Understanding the Impact of Fibromyalgia on Men: Findings From a Nationwide Survey

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Abstract

Fibromyalgia (FM) is a serious condition that affects approximately four million people in the United States, and is underdiagnosed in men. The objective of this study was to understand this phenomenon by examining multiple impacts of fibromyalgia on men in regard to interactions in society and the U.S. health system. A qualitative survey was administered to 1,163 respondents both online and in-person in Tennessee, Virginia, Maryland, and Washington, DC. Thematic analyses of the survey responses suggest that men with FM have negative experiences with (1) physical and mental health, (2) quality of life, (3) relationships, and (4) careers as a result of FM. Interactions with health-care providers were deterred by (1) potential for misdiagnosis or dismissal of symptoms, (2) stigma of having a condition primarily affecting women, (3) differences in treatment of men and women with FM, and (4) need for health education resources. These findings dictate a need to improve communication between health-care providers and male FM patients.

Keywords

health education, general health and wellness, health communication, health-care issues, social determinants of health, psychosocial and cultural issues

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Fibromyalgia (FM) is a disease that affects approximately four million people in the United States (Centers for Disease Control and Prevention, 2017). FM is erroneously labeled as a disease which affects only women. Research indicates that while FM prevalence is similar among males and females (Heidari, Afshari, & Moosazadeh, 2017), males are much less likely than women to identify symptoms and be diagnosed with FM (Vincent et al., 2013). This study seeks to better understand why this phenomenon occurs by examining the experiences of men living with FM, both in societal and health system contexts.

Previous research suggests that men with FM experience the same pain severity as their women counterparts (Miró, Diener, Martínez, Sánchez, & Valenza, 2012; Yunus, Inanici, Aldag, & Mangold, 2000; Yunus, 2001). Other studies indicate that men with FM may in fact have more severe or abnormal symptoms (Buskila, Neumann, Alhoashle, & Abu-Shakra, 2000), worse mental and emotional health (Ruiz et al., 2007; Aparicio et al., 2012),

increased physical limitations (Hooten, Townsend, & Decker, 2007), and lower quality of life (Batmaz et al., 2013; Heredia-Jimenez & Soto-Hermoso, 2014; Segura-Jimenez et al., 2015). However, a 2017 systematic review and meta-analysis that looked at the FM prevalence, or all individuals living with FM, in the world population identified approximately 3.98% of women with the disease, with men following closely behind at 2.40% ranging up to 4.80% (Heidari et al., 2017).

The discrepancy between prevalence and FM diagnoses in men seems to be connected to the social stigma

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associated with FM diagnosis (Paulson, Danielson, & Söderberg, 2002). Researchers have reported that men with FM may experience more affective distress than their women counterparts due to the stigma of having a women's disease (Miró, Martínez, Sánchez, Prados, & Lupiáñez, 2015). One study based in Sweden reported that men with FM believed that health-care staff did not take their symptoms seriously, and thus they often felt neglected by the health system (Paulson et al., 2002; Paulson, Norberg, & Danielson, 2002).

The purpose of this study is to further understand why less men than women are diagnosed with FM, as well as whether the experiences of men with FM are different than their women counterparts. The research question this study aims to answer is "what are the lived experiences of men living with FM, specifically in regard to the impacts on their quality of life, relationships, and careers, as well as interactions with health-care providers (HCPs) when seeking diagnosis/treatment?" From this study, researchers hope to gain insight on what support and resources might be needed to better address these issues.

Methods

To gather rich data on the insights of multiple men with fibromyalgia, researchers chose to utilize a qualitative study design in the form of a survey. While surveys are oftentimes designed to collect frequencies of characteristics in a sample, a qualitative survey was the chosen methodology so that researchers could gather diverse data and get a more comprehensive understanding of respondents' thoughts (Jansen, 2010). The survey was administered in-person with a convenience sample at community health events in different regions in the United States, as well as online in order to gain access to a larger population and reduce interviewer bias (Wright, 2005). The convenience sample from the in-person events was selected due to ease of access. The inclusion of an online version of the survey helped to better ensure representativeness of men with FM in the United States (Szolnoki & Hoffmann, 2013). Further information about the data collection procedures can be found in the "Data Collection Process" section of this article.

