

Relation of Age With Symptom Severity and Quality of Life in Patients With Fibromyalgia

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Abstract

Objective: To examine the relation of age with symptom severity and quality of life (QOL) in patients with fibromyalgia, and to compare physical and mental health of our female patients with those of the US female general population.

Patients and Methods: We studied 978 patients with fibromyalgia from May 1, 2001 through April 30, 2004, and divided them into age groups of *young* (≤ 39 years), *middle-aged* (40-59 years), and *older* (≥ 60 years). They completed the Fibromyalgia Impact Questionnaire and the Short Form-36 Health Status Questionnaire (SF-36). Standardized SF-36 physical and mental health summary scores were compared with those of the US female general population of similar age. One-way analysis of variance and post hoc paired *t* test analyses were performed to detect differences across age groups.

Results: Pairwise comparison found young and middle-aged patients having worse fibromyalgia symptoms in all subscales except the anxiety subscale compared with older patients ($P \leq .01$). Similarly, these young and middle-aged patients had worse QOL in the SF-36 mental component summary, as well as SF-36 general health perceptions, vitality, social functioning, and mental health index, compared with older patients (all $P < .001$). When the QOL of our female patients was compared with that of the US female general population of similar age with standardized SF-36 scores, all age groups had lower QOL in physical, as well as mental, health, with more reduction in physical health, particularly in young patients.

Conclusion: Our study shows that symptom severity and QOL differ across age groups in patients with fibromyalgia, with young and middle-aged patients having poorer QOL and worse fibromyalgia symptoms than do older patients. QOL in physical health was reduced more than in mental health, particularly in young patients, compared with the general population.

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Fibromyalgia is a symptom complex characterized by widespread musculoskeletal pain, nonrestorative sleep, fatigue, and psychological distress,¹ with a prevalence of 2% in the US adult population.² The etiologic factors of fibromyalgia are unclear, although accumulating data suggest that disordered central pain processing has a role in its pathogenesis.³ This symptom complex negatively affects quality of life (QOL) compared with not only the general population⁴⁻⁷ but also patients with other rheumatic diseases, such as rheumatoid arthritis, ankylosing spondylitis, and systemic lupus erythematosus,^{4-6,8} as well as other medical conditions such as congestive heart failure.⁹

The relation of age and fibromyalgia symptom severity is still debated. Results range from no differences between patients younger and older than 60 years in common features of

fibromyalgia except for greater frequencies of anxiety and tension and chronic headaches in younger patients,¹⁰ to a greater symptom burden in older patients with fibromyalgia,¹¹ and decreased symptoms with increasing age.¹²

Similarly, the relation between age and QOL in patients with fibromyalgia is also unclear. Although 1 study indicated that in patients with fibromyalgia, increasing age had a negative impact on QOL with poorer scores in physical functioning, role physical, pain index, social functioning, and role emotional subscales on the Short Form-36 Health Status Questionnaire (SF-36),⁵ other studies found no difference in QOL in accordance with age among patients with fibromyalgia.^{6,8,12-14}

The objectives of the present study were to evaluate the relation of age with symptom severity and QOL in a clinical sample of patients with fibromyalgia on the basis of 3 age groups—



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young (≤ 39 years), *middle-aged* (40-59 years), and *older* (≥ 60 years)—and to compare standardized SF-36 physical and mental health summary scores of our female patients with those of the US female general population, using the US normative data by age and sex according to the 3 age groups.¹⁵

PATIENTS AND METHODS

The Mayo Clinic Institutional Review Board approved this study, and all participants submitted written consent. Study participants were the same as those described in a previous study.¹⁶

Participants were seen in the Mayo Clinic Fibromyalgia Treatment Program from May 1, 2001, through April 30, 2004, and had a standardized evaluation by a registered nurse and a physician for diagnosis or confirmation of fibromyalgia or both. All participants had a confirmed diagnosis of fibromyalgia in accordance with the 1990 American College of Rheumatology criteria for the classification of fibromyalgia.¹ Patients completed the Fibromyalgia Impact Questionnaire (FIQ) and the SF-36 at the time of their evaluation in the Fibromyalgia Treatment Program. The number of tender points and demographic characteristics, social variables, duration of symptoms, body mass index (BMI), and medication use were abstracted from the electronic medical record.

Method of Grouping by Age

Age was abstracted from the electronic medical record. Patients were divided into 3 age groups: *young* (age ≤ 39 years), *middle-aged* (age 40-59 years), and *older* (age ≥ 60 years), using the approach previously reported.^{12,14} Analysis was done on the basis of these 3 age groups.

Fibromyalgia Symptoms and QOL Assessment

The FIQ is a self-reported questionnaire and is validated as an effective tool for assessing fibromyalgia-related symptoms and the impact of fibromyalgia on daily functions in the previous week.¹⁷ The questionnaire contains 20 questions that assess 10 subscales in physical functioning, overall well-being, job ability, days of work missed, and symptoms of pain, fatigue, morning tiredness, stiffness, anxiety, and depression. The FIQ score ranges from 0 to 100, and higher scores indicate worse fibromyalgia symptom severity.¹⁷

The SF-36 is a self-administered questionnaire assessing health-related QOL. It consists of 8 health concepts: physical functioning, role physical, pain index, general health score, vitality score, social functioning, role emotional, and mental health index. It also provides scores for physical component summary (PCS) and mental component summary (MCS). SF-36 scores range from 0 to 100, with higher scores indicating better health status.¹⁸

Statistical Analyses

Data were summarized as mean \pm SD for continuous variables and frequency (%) of patients for categorical variables. Demographic characteristics, social characteristics, and FIQ and SF-36 scores were compared among the 3 age groups through univariate analyses (ie, 1-way analysis of variance) or Pearson chi-square test, where appropriate. Post hoc pairwise comparisons on FIQ and SF-36 scores were performed by applying Fisher least significant difference criteria. Previous studies have associated tobacco use,¹⁹ BMI,²⁰ and abuse history²¹ with symptom severity and QOL. Therefore, generalized linear model was used to perform a univariate analysis within the 3 age groups and also a multivariate analysis when adjusting for tobacco use, BMI, abuse history, and duration of symptoms. *P* values less than .05 were considered statistically significant. All analyses were performed with JMP software (version 9, SAS Institute, Inc).

A standardization of the SF-36 PCS and MCS scores of our female patients was made in accordance with the normative data from the US female general population.¹⁵ These 2 summary scores of the SF-36 were adjusted according to the standardization method proposed by the authors of the SF-36.²² The formula applied was the following:

$$\text{Standardized score} = (\text{Patient score} - \text{Population mean score}) / \text{Population standard deviation}$$

where *patient score* is the score of our female patients, *population mean score* is the mean score of the US female general population of the same age range of 10 years, and the *population standard deviation* is the standard deviation of the general female population that corresponds to its mean score. Standardized

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