Research

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High Levels of Empathic Concern in Fibromyalgia Patients

Niveles altos de preocupación empática en personas con fibromialgia

Deborah Leyton-Hernández[1]

Lisandro Vales-Motta[2]

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Abstract

Fibromyalgia (FM) is a syndrome that is characterized by chronic pain, fatigue, and sleep, cognitive and mood disorders. From a clinical standpoint, these patients have excessive concern for others, which is related to their empathic capacity. There are few studies on social cognition in FM. The objective of this research is to study the relationship between empathic capacity and the symptomology and impact of fibromyalgia on people diagnosed with this syndrome. Twenty-two women diagnosed with FM, residing in Maldonado department of Uruguay, participated in the study. They range between the ages of 29 and 69 years, with the average being 54 +–10.4 years of age. The relationship between FM and empathy was studied with Revised Fibromyalgia Impact Questionnaire (FIQR) and Interpersonal Reactivity Index (IRI). High scores were observed in all of the domains of empathy. Relationships were found indicating that: 1) the greater the fantasy, the lower the overall impact of FM; 2) the greater the personal distress, the greater the FM symptomatology. People with FM present high empathic capacity; and empathic concern stands out as a primary dimension of empathy. Fantasy seems to be a buffer in FM. High levels of personal distress are associated with increased symptomatology of Fibromyalgia.

Keywords: Central Sensitivity Syndromes; Empathic concern; Empathy; Fantasy; Fibromyalgia; Interpersonal Reactivity Index; Perspective Taking; Personal distress; Revised Fibromyalgia Impact Questionnaire; Social Cognition; Theory of Mind

Resumen

La fibromialgia (FM) es un síndrome que se caracteriza por dolor crónico, fatiga, alteraciones del sueño, cognitivas y del estado de ánimos. Desde el punto de vista clínico estas pacientes tienen una excesiva preocupación por el otro, relacionándose con su capacidad empática. Hay pocos estudios sobre la cognición social en FM. El objetivo de esta investigación es estudiar la relación entre la capacidad empática y la sintomatología e impacto de la fibromialgia en personas diagnosticadas con este síndrome. Veintidós mujeres con diagnóstico de FM, residentes en el departamento de Maldonado Uruguay, participaron en el estudio. Su edad oscila entre los 29 y los 69 años, siendo la media de 54 +–10.4 años. La relación entre FM y empatía se estudió con el Cuestionario de Impacto de Fibromialgia Revisado (FIQR) y el Índice de Reactividad Interpersonal (IRI). Se observaron puntuaciones elevadas en todos los dominios de la empatía. Se encontraron relaciones que indican que: 1) a mayor fantasía, menor es el impacto global de la FM; 2) a mayor malestar personal, mayor es la sintomatología de FM. Las personas con FM presentan alta capacidad empática, destacándose la preocupación empática como dimensión de la empatía mayormente comprometida. La fantasía parece ser un amortiguador del impacto de FM. Las personas vulnerables al malestar personal padecen mayor sintomatología.

Palabras clave: Cognición social; cuestionario de impacto de fibromialgia revisado; empatía; fibromialgia; índice de reactividad interpersonal; malestar personal; preocupación empática; síndrome de sensibilidad central; teoría de la mente; toma de perspectiva

[1] School of Social and Behavioral Sciences, Instituto Universitario Francisco de Asís, Maldonado, Uruguay.
Contact mail: dd.leyton@gmail.com
ORCID: https://orcid.org/0000-0003-2743-814

[2] Institute of Fundamentals and Methods in Psychology, Faculty of Psychology, Universidad de la República Montevideo, Uruguay.
ORCID: http://orcid.org/0000-0001-5259-8591

Introduction

Fibromyalgia is a syndrome of unknown etiology that falls within the Central Sensitivity Syndromes (Sarzi-Puttini, Giorgi, Marotto & Atzeni, 2020; Uboldi, 2012; Walitt, Ceko, Gracely & Gracely, 2015). It is characterized by chronic, widespread pain without the presence of observable inflammatory processes, and is accompanied by fatigue, sleep disturbances, muscle stiffness, as well as cognitive and mood disturbances. This symptomatology can present itself in a variable way, both during the course of the said disease and between different patients (Atzeni et al., 2019; Clauw, 2014; Kaltsas & Tsiveriotis, 2020; Uboldi, 2012). It can become disabling, and it affects the biological, psychological, and social dimensions of patients (Sarzi-Puttini et al., 2020). It was recognized as a differentiated disease by the WHO, classified under soft tissue rheumatism, and has been assigned code M79.0 in the International Classification of Diseases manual (ICD-10).