Data Collection Instrument

The purpose of the survey was to investigate the lived experience of men with FM, including symptomology, interactions with HCPs, perceived differences between men and women with FM, and health education resources that could be useful for this population. The questions were fielded by experts in FM prior to implementation. The survey began with questions about the respondents' general knowledge, signs/symptoms, and the impact of

FM on different aspects of their lives. These questions included (1) Have you heard of the syndrome fibromyalgia? (2) Have you or anyone you know been diagnosed with fibromyalgia? (3) Were you (or they) misdiagnosed with other diseases, conditions, or symptoms? (4) My fibromyalgia signs and symptoms can consist of and (5) How has fibromyalgia impacted you or your family? To capture context on respondents' perceived sex differences between FM patients, the survey asked if respondents believe men and women with FM were treated different and if so why. (6) Do you think a man's experience with fibromyalgia is different than female sufferers? If so, why?). Then, the survey asked questions related to interactions with HCPs including the timing of when respondents would speak to their HCPs, what type of HCPs they would intend to visit, and their perception of an HCP's effectiveness in addressing FM in men. These questions included (7) What type of health-care provider would you or your partner contact first about fibromyalgia? and (8) If you were experiencing some of the symptoms of fibromyalgia, how long would you wait before consulting a health-care provider? Finally, the respondents were probed on their preference for type of FM health education materials: (9) Where would you go to learn more about fibromyalgia?

Data Collection Process

The survey was administered between July 2009 and July 2017. The length of the data collection was chosen to determine if there would be changes over time in regards to responses. Prior to collecting data, researchers collected participant consent. All survey responses were anonymous. Trained researchers, who extensively reviewed and became familiarized with the questions of the survey, administered the survey in-person at organizational health fairs in a remote area of the venue.

Survey respondents in the in-person convenience sample were recruited from men that attended the health events were screened by researchers for inclusion based on if they self-reported having FM. The health events took place at employee health fairs, church events, and general health promotion events in Jackson, Tennessee; Memphis, Tennessee, and the Washington, DC metro area, including Maryland, Virginia, and Washington, DC. Locations were selected in areas where organizational community ties were already established. This included regions where affiliated project liaisons, community partners, and health educators worked to promote men's health.

Researchers exported online survey data into a Microsoft Excel tracking database. In-person survey responses were inputted into the same database. Triangulation of the data took place to ensure commonality of understanding from the data collected across the two

collection measures (Fusch & Ness, 2015). This process involved a data reviewer conducting preliminary analyses of subsets of data (i.e., in-person and online data), and then comparing results across the subsets.

Data Analyses

Analyses of the data were conducted at mid-year time points in order to determine if findings would change over time as a result of external factors. This process involved 2–3 researchers analyzing the survey data, and determining if there were major changes from previous time point(s). The following describes the analysis procedures.

Frequencies on demographics (Table 1 in Appendix) and other quantifiable data in the survey were run using SPSS Statistical Software Version 14.0 (Leech, Barrett, & Morgan, 2005). To analyze the qualitative data in the survey, researchers conducted a thematic analysis to identify trends that emerge from the data that help explain the phenomenon/a being probed in the question(s) (Fereday & Muir-Cochrane, 2006). The qualitative analyses were conducted within a constructivist paradigm, in which researchers are seeking to understand the experiences of the target population (Carr et al., 1994). Research in this paradigm means that researchers interpret the findings as direct representations of the social constructions and lived experiences of men with FM, rather than connecting findings to facts in the scientific literature (Labonte & Robertson, 1996). This paradigm was selected due to the qualitative methodology and exploratory nature of this study.

This qualitative analysis was conducted in a stepwise procedure and involved (1) cleaning and coding the data by emerging themes, (2) identifying overarching themes from coded data, and (3) grouping coded information into categories (Seers, 2012). Predetermined constructs or codes were not employed during this content thematic analysis to not force data into premade categories, and rather allow for open interpretation and understanding (Bradley, Curry, & Devers, 2007).

