The Fibromyalgia Impact Questionnaire (FIQ): a review of its development, current version, operating characteristics and uses

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ABSTRACT

*The Fibromyalgia Impact Questionnaire (FIQ) was developed in the late 1980s by clinicians at Oregon Health & Science University in an attempt to capture the total spectrum of problems related to fibromyalgia and the responses to therapy. It was first published in 1991 and since that time has been extensively used as an index of therapeutic efficacy. Overall, it has been shown to have a credible construct validity, reliable test-retest characteristics and a good sensitivity in demonstrating therapeutic change. The original questionnaire was modified in 1997 and 2002, to reflect ongoing experience with the instrument and to clarify the scoring system. The latest version of the FIQ can be found at the web site of the Oregon Fibromyalgia Foundation (*www.myalgia.com/FIQ/FIQ*). The FIQ has now been translated into eight languages, and the translated versions have shown operating characteristics similar to the English version.*

Introduction

Fibromyalgia is a syndrome of chronic widespread pain defined by the American College of Rheumatology (ACR) 1990 classification criteria (1). These criteria require that the patient has had pain for at least three months involving three or more quadrants of the body including an axial distribution. In addition, fulfillment of these criteria require the finding of 11 or more out of 18 specified tender points (using a pressure of 4 kg). Since publication of these criteria in 1990 there has been an almost exponential increase in fibromyalgia related research. As a result of this research, it is now generally agreed that patients fulfilling the 1990 ACR criteria have a dysregulation of sensory processing often referred to as "central sensitization" (2-4). However, fibromyalgia is more than just a pain syndrome, as numerous studies have documented a high prevalence of mood disorders, non-restorative sleep, autonomic dysregulation, subtle neuroendocrine dysfunction, impaired work performance and association with other syndromes such as irritable bowel, restless legs, chronic fatigue, overactive bladder and multiple chemical hypersensitivity (5,6). The Fibromyalgia Impact Questionnaire (FIQ) was developed by members of the fibromyalgia treatment team at Oregon Health & Sciences University (OHSU) in an effort to capture this total spectrum of fibromyalgia related symptoms (7). It was first used in an analysis of the Oregon multidisciplinary approach to fibromyalgia treatment (8). Since that time it has been referenced in the title or abstract of over 100 Medline accessible articles and translated into eight languages.

Development

The origin of the FIQ can be traced back to informal discussions between members of the OHSU Fibromyalgia Treatment Team in the mid-1980s. At that time, the two questionnaires most commonly used in rheumatology practice were the Arthritis Impact Measurement Scales (AIMS) (9) and the Stanford Health Assessment Questionnaire (HAQ) (10). The content of these questionnaires did not appear to fully reflect the multi-dimensionality of symptoms described by the fibromyalgia patients seen in our clinic. Based on an intake questionnaire used in the OHSU Rheumatology Clinic and informal discussions with fibromyalgia patients, the initial version of the FIQ was developed in 1986. In particular, the functional component of the questionnaire was purposely biased to the use of large muscle groups rather than fine hand movements.

In 1987, this original FIQ, along with the AIMS, was mailed to 64 female patients with primary fibromyalgia at weekly intervals for a total of six weeks

(52 patients completed all 6 mailings). This sample had a mean age of 45 years; the median time since diagnosis was 5 years; 38% were not employed outside the home. A second group of 25 female fibromyalgia patients, attending the OHSU Fibromyalgia Treatment Clinic, completed the FIQ in 1989 as part of their routine clinical evaluation, including a tender point count. This cohort was similar in demographic details to the first group except for a shorter duration of fibromyalgia (median 1 year).

The construct validity of the FIQ was assessed by measuring the correlation of the FIQ individual items with AIMS (after the items on both scales had been standardized to a range from 0 to 10). The pain, depression and anxiety items of the FIQ also demonstrated significant correlations with the corresponding AIMS (0.69, 0.73 and 0.76 respectively). The first item of the FIQ (physical function) strongly correlated with the AIMS lower extremity physical function component (r=0.67). The analog scale of impact on the AIMS correlated least robustly with the 10 items of the FIQ, the highest correlations being with pain (r = 0 .48), fatigue (r = 0.37), morning tiredness (r= 0.34), stiffness (r= 0 .31) and ability to do job (r=0.31). This syndrome activity scale of the AIMS showed a better correlation with the 10 FIQ items; pain (r=0. 83), ability to do job (r=0. 63), feel good (r=0. 57), stiffness (r=0. 50), physical function (r=0.49), morning tiredness (r=0.48), fatigue (0.48), missed work (r=0.47), depression (r=0.31), anxiety (r=0.28). The number of tender points generally showed a poor correlation with individual FIQ items with the exception of missed work (r=0.74) and physical function (r=0.61).

