Brief Research Report

Fibromyalgia Flares: A Qualitative Analysis

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Abstract

Objective. Patients with fibromyalgia report periods of symptom exacerbation, colloquially referred to as “flares” and despite clinical observation of flares, no research has purposefully evaluated the presence and characteristics of flares in fibromyalgia. The purpose of this qualitative study was to describe fibromyalgia flares in a sample of patients with fibromyalgia.

Methods. Using seven open-ended questions, patients were asked to describe how they perceived fibromyalgia flares and triggers and alleviating factors associated with flares. Patients were also asked to describe how a flare differs from their typical fibromyalgia symptoms and how they cope with fibromyalgia flares. Content analysis was used to analyze the text.

Results. A total of 44 participants completed the survey. Responses to the seven open-ended questions revealed three main content areas: causes of flares, flare symptoms, and dealing with a flare. Participants identified stress, overdoing it, poor sleep, and weather changes as primary causes of flares. Symptoms characteristic of flares included flu-like body aches/exhaustion, pain, fatigue, and variety of other symptoms. Participants reported using medical treatments, rest, activity and stress avoidance, and waiting it out to cope with flares.

Conclusions. Our results demonstrate that periods of symptom exacerbation (i.e., flares) are commonly experienced by patients with fibromyalgia and symptoms of flares can be differentiated from every day or typical symptoms of fibromyalgia. Our study is the first of its kind to qualitatively explore characteristics, causes, and management strategies of fibromyalgia flares. Future studies are needed to quantitatively characterize fibromyalgia flares and evaluate mechanisms of flares.

Key Words. Fibromyalgia; Symptom Flares; Qualitative Research; Content Analysis

Introduction

Fibromyalgia is a complex disorder characterized by chronic, widespread pain, fatigue, cognitive complaints, poor sleep, and mood difficulties. While these symptoms are characteristic of fibromyalgia, patients frequently report a host of other, less well-defined symptoms that occur with varying degrees of severity, including headache, gastrointestinal symptoms, dizziness, heat/cold intolerance, numbness or tingling, and low-grade fevers [1–3]. These symptoms, along with others of fibromyalgia, appear to undergo periods of exacerbation or worsening, often colloquially referred to as “flares” by patients and their health care providers.

Despite clinical observation supporting the presence of flares, no research has purposefully evaluated the presence and characteristics of flares in fibromyalgia and only a couple of publications provide even brief description of flares [4–6]. In one qualitative study, participants stated that over-doing it on a “good day” could lead to fibromyalgia symptom worsening. No further description of how a flare differed from typical or “normal” fibromyalgia symptoms was provided [4]. In a second qualitative study, participants describe flares as a “sudden increase in symptoms, usually to the point where everyday tasks become impossible” [5]. For some patients, flares were characterized by a worsening of existing symptoms (increased or altered pain), whereas others reported new symptoms (flu-like symptoms). In a third study, patients reported that fibromyalgia flares were
associated with activity and weather changes [6]. These studies indicate that periods of symptom worsening or flares may be present in fibromyalgia, however, none of the above studies describe whether there are symptoms that are unique to flares or how flares differ from typical fibromyalgia symptoms.

The purpose of this qualitative descriptive study was to describe fibromyalgia flares in a well-characterized sample of patients with fibromyalgia. Using open-ended questions, we sought to understand how patients perceived fibromyalgia flares and what triggers and alleviating factors patients identified for their own symptoms (if any).

Methods

To obtain patient descriptions of fibromyalgia flares, patients were asked to respond to seven open-ended questions assessing quality, severity, and duration. The questions asked about symptoms that may appear during a flare that are not present at other times, how a flare differs from a patient’s typical fibromyalgia experience, flare triggers, and how patient’s cope with fibromyalgia flares (Table 1). Patients were each paid $20.00 for their time and participation. This study was reviewed and approved by the Mayo Clinic Institutional Review Board and all participants provided written informed consent.