Results

The mid-year analyses between July 2009 and July 2017 indicated that there were no major changes in responses over time, so data from the full collection period were analyzed as one full sample (n = 1,163). Most respondents were male (80.9%, n = 925) and aged between 45 and 64 years (53.1%, n = 561), which is the peak age for FM prevalence among both men and women (White, Speechley, Harth, & Ostbye, 1999). While majority of respondents were male, researchers included the small sample of women in the survey analysis to build a richer

context of the experiences of men with FM, as women answered the survey questions on behalf of a man/men with FM in their lives and described impacts of their condition in a social context. Most respondents were white (81.6%, n = 915), with <15% (n = 206) of respondents being of any other race. Additionally, over half of respondents noted that they were married (60.2%, n = 669). Table 1 in Appendix provides details on the demographics of the sample in the whole sample and mid-year time points.

The results of the survey were summarized under two major themes that emerged based on the major foci of the survey and the lived experiences of the target population that emerged from analyses under the constructivist paradigm. These major themes were (a) the impact of FM on men and (b) interactions with health-care providers. The subthemes, or secondary themes, that emerged from the deeper thematic analysis were categorized under these themes. The subthemes under Theme 1 included impacts on (a) physical and mental health, (b) quality of life, (c) relationships, and (d) careers. Theme 2 subthemes include (a) potential for misdiagnosis or dismissal of symptoms, (b) stigma of men with FM, (c) differences in treatment of men and women with FM, and (d) need for health education resources. Table 2 in Appendix summarizes these themes and subthemes.

Impact of Fibromyalgia on Men

Of the 1,163 survey respondents, the majority were men with FM (69.2%, n = 805). Those with FM reported top symptoms as depression (97.9%, n = 788), widespread pain/tender points (76.9%, n = 619), and fatigue and sleep disturbances (75%, n = 604). Some respondents expanded on FM's impact on leading to the onset or aggravation of some type of mental health issue because of FM including depression, anxiety, or both (25.1%, n = 202) post-traumatic stress disorder (PTSD) (<1%, n = 8); or bipolar disorder (<1%, n = 6).

"I have dealt with depression, anger issues, continual pain, inability to walk, think clearly, and unable to do many activities I previously could do. Many people shy away from me, as they don't understand the concept of nonstop pain." (41-year-old male)

Many respondents (48.3%, n = 389) said that FM had a negative impact on their quality of life, reporting effects on mood (i.e., anger issues and increased irritability), mobility (i.e., decreased ability to do household chores or previous hobbies), fatigue, and sleep issues. Respondents also reported constant pain (10.4%, n = 84) and the presence of "fibro fog," the difficulty or inability of those with FM to concentrate.

"I used to go bowling, hunting, able to work, to work out with weights. Just about anything that involved the use of physical activity. [I] have been left with depression and a negative outlook of living an enjoyable lifestyle." (64-year-old male)

"Some days the fibro fog is very frustrating as my brain does not work well and my thinking is cloudy...it has completely changed my life as I cannot function at a level even close to pre FM levels. The FM has changed my entire life and the lives of my family. Bluntly, it sucks." (62-year-old male)

More than half of the respondents (54.0%, n = 435) reported FM having negative impacts on their relationships with both family and friends. Individuals reported that while those close to them usually tried to be supportive, oftentimes they would not understand the condition and its effects.

"My family and friends do not understand how sick I feel because I look well. They keep saying to get out and do something, but I cannot." (26-year-old male)

"I very rarely get out and do feel isolated, friends have gone & never come back, I think maybe because I can no longer manage to do what they do and I cannot keep up with them anymore. Basically, you start to feel a hindrance for people...I was engaged to be married but this did not happen, so the fibromyalgia has really messed my life up." (59-year-old male)

"I have had to miss work as well as family time due to my fibromyalgia. It really affects you when your children want you to play with them and you can't." (42-year-old male)

Over half of respondents (58.3%, n = 469) reported FM having a negative impact on their career. Out of this group of respondents, 19.5% (n = 92) report having lost their jobs due to their FM, and 17.5% having missed work from anywhere to one day a week to 9 months at a time. Approximately 1 in 6 (16.9%, n = 82) of those who reported FM having a negative impact on their career also reported enrolling in the Social Security Disability Insurance (SSDI) program since they could no longer physically work.

