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The Role of Spousal Relationships in Fibromyalgia Patients' Quality of Life

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Abstract

Fibromyalgia (FM) is a chronic pain syndrome that includes debilitating symptoms such as widespread pain and tenderness, fatigue, and poor physical functioning. Although some research has shown that FM patients' choice of coping style and relationship quality with their spouse can impact their mental quality of life, no known study has examined the protective nature of relationship quality and coping behaviors on both patient physical and mental quality of life in the context of chronic pain. We used a sample of 204 patients with FM to examine: (a) the simultaneous roles of coping styles and relationship quality on patient quality of life; and (b) the moderating effect of relationship quality on the association between negative coping style and patient quality of life. A series of multiple regressions found that patients' coping styles were not significantly associated with physical quality of life, but were significantly associated with mental quality of life. Although the quality of patients' relationship with their spouses was significantly associated with mental quality of life, no significant association was found with physical quality of life and no significant interactions with negative coping style were found. Our results emphasize the important role of coping styles and the quality of the relationship between patients and their spouses in the context of chronic pain. Clinicians have an opportunity to incorporate the patient's relationship with their spouse as part of a more holistic approach to care and improving patient outcomes.

Keywords

fibromyalgia; coping style; relationship; spouse; quality of life

Fibromyalgia (FM) is a chronic pain syndrome that includes debilitating symptoms such as widespread pain, tenderness, fatigue, dyscognition, and poor physical functioning (National Institute of Arthritis and Musculoskeletal and Skin Diseases [NIAMS], 2014; Wolfe et al., 1990). Patients with FM report being impacted in different aspects of their lives, such as their physical quality of life (QoL), mental QoL, finances, and relationships. Research has shown that FM patients experience lower health-related quality of life than healthy patients,

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such as experiencing more fatigue, lower muscle strength, and more cognitive complaints (Gelonch, Garolera, Valls, Rosselló, & Piafarre, 2017; Segura-Jiménez et al., 2015). With regard to mental QoL, FM patients report increases in depression and anxiety symptoms and more psychiatric diagnoses than healthy patients (Gormsen, Rosenberg, Bach, & Jensen, 2010; Segura-Jiménez et al., 2015). Financially, FM patients report that they have lost a job, needed to quit a job, or reduced their workload at a job due to their FM (Assefi, Coy, Uslan, Smith, & Buchwald, 2003; Bernard, Prince, & Edsall, 2001). Finally, they report loss of social support and relational difficulties with their spouse due to FM (Assefi et al., 2003; Reich, Olmsted, & van Puymbroeck, 2006; Rodham, Rance, & Blake, 2010). Thus, FM is a far-reaching illness with extensive personal, social, and economic consequences.

Coping styles

FM patients' coping style can impact their QoL (Baastrup et al., 2016). It has been well-documented that many FM patients employ passive coping styles, catastrophizing, and resignation to manage their pain (Baastrup et al., 2016; Hallberg & Carlsson, 2000; Hassett, Cone Patella, & Sigal, 2000). Although evidence is mixed on how helpful passive coping is in managing FM patients' pain, it is clear passive coping negatively impacts FM patients' mental QoL (Hallberg & Carlsson, 2000; Hassett et al., 2000). FM patients who utilize more passive coping skills feel less in control of their pain than FM patients who utilize more active coping skills (Baastrup et al., 2016; Hassett et al., 2000). Such feelings of not being in control are associated with depression and learned helplessness (Turner, Ersek, & Kemp, 2005). Indeed, depression rates are much higher in FM patients compared to healthy controls and patients with rheumatoid arthritis (Bernard et al., 2001; Hassett et al., 2000). However, FM patients who utilize more active coping skills (i.e. exercise, meditation) report feeling more in control of their symptoms and higher QoL, despite feeling more pain (Baastrup et al., 2016; Bernard et al., 2001). This finding is further supported by meta-analyses on the efficacy of pharmacological treatments and nonpharmacological treatments on FM symptoms: nonpharmacological treatments (such as exercise and cognitive-behavioral therapy) are just as effective, if not more, in improving multiple aspects of FM patients' QoL (Nüesch, Häuser, Bernardy, Barth, & Jüni, 2012).