The content validity of the AIMS for fibromyalgia patients was assessed by analyzing which items of the AIMS provided relevant information in patients with fibromyalgia, using a ≤ 25% impairment on the AIMS as indicative of a valid item. It was found that none of the activity of daily living items of the AIMS (dressing, baking, moving about and toileting) were significantly impaired in this sample of fibromyalgia patients. On the other hand, 2 out of 4 mobility items (stay indoors and remain in a bed or chair for most of day), 1 out of 7 household activity items (do own housework), 4 out of 5 physical function items (walking several blocks, bending, walking one block and vigorous activity) and 1 out of 5 dexterity items (opening a new jar of food) were impaired in fibromyalgia patients. Thus, overall, the AIMS did not have good content validity in this fibromyalgia population. The content validity of the FIQ was analyzed from an analysis of missing data for each item. Only 2 items from the first item FIQ (physical function), namely "wash dishes by hand" and "don't do yard work" were missing from 11% and 20% of questionnaires respectively. As many fibromyalgia patients were not working outside the home, the 2 work items of the FIQ were not relevant to 38% of the subjects.

The test-retest reliability (Pearson's r) was assessed by the weekly recording of data over 6 weeks. The reliability ranged from 0.56 on the pain score to 0.95 for physical function.

There was no significant correlation between the FIQ items and demographic variables such as age, work status, duration of fibromyalgia or educational level.

The internal consistency (Cronbach's alpha) and completion time were not evaluated in the original analysis.

Modifications

In the original version of the FIQ, questions 3 and 4 referred to problems with "work". If patients did not work they were instructed to cross out these 2 questions. This resulted in the total maximum score being reduced from 100 to 80. Several subsequent papers reported the FIQ scoring on a 0 to 80 continuum. With increasing use of the questionnaire, it became apparent that many patients considered work to imply "paid work outside the home". In 1997, questions 3 and 4 were modified to include housework, namely: question 3 - "How many days last week did you miss work because of fibromyalgia?" was modified to include the phrase "including housework" and now reads: "How many days last week did you miss work, including housework, because of fibromyalgia?" Similarly, question 4: "When you worked, how much did pain or other symptoms of your fibromyalgia interfere with your ability to do your work?" was modified to: "When you worked, how much did pain or other symptoms of your fibromyalgia interfere with your ability to do your work, including housework?"

Two other modifications were also made in 1997: (1) an 11th question, "climb stairs" was added to the previously 10 item physical function subscale of question 1, and (2) hash-marks were added to all the visual analogue scales.

In 2002, a modification of the scoring was recommended for FIQ's that contained crossed-out questions or other incomplete data. In order to maintain homogeneity on a 0 to 100 continuum, both within and between studies, the final score was to be adjusted to reflect a final maximum score of 100. For instance, if a patient missed out on 2 questions and the combined score was 45, the total recorded score should be adjusted by a factor of 10/8, thus providing a final score of 56.25. The current version of the FIQ is given in Table I and is also available at www.myalgia.com/FIQ/FIQ.

Content

The Fibromyalgia Impact Questionnaire (FIQ) is composed of 10 questions. The first question contains 11 items related to the ability to perform large muscle tasks - each question is rated on a 4 point Likert type scale. Items 2 and 3 ask the patient to mark the number of days they felt well and the number of days they were unable to work (including housework) because of fibromyalgia symptoms. Items 4 through 10 are horizontal linear scales marked in 10 increments on which the patient rates work difficulty, pain, fatigue, morning tiredness, stiffness, anxiety and depression.

Administration

The FIQ is a self-administered instrument that takes approximately 3-5 minutes to complete. The directions are simple and the scoring is self-explanatory. Extensive use of the questionnaire

Table I.

The FIQ Directions and Questions

Directions: For questions 1 through 3, please circle the number that best describes how you did overall for the past week. If you don't normally do something that is asked, cross the question out.

Question 1.