"I lost my job as editor of a small daily newspaper, had to take a much less stressful (and less well paying) job, and 10 years later left work entirely on Social Security Disability." (56-year-old male)

"10 years ago I was a healthy, highly intelligent, highly motivated systems programmer, a rising star in a major IT company, a father of 4 kids who loved to spend time with his family. Today, due to fibromyalgia, I am isolated, living on a disability pension, spending nearly all my time moving from

one therapy to another or so tired I cannot function as a human being." (40-year-old male)

Additionally, over half of respondents (54.8%, n = 637) believed the FM experiences between men and women were different, and approximately 1 in 3 (34.3%, n = 399) believed that society's expectations for men was the reason for this. Of all respondents, 15.3% (n = 178) reported that in society a man needs to be strong and "tough it out" and 11.8% (n = 137) used the term "breadwinner" to describe a man's role in society, and noted that this was tied to the identity of a man.

"Men are expected to 'suck it up and tough it out' and, as I learned, this only makes matters worse." (65-year-old male)

"It is not acceptable for a man to be sick [with fibromyalgia]. Because he most often is the breadwinner, the family suffers financially." (56-year-old male)

"Identity is tied to ability to work. Fibro pain can interfere with job performance. People aren't nearly as sympathetic toward men with Fibromyalgia. I have often been told to 'suck it up and deal with the pain." (41-year-old male)

Interactions With Health-Care Providers

Respondents were most likely to visit a family physician/ primary care physician (64.1%, n = 746) to discuss FM, but were more likely to wait 1–6 months before going (42.3%, n = 492) rather than going right away. The respondents flagged the reason for not going to an HCP right away was due to the potential of misdiagnoses or dismissal of male FM patients, citing a general societal belief that a man needs to seem strong and "tough it out." Some reported issues with the process of diagnoses by their doctors noting that doctors would not believe that they had FM, provided a delayed diagnosis if there was one (i.e., ranging from a few months to 15 years), and told patients it was "all in their head."

"I have become a heavily medicated housebound hermit...
many doctors treat me like a head case. One neurologist
laughed when I told him I hurt from head to toe." (66-yearold male)

Some respondents (10.3%, n = 120) believed there to be a stigma with men who have FM. Respondents noted that this was oftentimes considered a "women's disease" and that men were considered to be weak if they believed they had it.

"FM has long been considered to be a woman's disease. To be diagnosed with it as a man carries a bad stigma because of this." (43-year-old male)

A few respondents (6.0%, n = 70) also noted that men may be less likely to discuss symptoms of FM than their women counterparts, which may delay or inhibit a successful diagnosis. Similarly, a number of respondents (17.9%, n = 208) also believed that there were differences in how men interacted with or were diagnosed by doctors.

"Men are expected to be more stoic and to endure their pain. They don't talk about it and they get treated differently by doctors." (54-year-old male)

"I have been told men don't know what pain is like in women. Or told to suck it up and it is not a real thing just all in my head. Then everywhere in between. I have a friend (female) with [fibromyalgia] and people are so much more supportive including doctors. The only doctors that seem supportive to me is my family doc and specialist. Other doctors (ER especially I get the eye rolls)." (36-year-old male)

Some respondents (15.8%, n = 184) also discussed how the difference in FM diagnoses was simply due to how men and women handle the symptoms. A few (5.7%, n = 66) noted that women often had more resources or a better support system than men did. Some also noted that there were inherent physical differences (6.0%, n = 70) or nonphysical differences (9.3%, n = 108), such as physiology and response to medications that determine how men and women respond to FM.

"The amount of muscle mass between genders, on average, is different which can impact the amount of soreness, tenderness, or general pain." (27-year-old male)

"We [men] are affected in different ways than women...Pain is also different for me than women. Men normally have a higher tolerance for pain, but chronic, widespread pain tends to affect men more." (48-year-old male)

In terms of the format of FM health education resources, those that appealed most to respondents were online resources (50.6%, n = 589), followed by information directly from their HCP (22.2%, n = 258).

Discussion

These findings reveal detailed information about the lived experience of men in the United States with fibromyalgia that adds a powerful narrative to the existing literature on men with FM.

Impact of Fibromyalgia on Men

For men, FM not only has a heavy impact on physical health, but affects mental well-being, relationships, and careers. The findings on how the perceptions of men with FM are different, and ultimately more negative, than the perceptions of women with the condition shed light on how health-related impacts can be more significant in men. This is supported by the severe physical and mental symptoms members of the sample reported, as well as the lack of understanding among close family and friends and in the workplace.