Relationship quality

Across illness contexts, better spousal relationship quality has been shown to be a protective factor (Berg & Upchurch, 2007; Newton-John & Williams, 2006). Research has shown FM patients and their spouses experience great difficulties in their relationship, reporting lower marital satisfaction and higher reports of divorce compared to spouses of healthy patients, making this patient population particularly vulnerable (Steiner, Bigatti, Hernandez, Lydon-Lam, & Johnston, 2010). Similar to other chronic illnesses, better communication between patients and their spouses about the patients' FM is related to more positive patient outcomes (Taylor, Davis, & Zautra, 2013). The Communal Coping Model (CCM) purports that patients' main goal in their coping strategies may not be to reduce their pain, but to elicit a certain response from others (usually their spouse; Thorn, Ward, Sullivan, & Boothby, 2003). What is unclear is whether the protective nature of relationship quality can ameliorate the effects of negative coping style on patient QoL.

To address this gap, we will: (a) investigate the effect of patient coping styles on patient physical and mental QoL; and (b) investigate if the quality of the patient-spouse relationship moderates the association between patient coping styles and patient physical and mental QoL. We anticipate that a higher quality relationship will buffer the association between negative coping behaviors and patient QoL.

Method

Study population and setting

Participants were recruited from a database of FM patients living in the U.S. Pacific Northwest, the National Fibromyalgia Association and the Fibromyalgia Network. More information on recruitment can be found in a previous article (Lyons et al., 2013). Participants and their spouses were considered eligible for the study if they were at least 21 years old, could read or speak English, resided together, and had a provider-confirmed 1990 American College of Rheumatology (ACR) diagnosis of FM. Two hundred sixteen FM couples were enrolled and 204 completed the study. The Institutional Review Board at Oregon Health & Science Institute approved this study.

Participants' and their spouses' data were collected via separate surveys. The primary aim of the study was to examine and predict incongruent symptom perceptions and communication within FM couples (Lyons et al., 2013). This study is a secondary analysis.

Measures

Quality of life.—The 36-item Short Form Survey (SF-36) was designed as a generic measure of health-related QoL for use in general population surveys. The SF-36 is well-established as a valid, reliable instrument (McHorney, Ware, Lu, & Sherbourne, 1994). It is composed of eight scales, each of which has 2–10 items. Factor analytic studies have confirmed physical and mental health factors that account for 80–85% of the reliable variance in the eight scales in the U.S. general population. The Physical Component Scale (PCS) includes scales of physical functioning, role-physical, pain, and general physical QoL. The MCS includes scales of vitality, social functioning, role-emotional, and mental QoL. Scores are transformed to 0–100, with higher scores indicating better health status. Cronbach's alpha for patients in the current study was .83 for physical QoL and .83 for mental QoL.

Coping style.—The revised Ways of Coping Checklist has a total of 57 items that are used to rate coping strategies on a scale of 0–3 (0=never use, 1=rarely used, 2=sometimes used, 3=regularly use) in the past month (Vitaliano, Russo, Carr, Maiuro, & Becker, 1985). This scale has good psychometric properties with a mean Cronbach's alpha of .81. The current study examined two subscales – problem-focused coping and avoidance. Cronbach's alphas in the current sample were .80 for problem-focused coping and .74 for avoidance.

Relationship quality.—The mutuality scale measures the positive aspects of relationship quality (Archbold, Stewart, Greenlick, & Harvath, 1990). Patients responded to 15 items about their relationship with their spouse, using a Likert scale from 0 (not at all) to 4 (a great

deal). Higher scores indicate more positive relationship quality. The scale has exhibited high Cronbach's alpha values (.91 to .95) and strong construct validity (Archbold et al., 1990; Carter et al., 1998). The scale demonstrated strong internal consistency in this study ($\alpha = .94$).

Impact of Fibromyalgia.—The Fibromyalgia Impact Questionnaire is a 10-item questionnaire that measures fibromyalgia symptoms, physical function, and their effect on patients, such as their ability to work, fatigue, and depression (Burckhardt, Cluck, & Bennett, 1991). Patients respond using a scale from 0 (none) to 10 (very), with higher scores indicating higher FM severity. The FIQ has demonstrated good internal consistency (Bennett, 2005, *pg S-159*; Bennett et al., 2009). Cronbach's alpha for patients in this study was .86.

Pain severity.—The Brief Pain Inventory (BPI) assesses clinical pain with two subscales – pain severity and pain interference (Cleeland & Ryan, 1991). The 4-item pain severity scale asks patients to rate on a scale of 1 to 10 how severe their pain over the last week was at its worst, least, on average, and right now. Higher scores indicate more pain severity. The BPI has demonstrated good internal consistency (Cleeland et al., 1994). Cronbach's alpha for patients in this study was .73.