Participants

Participants for this study were recruited from an existing, national registry of patients with fibromyalgia who have been seen at Mayo Clinic in Rochester, MN [7]. Patients in the fibromyalgia registry were seen at Mayo Clinic between January 1, 2000 and December 31, 2012 and had a diagnosis of fibromyalgia that was confirmed via medical record review. At the time of enrollment in the registry, all participants completed the Fibromyalgia Research Survey Criteria [8]. To be eligible for this qualitative study, registry participants were between the ages of 18 and 69 years, met Fibromyalgia Research Survey Criteria at the time of enrollment, able to read and write English, and provided an email address by which we could contact them with the electronic survey.

Procedure

The survey was administered electronically using the Research Electronic Data Capture (REDCap) Survey tool [9]. Patients were selected so that the female to male ratio was 4:1. Patients were divided into the following three age groups: 18–35, 36–53, and 54–69. A random number generator was used to select 24 women and 6 men from each of the age groups (total 90 invited). Of those, 44 agreed to participate and completed the study questionnaire.

Analysis

Content analysis [10] was used to analyze the text. Participant responses to each question were read for overall understanding of the content. Responses to the survey questions were analyzed and sorted into categories that described the meaning of the text. After all text was coded, the investigators independently reviewed the coding scheme to ensure the themes and subthemes were accurate. The few discrepancies and the final scheme was determined by consensus.

Results

A total of 44 participants completed the survey. The majority of participants were female (77%) and non-Hispanic white (93%). Fifty-seven percent of participants were married, 9% were divorced, and 34% were single. The average age of participants was 45.5 (standard deviation 14.6). Responses to the seven questions were found to demonstrate three main content areas: causes of flares, flare symptoms, and dealing with a flare. Content analysis of participant responses identified several key themes within each of these content areas. Each of these are detailed below and summarized in Table 2.

Causes of Flares

Participants hypothesized the causes of flares. Most stated a cause with only a few saying they were unable to identify a particular cause. Subthemes describing the causes of flares include stress, overdoing it, poor sleep, and weather changes.

“Stress, Stress, Stress!”

Table 1  Open-ended items included on the qualitative questionnaire

<table>
<thead>
<tr>
<th>Questionnaire Items</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>If you were describing a fibromyalgia flare to someone who had never experienced one, how would you describe it?</td>
<td></td>
</tr>
<tr>
<td>Do you experience any new symptoms during a fibromyalgia flare that are not typical of your everyday fibromyalgia symptoms? Please describe</td>
<td></td>
</tr>
<tr>
<td>How is a fibromyalgia flare different from your everyday experience of fibromyalgia symptoms?</td>
<td></td>
</tr>
<tr>
<td>Do you find that there are things or events that trigger a fibromyalgia flare for you? If so, please explain</td>
<td></td>
</tr>
<tr>
<td>How do you cope with a fibromyalgia flare?</td>
<td></td>
</tr>
<tr>
<td>What, if anything, reduces the symptoms of a fibromyalgia flare?</td>
<td></td>
</tr>
<tr>
<td>Is there any additional information you would like us to know about your fibromyalgia flares?</td>
<td></td>
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</tbody>
</table>
### Qualitative Analysis of Fibromyalgia Flares

**Table 2** Content areas and themes identified using content analysis

<table>
<thead>
<tr>
<th>Content Areas</th>
<th>Themes</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Causes of flares</td>
<td>“Stress, Stress, Stress!”</td>
<td>28 (63.6)</td>
</tr>
<tr>
<td></td>
<td>“Overdoing It”</td>
<td>19 (43.2)</td>
</tr>
<tr>
<td></td>
<td>“Poor Sleep”</td>
<td>11 (25.0)</td>
</tr>
<tr>
<td></td>
<td>“Weather Changes”</td>
<td>11 (25.0)</td>
</tr>
<tr>
<td>Flare symptoms</td>
<td>“Flu-like Symptoms”</td>
<td>14 (31.8)</td>
</tr>
<tr>
<td></td>
<td>“Pain”</td>
<td>38 (86.4)</td>
</tr>
<tr>
<td></td>
<td>“Fatigue”</td>
<td>15 (34.1)</td>
</tr>
<tr>
<td></td>
<td>“Other Symptoms”</td>
<td>49 (&gt;100)</td>
</tr>
<tr>
<td>Dealing with a flare</td>
<td>“Treatments”</td>
<td>33 (75.0)</td>
</tr>
<tr>
<td></td>
<td>“Rest”</td>
<td>25 (56.8)</td>
</tr>
<tr>
<td></td>
<td>“Avoid Everything”</td>
<td>10 (22.7)</td>
</tr>
<tr>
<td></td>
<td>“Wait It Out”</td>
<td>8 (18.2)</td>
</tr>
</tbody>
</table>

Note: Participants gave more than one response so totals do not equal 100.