The issue of men losing jobs and careers due to FM lead to implications beyond the individual economic burdens. Respondents indicated that society places an unfair need for men to serve as the primary provider for families, increasing the potential for these issues to intensify the already negative mental health impacts of FM. Additionally, as more of these men enroll in SSDI benefits, the costs on the federal budget and employer/employee tax rates will continue rising well beyond the \$143 billion spent in 2016 (Center on Budget and Policy Priorities, 2017). If steps are not taken to address how society and the health system understand and support men with FM, the health and financial costs will continue to impact men and families throughout the United States.

Interactions With Health-Care Providers

The respondents' interactions with health-care providers provide context on how the health system issue can be addressed, as the responses dictate a clear need to address the health system's communication with and treatment of men with FM. The data indicate that while men with FM still rely on seeing their primary care provider shortly after experiencing symptoms, there is a communication gap between men with FM and their HCPs. This means that health system staff may need resources to better understand the narrative of male patients, in order to more accurately interpret symptom descriptions and nonverbal messages (Paulson, Danielson, Larsson, & Norberg, 2001). HCP education and training need to move beyond the traditional sense to better incorporate comprehensive men's health, including content in pathophysiologic, psychosocial, communication and treatment considerations relevant to the needs of male FM patients (Giorgianni et al., 2013).

Next Steps

To help alleviate the issues examined in this study, the results from this study will be utilized by the Men's Health Network to develop online health education materials designed for HCPs to share with their male FM patients, as the data indicates that these delivery mechanisms of resources were the most desired by the target population. The materials will help men understand their symptoms, provide details on support groups or systems,

and allow ownership of the condition. Materials will also provide simple FM diagnostic tools such as outlining a hand grip (HG) strength test. HG testing helps better determine muscular strength, and helps serve as a predictor of physical function, morbidity and mortality (Aparicio, Carbonell, Ortega, Ruiz-Ruiz, Heredia, & Delgado, 2010). These materials will also be designed with intention of HCPs to better understand how they might work with their patients to discuss FM and other less recognized men's health issues with the goal of reducing common misdiagnoses (Gittins, Howard, Ghodke, Ives, & Chelminski, 2017).

Limitations

While multiple measures were undertaken to reduce inadequacies, limitations remained in this study. When looking at the sample population, men were well-represented, but race and marital status did not accurately represent men throughout the United States that had FM as most

respondents were married white males. This limitation is in part due to the convenience sampling procedures, which focused primarily in rural and urban areas in the eastern region of the United States. Further research needs to be conducted with men representing a more diverse range of ethnicities, marital status, and geographic locations to better ensure representativeness of the target population. Due to the study design, male participants self-reported having FM, which may affect validity of findings concerning this population. Additionally, while women were surveyed in this study to provide more rich data on perspectives of men with FM, this was a limitation in that the data were not purely from the intended target population. Finally, another limitation is the wide timespan of data collection for the survey. While strategies were undertaken to ensure there were no changes across years that were not assessed, it is recommended that future research should be conducted over a shorter period of time in order to better focus the study and reduce potential for bias.

Appendix

Table 1. Demographics of Survey Respondents (n = 1, 163).