Were you able to:	**Always**	**Most**	**Occasionally**	**Never**
1. Do shopping ?	0	1	2	3
2. Do laundry with washer and dryer ?	0	1	2	3
3. Prepare meals ?	0	1	2	3
4. Wash dishes/cooking utensils by hand ?	0	1	2	3
5. Vacuum a rug ?	0	1	2	3
6. Make beds ?	0	1	2	3
7. Walk several blocks ?	0	1	2	3
8. Visit friends or relatives ?	0	1	2	3
9. Do yard work ?	0	1	2	3
10. Drive a car ?	0	1	2	3
11. Climb stairs ?	0	1	2	3

Question 2. *Of the 7 days in the past week, how many days did you feel good ?*

0 1 2 3 4 5 6 7

Question 3. *How many days last week did you miss work, including housework, because of fibromyalgia ?*

0 1 2 3 4 5 6 7

Directions: For the remaining items, mark the point on the line that beat indicates how you felt overall for the past week.

Question 4. *When you worked, how much did pain or other symptoms of your fibromyalgia interfere with your ability to do your work, including housework ?*

●_____½____½____½____½____½____½____½____½____½____●

No problem with work — Great difficulty with work

Question 5. *How bad has your pain been ?*

●_____½____½____½____½____½____½____½____½____½____●

No pain — Very severe pain

Question 6. *How tired have you been ?*

●_____½____½____½____½____½____½____½____½____½____●

No tiredness — Very tired

Question 7. *How have you felt when you get up in the morning ?*

●_____½_____½_____½_____½_____½_____½_____½_____½_____½_____●

Awoke well rested — Awoke very tired

Question 8. *How bad has your stiffness been ?*

●_____½_____½_____½_____½_____½_____½_____½_____½_____½_____●

No stiffness — Very stiff

Question 9. *How nervous or anxious have you felt ?*

●_____½_____½_____½_____½_____½_____½_____½_____½_____½_____●

Not anxious — Very anxious

Question 10. *How depressed or blue have you felt ?*

●_____½_____½_____½_____½_____½_____½_____½_____½_____½_____●

Not depressed — Very depressed

indicates that most subjects can follow the written instructions accurately without any additional verbal instruction.

Scoring the FIQ (Table I)

The FIQ is scored in such a way that a higher score indicates a greater impact of the syndrome on the person. Each of the 10 items has a maximum possible score of 10. Thus the maximum possible score is 100. The average fibromyalgia patient scores about 50; severely afflicted patients are usually 70 plus. The questionnaire is scored in the following manner:

1. The first item consists of 11 questions that make up a physical function scale. The 11 questions are scored and added to yield one physical impairment score. Each item is rated on a 4 point Likert type scale. Raw scores on each item can range from 0 (always) to 3 (never) - thus the highest total possible raw score is 33. Because some patients may not perform some of the tasks listed, they are given the option of deleting items from scoring. In order to obtain a valid summed score for questions 1 through 11, the scores for the items that the patient has rated are summed and divided by the number of items rated (e.g. if the patient completed only 9 items at a score of 2 for each, the final score would be 9 x 2/9 = 2). An average raw score between 0 and 3 is obtained in this manner.
2. Item 2 is scored inversely, so that a higher number indicates impairment (i.e., 0=7, 1=6, 2=5, 3=4, 4=3, 5=2, 6=1 and 7=0, etc.). Raw scores can range from 0 to 7.
3. Item 3 is scored directly (i.e. 7=7 and 0=0). Raw scores can range from 0 to 7.
4. Items 4 through 10 are scored in 10 increments. Raw scores can range from 0 to 10. 1f the patient marks the space between two vertical lines on any item, that item is given a score that includes 0.5.
5. Once the initial scoring has been completed, the resulting scores are subjected to a normalization procedure so that all scores are expressed in similar units. The range of normalized scores is 0 to 10, with 0 indicating no impairment and 10 indicating maximum impairment.

In order to maintain a maximum possible score of 100 it is necessary to employ an "equalization calculation" if a

Scale	Item #	Recode	Score Range	Normalization
Physical impairment	1	No	0 - 3	S X 3.33
Feel good	2	Yes	0 - 7	S X 1.43
Work missed	3	No	0 - 7	S X 1.43
Do work	4	No	0 - 10	None
Pain	5	No	0 - 10	None
Fatigue	6	No	0 - 10	None
Rested	7	No	0 - 10	None
Stiffness	8	No	0 - 10	None
Anxiety	9	No	0 - 10	None
Depression	10	No	0 - 10	None

Table II. Asummary of within group changes in total FIQ score in a variety of therapeutic studies.