“Other symptoms include decreased concentration, muscle tightness and weakness, headaches/migraines, sensitivity to touch, sensation of swelling of hands and feet, increased intensity of emotional responses, difficulty with mood.

When asked to identify causes of flares, stress was a common theme. This relationship is captured well by one participant’s comment, “Stress I would say is my BIGGEST trigger. There are days that stress makes my life awful.” Most participants used the term stress, but some also used anxiety to describe emotional turmoil related to a flare. Stress of any sort, including work and life stresses were reported. Specific examples included deadlines, emotional extremes, or upsets such as grief, family concerns, preparing to travel, and holiday stress. This is highlighted by one participant, “I find that for me I have flare ups in times of high stress with work or life.” Reactions to stress were also reported to influence flares; one participant stated that for her, flares were influenced by “extreme emotions such as grief. For instance when my best friend’s dad passed away I had a flare from the sadness I felt.”

“Overdoing it”

Another key theme identified from participant responses was “overdoing it.” Overdoing it included physical exertion as well as variations in normal activity patterns (e.g., trips, social events). Work activity was cited as one source of overexertion, in addition to work at home that included things like yard work, cleaning, and vacuuming. Increased social activity was also described as a source of overextension. For example, one participant stated “If I am over-exerting at work, physically, or socially, I can flare.” Participants also highlighted the influence that overdoing their activities 1 day could have on the following day, for example, one participant stated “I’m an all or nothing gal. I do too much one day and can’t do anything the next.” In addition to overdoing activities, overdoing it in combination with inadequate rest was also cited as a cause by several participants. For example, one participant stated “I can induce a flare pretty easily if I work too much and don’t rest enough. If I push myself too hard ... I can expect a flare in the coming days.”

“Poor Sleep”

Difficulty sleeping or poor quality sleep was another theme identified from participant responses. One participant stated, “low sleep over a course of a couple of days or more can do it.” The relationship between poor sleep and fibromyalgia flares is obfuscated by the fact that when a patient is experiencing a flare, quality sleep often becomes more difficult to obtain. This circuitous relationship was described well by one participant, “If I don’t get enough sleep that will cause a flare-up, but it also causes me to not be able to sleep at the same time.”

“Weather Changes”

Another common theme identified in participant responses was weather changes. Drops in barometric pressure, heat, and storms were implicated in development of a flare. Sudden changes in weather, in particular, seemed to be more problematic. One participant stated, “the changing of seasons when the weather swings really hard.” Another participant described how rapid weather fluctuations could induce rapid symptom changes, “It seems like whenever the barometric pressure changes drastically, the symptoms come on quickly and leave just as quickly.”

**Flare Symptoms**

When asked how flares differ from everyday symptoms of fibromyalgia, participants reported that although they may experience symptoms that are unique to a flare (e.g., flu-like body aches and exhaustion), their flare experience was largely an increased intensity of usual symptoms to the point “where it feels disabling.” “My flares are different because the pain is more intense and is continual. It carries on even after I have rested or taken medication. That’s how I distinguish between the daily fibromyalgia and a flare.” As the symptoms were more intense, they were also more difficult to manage, “I can normally work a regular 40 hour week, complete chores and errands and have somewhat of a social life with ‘normal’ fibromyalgia. With a bad flare, that’s not possible.” Common subthemes that emerged from patient-reported flare symptoms are detailed below.

“Flu-like symptoms”

Participant responses often included description of the severe “full body aching and exhaustion” experienced during flares as akin to a severe flu and different from usual fibromyalgia symptoms. As described by one participant, “If you’ve ever had a flu sneak up on you after
you went to sleep one night and you wake up with your entire body aching, you’ve got an inkling of what a flare is. It’s not gradual.” Similarly, other participants described flares as “the worst flu you’ve ever had,” “it feels like I have the flu in my bones really bad.”