Demographics	Full Sample $(n = 1, 163)$	July 2009— July 2010 (n = 199)	Aug. 2010– July 2011 (n = 226)	Aug. 2011– July 2012 (n = 104)	Aug. 2012– July 2013 (n = 86)	Aug. 2013– July 2014 (n = 63)	Aug. 2014— July 2015 $(n = 107)$	Aug. 2015– July 2016 (n = 153)	Aug. 2016– July 2017 (n = 225)
Age (years)									
<18 years	0.4% $(n = 4)$	ı	0.9% $(n = 2)$	ı	1.7% (n = 1)	ı	ı	ı	0.5% $(n = 1)$
18-44 years	38.5% ($n = 407$)	24.7% ($n = 49$)	43.4% ($n = 98$)	56.8% ($n = 46$)	23.3% ($n = 14$)	39.6% ($n = 21$)	51.7% ($n = 45$)	28.2% ($n = 40$)	44.8% ($n = 94$)
45-64 years	53.1% ($n = 561$)	60.1% ($n = 119$)	53.1% ($n = 120$)	42.0% ($n = 34$)	58.3% ($n = 35$)	45.3% ($n = 24$)	36.8% ($n = 32$)	(86 = u) %0.69	47.1% ($n = 99$)
65+ years	8.0% ($n = 85$)		2.7% ($n = 6$)	1.2% $(n = 1)$	16.7% ($n = 10$)	15.1% $(n = 8)$	11.5% ($n = 10$)	2.8% ($n = 4$)	7.6% ($n = 16$)
Sex									
Male	80.9% ($n = 925$)	88.9% ($n = 176$)	57.3% ($n = 125$)	97.0% ($n = 98$)	100.0% ($n = 85$)	88.9% ($n = 56$)	96.3% ($n = 103$)	78.9% ($n = 112$)	71.4% ($n = 150$)
Female	19.1% ($n = 219$)	11.1% $(n = 22)$	42.7% ($n = 93$)	3.0% ($n=3$)	I	11.1% $(n = 7)$	3.7% ($n = 4$)	21.1% ($n = 30$)	28.6% ($n = 60$)
Race									
White	81.6% ($n = 915$)	88.9% ($n = 177$)	58.6% ($n = 129$)	76.3% (n = 77)	87.1% ($n = 74$)	90.5% ($n = 57$)	82.2% ($n = 88$)	90.2% ($n = 129$)	81.8% ($n = 184$)
Black or African	8.8% ($n = 99$)	6.0% ($n = 12$)	26.4% ($n = 58$)	6.9% ($n = 10$)	5.9% ($n = 5$)	4.8% ($n=3$)	2.8% $(n = 3)$	ı	3.6% $(n = 8)$
American									
Asian American/ Pacific Islander	3.8% ($n = 43$)	0.5% $(n = 1)$	10.0% (n = 22)	11.9% (n = 12)	I	l.6% (n = 1)	4.7% (n = 5)	I.4% (n = 2)	I
Hispanic/Latino	3.8% ($n = 43$)	3.0% ($n = 6$)	4.1% $(n = 9)$	1.0% $(n = 1)$	1.2% $(n = 1)$	3.2% $(n=2)$	10.3% ($n = 11$)	0.7% $(n = 1)$	12.9% ($n = 29$)
Two or more	1.2% ($n = 14$)	1.0% $(n = 2)$	ı	1.0% $(n = 1)$	4.7% ($n = 4$)	1	. 1	3.5% $(n = 5)$	1.8% $(n = 4)$
races:									
American Indian & Alaska Native	0.6% (n = 7)	0.5% (n = 1)	0.9% ($n = 2$)	1	I.2% (n = 1)	I	1	4.2% (n = 6)	1
Marital status									
Married	60.2% ($n = 669$)		63.3% ($n = 133$)	68.3% ($n = 71$)	52.5% ($n = 42$)	59.6% (n = 34)	74.8% ($n = 80$)	52.0% ($n = 78$)	52.4% ($n = 109$)
Never been	23.3% ($n = 259$)	19.0% (n = 37)	26.2% ($n = 55$)	13.5% ($n = 14$)	32.5% ($n = 26$)	24.6% ($n = 14$)	13.1% ($n = 14$)	26.7% ($n = 40$)	28.4% ($n = 59$)
married									
Divorced	15.4% ($n = 171$)	15.4% $(n = 171)$ $16.4%$ $(n = 32)$	10.0% ($n = 21$)	16.3% (n = 17)	13.8% ($n = 11$)	15.8% $(n = 9)$	11.2% ($n = 12$)	19.3% (n = 29)	19.2% (n = 40)
Widowed	1.1% (n = 12)	2.1% ($n = 4$)	0.5% $(n = 1)$	1.9% ($n = 2$)	1.3% (n = 1)	I	0.9% (n = 1)	2.0% $(n=3)$	I

Table 2. Themes, Subthemes, and Coding Samples for Qualitative Data.