Author	Ref.	Intervention	FIQ pre	FIQ post	Pvalue
Gowans (2004)	25	Exercise	58.6 ± 49	49.3 ± 50.5	< 0.002
Redondo	26	CBT	52.0 ± 11.4	40.8 ± 13.7	< 0.01
Rooks	27	Exercise	44.3 ± 9.0	31.8 ± 13.5	< 0.002
Geel (2000)	28	Exercise	53.1 ± 18.6	28.3 ± 15.0	< 0.0005
Bennett	29	Group therapy	50.4 ± 12.9	37.7 ± 15.8	< 0.00001
Bailey	30	Exercise	67.0 ± 17.0	56.0 ± 22	< 0.001
Arnold	31	Fluoxetine	42.0 ± 14.0	33.4 ± 14.5	< 0.002
Astin	32	Qigong	57.8 ± 10.8	46.4 ± 19.5	< 0.05
Bennett	12	Tramadol/APAP	54.0 ± 11.0	44.7 ± 17.0	< 0.008
Creamer	33	Educational/CBT	51.0 ± 10.8	42.1 ± 13.8	< 0.001
Valim	14	Exercise	53.0 ± 15.0	30.4 ± 19.2	< 0.05
Cedraschi	34	Education/Pool	55.0 ± 13.0	49.0 ± 14.0	< 0.001
Goldenberg	35	Fluoxetine + Amitryptiline	57.3 ± 17.6	38.0 ± 21.2	< 0.006
Arnold	11	Duloxetine	48.7 ± 14.7	35.1 ± 18.2	< 0.027
Bennett	36	Growth hormone	50.0 ± 13.1	36.2 ± 16.6	< 0.0025
Gowans (2001)	37	Exercise	56.6 ± 12.9	48.6 ± 16.2	< 0.05
Burckhardt	38	Education + PT	67.1	57.8	< 0.001

patient does not answer all 10 items. If one or more items are missed, the final summative score needs to by multiplied by 10/x. (e.g. if one question is missed multiply by 10/9 [i.e. 1.111], if 2 questions are missed multiply by 10/8 [i.e. 1.25, etc.])

Experience using the FIQ from 1991 to 2005

Over the past 24 years, the FIQ has been extensively used as an outcome measure in fibromyalgia related studies and is cited in >100 articles (these can be viewed at www.myalgia.com/FIQ/ references).

Overall, it appears to be a sensitive Index of change in fibromyalgia related symptomatology, which correlates with degree of disability, and discriminates between fibromyalgia and some other chronic pain problems.

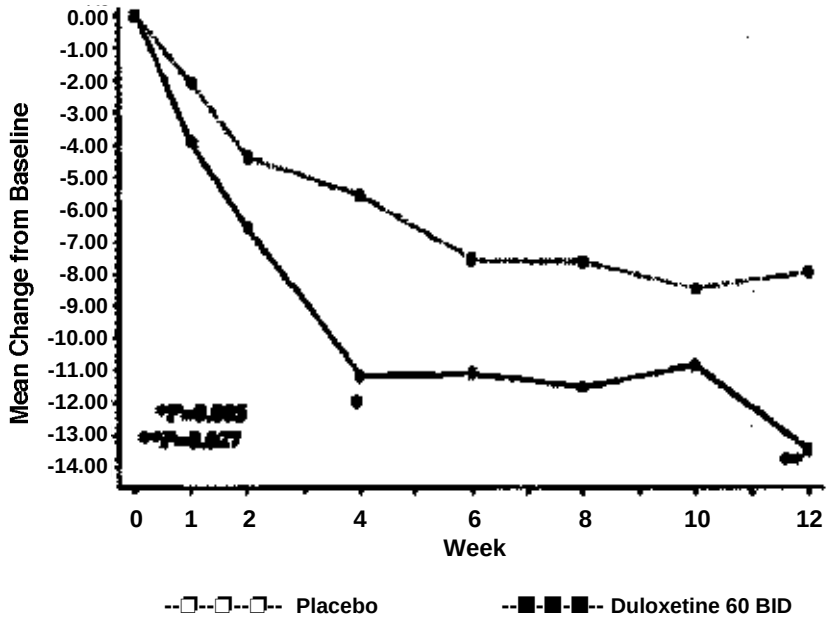

Fig. 1. Mean change from baseline in total FIQ score in a study comparing duloxetine 60 bid to placebo. (From: Arnold *et al*. A double-blind, multicenter trial comparing duloxetine with placebo in the treatment of fibromyalgia patients with or without major depressive disorder. *Arthritis Rheum* 2004; 50: 2974-84)