“Pain”

The pain experienced during a flare was also described as different and more severe than typical pain. According to one participant, flare pain is “intense pain that makes me not want to move or be touched.” The intensity of this pain is almost palpable in another participant’s description, “it feels like someone is taking a carrot peeler to my bones… like a giant wearing a mountain-boot is standing on that part of my body.”

“Fatigue”

Similar to extreme pain experienced during a flare, the fatigue characteristic of a fibromyalgia flare is severe and debilitating. Participants described the fatigue as “complete exhaustion” that resulted in being “too tired to move,” which in turn severely impacted function. This was so extreme that, according to one participant, even “lifting a finger was exhausting.”

“Other Symptoms”

In addition to flu-like symptoms, pain, and fatigue, participants reported experiencing a wide variety of other symptoms. One such symptom was decreased concentration. Participants noted, “I find my concentration is less than normal” and “[have] fogginess in my head.” Muscle tightness was another symptom reported by several participants. They stated “my legs feel like they are extremely tight” such that “nearly every major muscle is tight and locked up.” Additionally, participants reported “severe headaches/migraines,” “sensitivity to touch,” and feeling as although their “hands and feet are swollen,” which necessitated “significantly scaling back on activities during flares.” In addition to worsening of physical symptoms, patients reported an increased intensity of emotional responses and significant difficulty with mood. The “emotional and psychological repercussions are more intense,” “[flares] make me feel depressed and not want to be around other people.”

Dealing with a Flare

The third theme included strategies used by participants to prevent or manage flares (Table 3). Participants listed a wide variety of strategies, and from these four sub-themes were identified: treatments, rest, avoiding everything, and waiting it out.

“Treatments”

Despite the questions’ focus on coping strategies, participants identified a number of treatments used to cope with or manage symptoms, which included pharmacological and nonpharmacological modalities. Acetaminophen and ibuprofen were the most commonly used medications. In addition to medications, participants reported using physical modalities such as massage, heat/cold, hydrotherapy, and gentle exercise. Meditation, deep breathing, prayer, and humor were also used.

“Rest”

The majority of participants described getting more rest or staying home, particularly in bed, as the major coping strategy for a flare. This is well captured in the response of one participant, “I recognize my body isn’t able to handle/cope with things as usual, so I try to slow my pace, rest if needed, take shorter walks, and just be good to myself.” Another participant described how she limited her activities during a flare to rest, “[I] collapsed on the couch in my old living room and cut out extra social engagements, errands that could wait, cooking (just ate out or made simple meals like sandwiches etc.), because I had no energy for those things.” This rest often required limiting work and social engagements, including doctor’s appointments. Another participant stated, “[I] stay at home, sleep (if I can), rest in my big recliner. I usually just phone and cancel appointments for doctors and meetings with friends.”

“Avoid Everything”

Beyond simple rest, avoidance of all activities and social interactions was described as a protective coping strategy to prevent untoward outcomes. As one participant stated, a severe flare was “similar to a migraine, when you don’t want to see or hear from anyone.” Another participant stated, “all I want to do is crawl in bed and sleep until it’s over.” During a flare, “social contact and other activity is limited or nonexistent.” For some participants, social interactions were emotionally and physically challenging, “[I] just try to avoid dealing with people as I feel grumpy and get mad more easily.”

### Table 3 Strategies adopted by patients to deal with flares

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical therapy</td>
<td>2 (4.5)</td>
</tr>
<tr>
<td>Hydrotherapy</td>
<td>1 (2.3)</td>
</tr>
<tr>
<td>Meditation</td>
<td>7 (15.9)</td>
</tr>
<tr>
<td>Breathing exercises</td>
<td>8 (18.2)</td>
</tr>
<tr>
<td>Massage</td>
<td>10 (22.7)</td>
</tr>
<tr>
<td>Hot or cold therapy</td>
<td>6 (13.6)</td>
</tr>
<tr>
<td>Medications</td>
<td>34 (77.3)</td>
</tr>
</tbody>
</table>

Note: Participants gave more than one response so totals do not equal 100.
Qualitative Analysis of Fibromyalgia Flares

“Wait it out”

Flares were described as a part of the fibromyalgia experience to be waited out and tolerated as best possible. Participants described how reminding themselves that a flare will pass served as a coping strategy. Ignoring the symptoms and “pushing through it” were the associated strategies. One participant stated, “I try to remind myself that it will pass, it’s temporary, and just keep moving forward and do what needs to be done.” Other participants “cope by giving [themselves] time and permission to take it slow” and acknowledging that “it will subside and there is nothing you can do about it.” Instead of avoiding everything, some participants agreed that you “just have to go with it.”