Theme	Subtheme	Sample of coded text
Impact of fibromyalgia on men	Physical and mental health issues	"I have dealt with depression, anger issues, continual pain, inability to walk, think clearly, and unable to do many activities I previously could do. Many people shy away from me, as they don't understand the concept of nonstop pain."
	Poor quality of life	"it has completely changed my life as I cannot function at a level even close to pre FM levels. The FM has changed my entire life and the lives of my family. Bluntly, it sucks."
	Negative impacts on relationships with friends and family	"I very rarely get out and do feel isolated, friends have gone and never come back, I think maybe because I can no longer manage to do what they do and I cannot keep up with them anymore. Basically, you start to feel a hindrance for peopleI was engaged to be married but this did not happen, so the fibromyalgia has really messed by life up."
	Negative impacts on career	"I lost my job as editor of a small daily newspaper, had to take a much less stressful (and less well paying) job, and 10 years later left work entirely on Social Security Disability."
Interactions with health-care providers	Potential for misdiagnosis or dismissal of symptoms	"[FM] gets very bad before [being] diagnosed. Men do not like to go to doctors even when in pain."
	Stigma of male patients with FM	"FM has long been considered to be a woman's disease. To be diagnosed with it as a man carries a bad stigma because of this."
	Differences in treatment of men and women with FM	" I have a friend (female) with [fibromyalgia] and people are so much more supportive, including doctors."
	Need for health education resources	"Many of the online resources and support are targeted towards women."

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References

- Aparicio, V. A., Carbonell, A., Ortega, F. B., Ruiz-Ruiz, J., Heredia, J. M., & Delgado, M. (2010). Handgrip strength in men with fibromyalgia. *Clinical and Experimental Rheumatology-Incl Supplements*, 28(6), S78–S81.
- Aparicio, V. A., Ortega, F. B., Carbonell-Baeza, A., Femia, P., Tercedor, P., Ruiz, J. R., & Delgado-Fernández, M. (2012). Are there gender differences in quality of life and symptomatology between fibromyalgia patients? *American Journal of Men's Health*, 6(4), 314–319.
- Batmaz, I., Sarıyıldız, M. A., Dilek, B., Inanır, A., Demircan, Z., Hatipoğlu, N., ... Cevik, R. (2013). Sexuality of men with fibromyalgia: What are the factors that cause sexual dysfunction? *Rheumatology International*, *33*(5), 1265–1270.
- Bradley, E. H., Curry, L. A., & Devers, K. J. (2007). Qualitative data analysis for health services research: Developing taxonomy, themes, and theory. *Health Services Research*, *42*, 1758–1772. doi:10.1111/j.1475-6773.2006.00684.x

- Buskila, D., Neumann, L., Alhoashle, A., & Abu-Shakra, M. (2000, August). Fibromyalgia syndrome in men. *Seminars in Arthritis and Rheumatism*, *30*(1), 47–51.
- Carr, M., Barker, M., Bell, B., Biddulph, F., Jones, A., Kirkwood, V., ... Symington, D. (1994). The constructivist paradigm and some implications for science content and pedagogy. In P. Fensham, R. Gunstone & R. White (Eds.), The content of science: A constructivist approach to its teaching and learning (pp. 147–160). London: Falmer Press.
- Center for Disease Control and Prevention. (2017, May 4). Fibromyalgia fact sheet. Retrieved August 30, 2017, from https://www.cdc.gov/arthritis/basics/fibromyalgia.htm
- Center on Budget and Policy Priorities. (2017, August 1). Chart book: Social security disability insurance. Retrieved August 30, 2017, from https://www.cbpp.org/sites/default/files/atoms/files/7-21-14socsec-chartbook.pdf
- Cohen, H. A. G. I. T., Neumann, L. I. L. Y., Alhosshle, A., Kotler, M. O. S. H. E., Abu-Shakra, M. A. H. M. O. U. D., & Buskila, D. (2001). Abnormal sympathovagal balance in men with fibromyalgia. *The Journal of Rheumatology*, 28(3), 581–589.
- Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*, 5(1), 80–92.
- Fusch, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *The Qualitative Report*, 20(9), 1408–1416.