Sensitivity to change

The FIQ has been most commonly used as an outcome measure in therapeutic trials. In general, it has shown a good response to appropriate clinical change (Table II). For example, a three-month study of duloxetine versus placebo showed a consistent improvement in the total FIQ score in patients taking duloxetine (11) (Fig.1).

Some studies report the 10 subscale items of the FIQ in addition to the total score, while other studies use the first item (the physical impairment scale) as a measure of functionality. For instance, in a study of tramadol/APAP all subscales favored the medication over placebo with the exception of the fatigue and depression subscales (12) (Table III). This lack of improvement in fatigue and depression was hypothesized to be a result of the study design, in that the placebo group was allowed to continue taking antidepressants and some hypnotics.

Correlations

The FIQ has been used as a correlation variable in epidemiological studies, follow-up studies and physiological studies.

White *et al.* tested the utility of the FIQ and 8 other questions/questionnaires in predicting psychological distress in fibromyalgia patients as evidenced by scores on the Centre for Epidemiological Studies Depression (CES-D) Scale, and the State-Trait Anxiety Inventory

Table III. Changes in the 10 individual items of the FIQ in a 3 month study comparing tramadol/APAPto placebo in fibromyalgia patients. (From: Bennett *et al.* Tramadol and acetaminophen combination tablets in the treatment of fibromyalgia pain: a double-blind, randomized, placebo-controlled study. *Am J Med* 2003; 114:537-545)

	Baseline		Final Visit		
	Tramadol/APAP (n=156) Mean ± SD	Placebo (n=157) Mean ± SD	Tramadol/APAP (n=156) Mean ± SD	Placebo (n=157) Mean ± SD	Pvalue
1. Physical impairment subscale	4.4 ± 2.4	4.8 ± 2.2	3.7 ± 2.6	4.5 ± 2.5	< 0.02
2. Feel good subscale	2.1 ± 2.3	2.1 ± 2.0	4.1 ± 3.1	2.9 ± 2.8	< 0.001
3. Work missed subscale	0.9 ± 2.1	0.8 ± 1.9	0.8 ± 2.0	1.1 ± 2.3	< 0.19
4. Do job subscale	6.1 ± 2.2	6.4 ± 2.4	5.1 ± 2.8	5.9 ± 2.7	< 0.04
5. Pain subscale	7.2 ± 1.7	7.2 ± 1.6	5.7 ± 2.7	6.4 ± 2.5	< 0.02
6. Fatigue subscale	8.0 ± 1.7	8.1 ± 1.6	7.0 ± 2.4	7.3 ± 2.4	< 0.41
7. Rest subscale	8.1 ± 1.6	8.2 ± 1.6	6.7 ± 2.5	7.2 ± 2.4	< 0.02
8. Stiffness subscale	7.7 ± 1.8	7.9 ± 1.6	6.2 ± 2.7	7.0 ± 2.3	< 0.008
9. Anxiety subscale	5.5 ± 2.9	5.8 ± 2.9	4.7 ± 3.0	5.5 ± 3.0	< 0.03
10. Depression subscale	5.0 ± 2.9	5.0 ± 2.9	4.4 ± 3.1	4.8 ± 3.0	< 0.25

Table IV. Summary of seven translations of the FIQ in terms of their operating characteristics.