Analysis Plan

Data analysis was done in R version 3.3.2. We ran a series of multiple linear regression models separately for patient physical and mental quality of life. The first models examined the simultaneous roles of coping styles and relationship quality on quality of life, controlling for patient age, gender, years diagnosed with FM, patient pain severity, and FM impact. Next, we examined the moderating effect of relationship quality on the association between negative coping style (i.e., avoidant) on patient QoL. Interaction effects are reported where the effect was found to be significant. Otherwise, main effects models are reported. All continuous variables were mean centered before running the models.

Results

Socio-demographic and clinical data are reported in Table 1. The range of patient ages was wide, with the youngest patient at age 26 and the oldest patient at age 81 ($M = 55.01$, $SD = 11.53$). The average number of years since diagnosis was 12.74 ($SD = .59$) years, and the average number of years patients knew their spouse was 27.92 ($SD = 16.04$) years. Patients on average had low physical ($M = 31.48$, $SD = 9.07$) and mental QoL ($M = 40.28$, $SD = 12.99$).

Patient physical quality of life

Neither coping styles nor quality of the patient's relationship with their spouse were significantly associated with patient physical QoL. Rather, the severity of FM ($b = -.18$, $t(181) = -4.11$, $p < .001$), pain severity ($b = -1.00$, $t(181) = -2.11$, $p < .05$) and length of time the patient had been diagnosed ($b = -.16$, $t(181) = -1.98$, $p < .05$) were significantly associated with physical QoL. Patients who reported more severe pain, greater impact of the

disease, and had lived longer with it, were more likely to report worse physical QoL (see Table 2). Together, the set of variables accounted for 21% of the variance in patient physical QoL. No significant interaction was found.

Patient mental quality of life

Controlling for patient gender, age, length and severity of FM and pain severity, patients' coping styles were significantly associated with patients' mental QoL. Patients who employed a more problem-focused coping style reported significantly better mental QoL than those who engaged in less ($b = .36$, $t(181) = 3.59$, $p < .001$). Patients who employed a more avoidant coping style showed worse mental QoL ($b = -.64$, $t(181) = -4.01$, $p < .001$). Additionally, patients who had a higher quality relationship with their spouse had significantly better mental QoL ($b = 3.30$, $t(181) = 3.17$, $p < .01$). Finally, FM severity was significantly associated with mental QoL, with greater severity associated with significantly lower mental QoL was ($b = -.30$, $t(181) = -5.42$, $p < .001$). Together the set of variables accounted for 39% of the variance in patient mental QoL. No significant interaction was found (see Table 2).

Discussion

The effect of patients' relationships with their spouses on the association between patients' coping styles and QoL is not commonly investigated. To our knowledge, this study is the first to simultaneously examine the association of patients' coping styles and patients' relationship with spouse on QoL, in the context of chronic pain. Our results showed patient physical QoL was worse when patients had lived with FM longer, reported greater pain severity and greater impact of the disease; coping styles and spousal relationship did not play a significant role. Conversely, patient mental QoL was primarily associated with patient coping styles and spousal relationship quality, as well as lower severity of the disease. Although our results did not show a moderating effect of spousal relationships, quality of the spousal relationship had a significant protective effect on patient mental health, even when controlling for patient coping behaviors. Our results emphasize the important role of the relationship between FM patients and their spouses. Better relationship quality was significantly associated with better mental QoL, consistent with previous research (Miaskowski, Zimmer, Barrett, Dibble, & Wallhagen, 1997; Taylor et al., 2013). Our results also emphasize that patient coping styles were more important for mental QoL than physical QoL as has previous research (Hassett et al., 2000; Bastrup et al., 2016). It is possible that coping styles were not associated with patient physical QoL because the measure does not capture pain-specific coping strategies.

Although an individual's coping styles played a role in their mental QoL, how the patient perceived their relationship with their spouse also had an important role. Indeed, one of the most common answers FM patients gave when asked what they wanted from others, in a previous study, was more support (Bernard et al., 2001). As clinicians and providers, we have an important opportunity to examine not just the patients' coping styles, but the FM patients' relationships with their spouses and facilitate challenges that may be present in this area.

Due to FM's symptoms being "invisible" to others, patients' spouses may struggle with providing support. There are consistent findings on how crucial spousal support is on patients' QoL. Hagedoorn et al. (2000) found that patients with worse physical and psychological symptoms had higher relationship satisfaction with their spouses when their spouse was supportive and engaged in more open communication with the patient (i.e., active engagement). Patients with spouses who were less engaged or overprotective reported worse physical and psychological health. Miaskowski et al. (1997) also found that patients with a non-congruent relationship (i.e., patient and spouse differ in communication and perception of symptoms) reported worse QoL than patients with a congruent relationship. Similarly, Taylor et al. (2013) found that osteoarthritis and FM patients who have a happier and more supportive spousal relationship report higher QoL.

