM or suspected to have FM wanted to see you for treatment, would you accept him/her as a patient?” were defined as cases (resistance group). Forced entry methods were used in performing multivariate analysis. Variables that do not have notes were used as continuous variables

that patients with FSS perceive more stigma than do patients with known pathological conditions. In contrast, few studies have directly assessed physicians' attitudes toward patients who exhibit somatization. With respect to the label of somatization disorder, studies have shown that physicians consider such a diagnosis to be pejorative and useless (i.e., a wastebasket or exclusion diagnosis) [37]. Considering these reactions to somatization disorders in general, our study findings, which represent physicians' difficulty, show that physicians' attitudes toward patients with FM are understandable.

Resistance to accepting patients with FM

Considering that control over treatment outcomes was correlated with physicians' clinical behavior in a previous study [21], our finding that treatment difficulty is correlated with resistance to accepting patients with FM is reasonable. Contrary to our expectation, however, causal attribution to patient internal/psychological factors was not significantly correlated

with resistance to accepting patients with FM. Considering the fact that these factors were associated with physicians' frustration, the image of the “difficult patient” did not affect the willingness to accept patients with FM. Instead, the factors that appeared to be important in the decision to accept such patients were whether there were objective causes of FM and whether the physicians perceived FM to be treatable and controllable. These findings empirically indicate that to improve physicians' acceptance rates of patients with FM, it is important to continuously disseminate new information about the treatments and causes of FM to physicians.

Our study results also indicate that physicians are reluctant to accept patients with FM not because these patients are troublesome, but because it is challenging to control the symptoms of FM. This point is important to avoid misunderstandings and build sound relationships between patients and physicians.

There were some limitations of the present study. First, generalization of these research findings to primary care

physicians should be performed with caution. Most of our study participants were rheumatologists and orthopedists, and we only analyzed data from physicians who had experience with treating patients with FM. Thus, the physicians in our study population may have been relatively knowledgeable about FM. However, judging from the study results, not all respondents were especially interested in treating FM; rather, many physicians in this study considered FM to be out of their area of specialty or completely psychosomatic. Therefore, our data may adequately represent the actual awareness of FM among physicians in general. Second, the rate of response to the questionnaires was not very high. However, that of general postal surveys among Japanese physicians is usually similar to ours, and our response rate was as high as that in a similar study [5]. Third, for simplicity, we used a binary response option (yes or no) to the question of whether or not physicians wished to accept patients with FM, whereas a Likert scale may have allowed for a wider range of responses. This might be an issue for future research.

Despite some limitations, our findings add to the body of knowledge regarding physician interpretations of medically unexplained symptoms in general. Additionally, we obtained honest responses from physicians about negative attitudes toward patients, a topic that has not been thoroughly investigated, especially in Japan. Hence, the information presented in this study can be used to improve the consultation and treatment environment for patients with FM.

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