First author	Ref.	Country	Internal consistency	Test-Retest	Concurrent validity assessment tested against
1. Offenbaecher	(39)	German	0.92	0.62 – 1.0	HAQ, SF-36
2a. Bae	(40)	Korean	N.D.	0.53 – 0.96	HAQ
2b. Kim	(41)	Korean	0.8	0.46 – 0.78	HAQ, SCLR-90
3. Perrot	(42)	French	N.D.	0.04 – 0.84	SF-36, AIMS2, GHQ
4. Rivera	(43)	Spanish	0.82	0.61-0.85	HAQ, SF-36, SCLR-90
5. Sarmer	(44)	Turkish	0.72	0.81	HAQ
6. Sarzi-Puttini	(45)	Italian	0.9	0.74 – 0.95	HAQ, SF-36
7. Buskila	(46)	Hebrew	0.93	0.8 – 0.96	Tender point count, dolorimetry
8. Hedin	(47)	Swedish	0.83	0.5 – 0.95	AIMS

(STAI). They found that the total number of symptoms on the 41-item checklist of symptoms (41-SCL), and the FIQ disability score (i.e. item number 1) were the best predictors of psychological distress ($R_2 = 0.51$) (13)

Valim *et al.* evaluated the maximum oxygen uptake (VO_{2max}) in fibromyalgia patients and found no relationship between FIQ scores or SF 36 scores (14).

Fitzcharles *et al.* followed 60 women with fibromyalgia for 40 months with the FIQ and HAQ to determine the outcome with standard medical care (15). Patients were asked to rate their overall status on a point Likert scale (range 1 = much worse, 7 = much better) at the beginning and end of the observation period. Some 47% of the fibromyalgia patients reported overall improvement. When dichotomized into improved or not improved, the total FIQ score was the most discriminatory of all outcome measures (Table IV). When analyzed by repeated measures ANOVA (examining group by time differences) a significant group-by-time interaction was seen for the FIQ ($p = 0.004$), HAQ ($p = 0.015$), patient global assessment ($p = 0.007$), and tender points ($p = 0.004$).

White *et al.* compared function and disability in 100 fibromyalgia patients in the community versus controls in order to identify which variables predicted poor function and disability (16). The outcome variables were the FIQ, the mobility and agility indices from the Health and Activity Limitation Survey (HALS), the 41-SCL, a general health questionnaire, co-morbid conditions and visual analog scales for pain and fatigue. There was a direct relationship between a high FIQ score and work disability (Fig.2). Furthermore, the total FIQ score was the most discriminant factor in predicting disability in a logistic regression model. It was concluded that "currently, the FIQ is the best measure of self-reported function and work disability in fibromyalgia".

Discriminant validity

There are only a few studies that have reported FIQ scoring in patients with other disorders. In general, fibromyalgia patients have higher FIQ scores than patients with regional pain, chronic widespread pain, and migraine.

In a study of post mastectomy pain, those patients with pain localized to the incisional site had a total FIQ score of 20.9 ± 13.2 compared to a score of 52.0 ± 15.1 ($p<0.001$) in patients describing widespread pain (17).

In a community study of 100 fibromyalgia patients compared to other pain conditions, the fibromyalgia patients had a total FIQ score of 61.2 compared to a score of 41.6 in patients with other

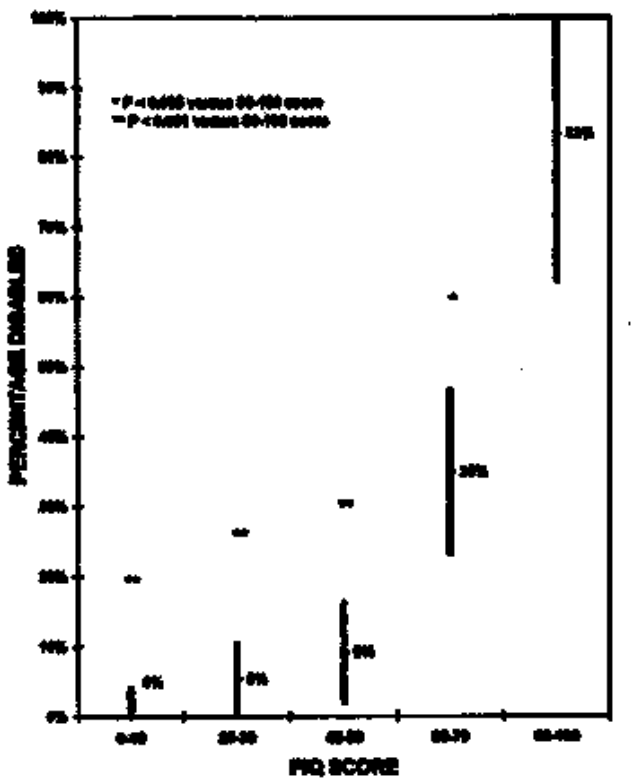

Fig. 2. The FIQ total score is correlated to disability status. In this study of 287 subjects made up of healthy controls (N = 123), pain controls (N = 70) and fibromyalgia (N = 94) there was a correlation between the FIQ and the percentage of subjects reporting disability.
(From: White *et al*. Comparing self-reported function and work disability in 100 community cases of fibromyalgia syndrome versus controls in London, Ontario: the London Fibromyalgia Epidemiology Study. *Arthritis Rheum* 1999; 42: 76-83).

pain conditions ($p < 0.00001$) (16).