As our past work (Lyons et al., 2013) has shown these findings showcase the significance of spousal support on patient outcomes. Consistent with previous research, the more positive patients' relationships with their spouses were, the better their mental QoL. There has been little examination of relationship quality's role on physical QoL. Although research has shown that pain often brings people together and increases cooperation in groups (Bastian, Jetten, & Ferries, 2014), patient physical QoL in the current sample was far more linked to the pain and impact of the illness. Clearly more research is needed.

Limitations

There are several limitations. The majority of our study participants were White and female, which limits generalizability of our findings to male FM patients and non-white patients. Future research on how spouse relationships moderate coping style and outcomes is needed in more diverse populations. Second, the study utilized a cross-sectional design. Thus, we cannot make any conclusions of directional effects. Future research is needed to understand the role of relationship quality on QoL over time.

Strengths and clinical implications

This study has several important strengths and clinical implications. First, this is the first known study to examine the roles of coping styles and spousal relationship quality simultaneously on both patient physical and mental QoL in the context of FM. Second, the results of this study identified relationship quality as an important area for future research, particularly over the course of the illness. Interventions that target and encourage better communication and improve relationships may result in greater relationship satisfaction and better patient outcomes (Taylor et al., 2013).

As clinicians and providers, it may be beneficial to include FM patients' spousal relationships when working with patients in managing pain. This is especially important since patients often report that family and medical professionals may not understand or recognize their pain (Arnold et al., 2008). Patients feel frustrated, shame, and guilt for their symptoms (Arnold et al., 2008), negatively impacting their QoL (Baastrup et al., 2016, Bernard et al., 2001). Clinicians have a role to play in acknowledging the importance of factors such as relationship quality, in addition to traditional coping styles, to improve patient outcomes. Given the stigma present in the context of FM and lack of recognition that

there is anything wrong with patients by both providers and family members, it may be particularly important to inquire about patients' feelings of validation (Lobo, Pfalzgraf, Giannetti, & Kanyongo, 2014). Clinicians should not underestimate how influential they are in how patients feel about their FM (Sylvain & Talbot, 2002). Spouses have reported how difficult it is to adapt to their new roles, their partner's new needs, and how little information they receive on this invisible illness (Söderberg, Strand, Haapala, & Lundman, 2003). The stress that the patient feels and the stress that their spouse feels can impact their relationship greatly, resulting in worse physical and mental outcomes for both the patient and their spouse (Rodham et al., 2010, Tutoglu, Boyaci, Koca, Celen, & Korkmaz, 2014). Encouraging and fostering positive communication between patients and their spouses, greater relationship satisfaction and better patient outcomes are important goals of care (Taylor et al., 2013).

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Table 1.

Sociodemographic and clinical characteristics of study sample (N = 204)

Characteristic	M(SD) or %
Patient age	55.01 (11.53)
Patient race (% white)	85.8%
Education (% < some college)	85.3%
Employment Status (% not employed)	66.7%
Median income range	\$45,000 - \$49,000
Severity of fibromyalgia (FIQ)	55.84 (18.68)
Years of fibromyalgia diagnosis	12.74 (8.20)
Pain severity (BPI)	4.95 (1.62)
Physical quality of life	31.48 (9.07)
Mental quality of life	40.28 (12.99)
Problem-focused coping	31.95 (7.63)
Avoidant-focused coping	15.09 (5.16)
Relationship quality	3.10 (0.75)

Table 2.

Predicting patient physical and mental quality of life (N=204)

Variable	Physical Quality of Life	Mental Quality of Life
	B (SE)	B (SE)
Patient gender	3.02 (3.2)	3.37 (4.14)
Patient age	0.01 (0.06)	-0.05 (0.08)
Years of fibromyalgia diagnosis	-0.16 (0.08) *	0.16 (0.11)
Pain severity	-1.00 (0.48) *	0.30 (0.62)
FM severity	-0.18 (0.04) ***	-0.31 (0.06) ***
Problem focused coping	-0.05 (0.08)	0.36 (0.10) ***
Avoidant coping	-0.02 (0.12)	-0.64 (0.16) ***
Relationship quality	-1.58 (0.81)	3.30 (1.04) **
Adjusted R ²	.21	.39

*
p<.05;**
p<.01;***
p<.001