Discussion

This qualitative study is the first of its kind to describe a patient’s experience of a fibromyalgia flare. Despite the term “flare” being used frequently by health care providers and patients, little research has purposefully evaluated the presence and characteristics of fibromyalgia flares. Using content analysis, we identified themes in three content areas related to the causes, symptoms, and methods for dealing with a flare. This study provides the first step toward better defining flares so that they may be systematically studied.

Our results are consistent with the few previous papers that mention fibromyalgia flares, such as the one that describes activity and weather changes as potential causes of flares [6], but significantly add to the knowledge of what a flare looks and feels like for a patient with fibromyalgia. This study suggests that fibromyalgia symptoms do flare or fluctuate over time and that patients report that flares are often triggered by stress, overdoing it, and lack of sleep. As in previous studies, stress was identified as a trigger of flare-ups and the symptoms were interrelated; flare-ups of one symptom often exacerbated another (vicious cycle) [3].

In addition to exacerbation of common fibromyalgia symptoms, there seem to be symptoms that are unique to a flare, in particular, flu-like achiness. In one previous study of the patient experience of fibromyalgia, a woman reported feeling “feverish . . . almost like I have the flu.” [6], which is consistent with the description several study participants provided. The flu-like like achiness during a flare often makes the flare debilitating, severely impacting home and work life and social activity, which was also consistent with what participants reported in this study.

Although most of the study findings were consistent with what we observe clinically, we were somewhat surprised to find that in addition to rest and medical treatment, one of the most common methods of dealing with a flare was avoidance of physical, social, and psychological stimulation. Avoiding everything may indicate a lack of knowledge of or ability to use healthy coping strategies, and therefore, future research could evaluate the potential effects of teaching patients healthy coping strategies as one method to deal with symptom flares.

While the findings of this exploratory study shed light on the experience of a fibromyalgia flare as experienced by patients, there are inherent limitations. First, the data are collected by text response to survey questions. The use of interview or focus group might allow for deeper understanding of the experience. Second, while the sample of patients was randomly selected from a large, national fibromyalgia registry, it includes patients from only one academic medical center, and therefore, the results may not be generalizable to other patients with fibromyalgia. Third, in this study, we did not specifically conceptualize flares in terms of pain or fatigue, key symptoms of fibromyalgia, but allowed patients to report their experience regarding all symptoms that they have during a flare. Therefore, it is possible that comorbid depression or untreated sleep disorders could have contributed to a patient’s flare experience. Future research is needed to evaluate flare characteristics in a larger, more diverse sample of patients with fibromyalgia.

Conclusions

This study is the first of its kind to qualitatively explore patient perspectives regarding characteristics, causes, and management strategies of fibromyalgia flares. The presence of exacerbation or “flare” is a phenomenon readily described by these 44 patients diagnosed with fibromyalgia. Based on patient descriptions, a flare can be differentiated from typical or every day symptoms of fibromyalgia. The causes of flares are attributed to a wide variety of stressors. Strategies aimed at managing flare symptoms largely focus on rest and not “overdoing”. Future research assessing symptoms over time would be valuable in quantitatively characterizing the frequency of fibromyalgia flares and the changes in fibromyalgia symptoms that occur before, during, and after a flare.

Acknowledgments

Study data were collected and managed using REDCap electronic data capture tools hosted at Mayo Clinic REDCap (Research Electronic Data Capture) is a secure, web-based application designed to support data capture for research studies, providing 1) an intuitive interface for validated data entry; 2) audit trails for tracking data manipulation and export procedures; 3) automated export procedures for seamless data downloads to common statistical packages; and 4) procedures for importing data from external sources.

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