Montoya (18) studied the influence of social support and emotional context on pain processing and magnetic brain responses in 18 fibromyalgia patients and 18 controls who had migraine. The total FIQ score in fibromyalgia was 52.23 ± 17.87 versus 35.82 ± 26.28 in the migraine controls (< 0.01).

In an epidemiological study to determine whether a label of "fibromyalgia" alters health status, function, or health service utilization in a community cohort of adults with chronic widespread pain, White *et al*. found no statistically significant difference in the total FIQ score between previously diagnosed fibromyalgia patients versus newly diagnosed patients (FIQ scores of 68.3 and 63.4 respectively) (19). Furthermore, those with a new diagnosis of fibromyalgia maintained a similar FIQ score at 18 months and 36 months post diagnosis (63.3 and 65.5 respectively).

Dunkl used data from a 6-month randomized placebo-controlled study of magnetic therapy in patients with fibromyalgia to assess the responsiveness of the FIQ compared to pain ratings, number of tender points, total myalgic score, and patients perceived change in clinical status after therapy (20). The analysis was based on: (1) degree of association between outcome change scores and patient global ratings of symptom change (Spearman rank-order correlations); (2) ability of these scores to discriminate among groups of patients whose perceived health status had changed to varying degrees (ANOVA); (3) ability of these scores, individually and jointly, to discriminate between patients who had reported improvement and those who did not (logistic regression); (4) effect size, standardized response mean, and Guyatt's statistic were calculated to quantify responsiveness. The FIQ was reported as being superior to the other measures in its capacity to discriminate between patients who improved and those who did not.

Problems with the FIQ

The FIQ was developed originally from a fibromyalgia clinic population that was predominantly female. Thus it may have a gender bias, particularly in item 1, in which 4 out of the 11 sub-items are often considered to be more likely to be performed by women. However, in Western societies in the 21st century, it is not uncommon for men to make meals, use a dishwasher, make beds and do laundry. To date, there has been no systematic comparison of the FIQ between men and women. However, one study did report on the physical functioning subscale of the FIQ (i.e. item 1) between men and women and found no difference (6.8 ± 1.9 and 5.5 ± 2.7) (21).

Wolfe *et al*. performed a Rasch analysis on more than 2500 patients from 4 sites (3 US, 1 Israel) who had completed the FIQ, the SF 36 and 4 versions of the HAQ (22). In scoring the FIQ, items are either rated on a Likert scaling or on a 0-10 VAS, thus all items have the same weight in the final scoring. In the Rasch model, items are differentiated from each other by 'difficulty' and the model mandates that the probability of a positive response to an item is dependent on the difference between the difficulty of the item and the value of the person on the latent trait (23, 24). Using this method of analysis, it was noted that all the questionnaires had problems with non-uni-dimensionality and ambiguous items when applied to patients with fibromyalgia. The FIQ tended to underestimate function impairment by its use of activities not usually performed. The authors developed the FHAQ from a subset of items in the HAQ. To date, there have been no studies to validate the utility of the FHAQ in clinical practice.

Translations

The FIQ has been translated into 8 languages: German, French, Korean, Spanish, Turkish, Italian, Hebrew and Swedish. Each of these translations, with the exception of one, tested the construct validity with the HAQ or

AIMS. All translations provided data on test-retest reliability. All but two assessed internal consistency with a Cronbach's alpha statistic. Overall, the translations performed with a validity, consistency and test-retest reliability similar to the original English version. A summary of these translations is shown in Table IV and their abstracts can be viewed at www.myalgia.com/FIQ/translations.

Summary

The FIQ is an extensively validated fibromyalgia specific tool that captures the overall effect of fibromyalgia symptomatology. It has shown excellent responsiveness to change in clinical studies and a good correlation with similar questionnaires such as the HAQ, AIMS and SF-36.It has been translated into 8 languages and referenced in over 100 publications.

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