- Giorgianni, S. J., Brott, A., Fadich, A., Rooks, Y., Leonard, B., & Henry, A. (2013). Providing for and influencing the care of boys and men in America: A report by the Men's Health Braintrust. Men's Health Library. Retrieved from http:// www.menshealthnetwork.org/php/library.php
- Gittins, R., Howard, M., Ghodke, A., Ives, T. J., & Chelminski, P. (2017). The accuracy of a fibromyalgia diagnosis in general practice. *Pain Medicine*, pnx155, https://doi. org/10.1093/pm/pnx155.
- Heidari, F., Afshari, M., & Moosazadeh, M. (2017). Prevalence of fibromyalgia in general population and patients, a systematic review and meta-analysis. *Rheumatology International*, 37(9), 1527–1539.
- Heredia-Jimenez, J. M., & Soto-Hermoso, V. M. (2014). Kinematics gait disorder in men with fibromyalgia. *Rheumatology International*, 34(1), 63–65.
- Hooten, W. M., Townsend, C. O., & Decker, P. A. (2007). Gender differences among patients with fibromyalgia undergoing multidisciplinary pain rehabilitation. *Pain Medicine*, 8(8), 624–632.
- Jansen, H. (2010). The logic of qualitative survey research and its position in the field of social research methods. Forum Qualitative Socialforschung/Forum: Qualitative Social Research 11(2), Article 11.
- Labonte, R., & Robertson, A. (1996). Delivering the goods, showing our stuff: The case for a constructivist paradigm for health promotion research and practice. *Health Education Quarterly*, 23(4), 431–447.
- Leech, N. L., Barrett, K. C., & Morgan, G. A. (2005). SPSS for intermediate statistics: Use and interpretation. Mahwah, NJ: Lawrence Erlbaum Associates.
- Miró, E., Diener, F. N., Martínez, M. P., Sánchez, A. I., & Valenza, M. C. (2012). Fibromyalgia in men and women: Comparison of the main clinical symptoms. *Psicothema*, 24(1), 10–15.
- Miró, E., Martínez, M. P., Sánchez, A. I., Prados, G., & Lupiáñez, J. (2015). Men and women with fibromyalgia: Relation between attentional function and clinical symptoms. *British Journal of Health Psychology*, 20(3), 632–647
- Paulson, M., Danielson, E., Larsson, K., & Norberg, A. (2001). Men's descriptions of their experience of nonmalignant pain of fibromyalgia type. *Scandinavian Journal of Caring Sciences*, 15(1), 54–59.

- Paulson, M., Danielson, E., & Söderberg, S. (2002). Struggling for a tolerable existence: The meaning of men's lived experiences of living with pain of fibromyalgia type. *Qualitative Health Research*, 12(2), 238–249.
- Paulson, M., Norberg, A., & Danielson, E. (2002). Men living with fibromyalgia-type pain: Experiences as patients in the Swedish health care system. *Journal of Advanced Nursing*, 40(1), 87–95.
- Ruiz, P. I., Ubago, L. M., Bermejo, P. M., Plazaola, C. J., Olry, D. L. L. A., & Hernández, T. E. (2007). Differences in sociodemographic, clinical, psychosocial and health care characteristics between men and women diagnosed with fibromyalgia. *Revista Clinica Espanola*, 207(9), 433–439.
- Seers, K. (2012). Qualitative data analysis. *Evidence-Based Nursing*, 15(1), 2.
- Segura-Jimenez, V., Aparicio, V. A., Alvarez-Gallardo, I. C., Carbonell-Baeza, A., Tornero-Quinones, I., & Delgado-Fernandez, M. (2015). Does body composition differ between fibromyalgia patients and controls? The al-Ándalus project. Clinical and Experimental Rheumatology, 33(1 Suppl 88), S25–S32.
- Szolnoki, G., & Hoffmann, D. (2013). Online, face-to-face and telephone surveys—Comparing different sampling methods in wine consumer research. Wine Economics and Policy, 2(2), 57–66.
- Vincent, A., Lahr, B. D., Wolfe, F., Clauw, D. J., Whipple, M. O., Oh, T. H., ... St Sauver, J. (2013). Prevalence of fibromyalgia: A population-based study in Olmsted County, Minnesota, utilizing the Rochester epidemiology project. Arthritis Care & Research, 65(5), 786–792.
- White, K. P., Speechley, M., Harth, M., & Ostbye, T. (1999).
 The London fibromyalgia epidemiology study: The prevalence of fibromyalgia syndrome in London, Ontario. *The Journal of Rheumatology*, 26(7), 1570–1576.
- Wright, K. B. (2005). Researching Internet-based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of Computer-Mediated Communication*, 10(3).
- Yunus, M. B. (2001). The role of gender in fibromyalgia syndrome. *Current Rheumatology Reports*, *3*(2), 128–134.
- Yunus, M. B., Inanici, F. A. T. M. A., Aldag, J. C., & Mangold, R. F. (2000). Fibromyalgia in men: Comparison of clinical features with women. *The Journal of Rheumatology*, 27(2), 485–490.