The most frequent complaints of FM patients are chronic widespread pain, fatigue, and lack of sleep. Usually, the pain is localized at the beginning, but ends up involving various muscle groups (Kaltsas & Tsiveriotis, 2020). From a biopsychosocial standpoint (Atzeni et al., 2019; Pujal & Mora, 2017), pain is considered to be the result of the interaction of biological elements characterized by an increased sensitivity to pain in the central nervous system (Clauw, 2014), which can cause and prolong different ailments; psychological factors that influence the perception of the internal subjective experience; and socio-environmental elements that modulate the perception of nociceptive stimulation and shape the body's responses (Truyols, Pérez, Medinas, Palmer & Sesé, 2008).

Although exhaustive work on neuroimaging studies of central sensitivity syndromes (Walitt et al., 2015) was unable to discern a defining neuroimaging "signature", the biological response to painful stimuli has been shown to increase in a scalable manner in many of these disorders, demonstrating that a part of the symptom burden is based on unconscious reflexive physiological mechanisms. This observation allows for a different view of diseases that were historically thought to be hysteria, or feigned. Chronic pain, in turn, is associated with the altered dynamics of the Default Mode Network (DMN), finding in FM specifically, a decrease in gray matter in areas of the brain that are considered to be an integral part of pain-related networks. There is an increase in painful stimulation, and descending pain inhibition is deficient. Furthermore, sensory augmentation is not only limited to pain processing, but also to non-painful auditory, visual, and tactile stimuli.

On the other hand, it has recently been suggested that environmental factors could be significant in triggering the disease. These factors are usually stressors that, in the face of a dysfunctional stress response system, cause dysregulation of the nociceptive system and the appearance of other symptoms (Kaltsas & Tsiveriotis, 2020). There have been studies that have searched for a personality profile or common psychological characteristics in people with the syndrome, although it has not been possible to draw general conclusions (Besteiro et al., 2008; Cerón, Centelles, Abellana y García, 2010).

Empathy

Empathy is a characteristic component of a person's personality, and a fundamental human capacity in interpersonal relationships (Moya-Albiol, Herrero & Bernal, 2010; Singer, 2012). Together with mentalization or Theory of Mind (ToM), it is an essential part of social cognition (Lieberman, 2007; Singer, 2012), which refers to mental operations in interaction with others, adapting the subject's cognitive and emotional functioning to their social functioning. Social cognition involves a series of processes that perceive, interpret, and trigger responses to other people's behaviors (Moya-Albiol et al., 2010; Singer, 2012). Recognition of emotional expressions is the basis for understanding another person's affects. Therefore, empathy not only provides fast and accurate predictions about the needs and actions of others, but its social function is also to serve as a motivator for cooperative and altruistic behavior. Furthermore, it plays a crucial role in effective social communication (Singer, 2012).

According to Davis (1980; 1996), empathy is a multidimensional process, which he defines, in general terms, as a set of constructs (including affective and non-affective processes and results) that are related to the cognitive, affective, and/or behavioral response of one person to the observed experience of another. Empathy is considered to be the ability that allows us to recognize the emotions and thoughts of others, allowing us to form an appropriate response to individual and/or group interests (Álvaro-González, 2015). It consists of an emotional component and a cognitive component, which function independently, and in their normal functioning, they are interrelated. Emotional empathy corresponds to the ability to recognize, understand, and imitate the emotions of another. "putting oneself in the other's place", and reacting from that point on. The cognitive component is related to the ability to abstract the mental processes of other people, allowing one to have a perspective of those processes (Álvaro-González, 2015; Moya-Albiol et al., 2010).

Neuroanatomical Bases of Empathy

These two components proposed by Davis (1980) correlate with studies that present two circuits that involve empathy: a basic emotional system, and a more advanced cognitive system of perspective taking (Banissy, Kanai, Walsh & Rees, 2012; Shamay-Tsoory, Aharon-Peretz & Perry, 2009). The functional magnetic resonance imaging study by Vollm et al. (2006), compared the networks associated with empathy and mentalizing or cognitive empathy. They concluded that, although the former requires the additional recruitment of the amygdala and the cingulate cortex involved in emotional processing, both share a common neuronal circuit that includes the medial prefrontal cortex, the temporoparietal junction, and the temporal poles.

Currently, the components of empathy have been tied to the network by default. Empathy, the ability to understand and share in the emotions of others, can occur through cognitive and affective components. These components are conceptually different in the brain. Research based on neuroimaging in adolescents and adults documented that cognitive empathy is associated with the DMN and frontoparietal networks, while regions of the prominent network (salience network —includes anterior cingulate and anterior insular cortices) are involved in affective empathy. It is important to note that cognitive empathy takes longer to mature than affective empathy. Likewise, it has been proposed that cognitive empathy within DMN connectivity is independent of affective empathy or empathy in general (Winters et al., 2021).

Research on FM and Social Cognition

Özsoy & Okan's (2018) work on Theory of Mind (ToM) in FM patients found that FM patients' performance on the *Reading the Mind in the Eyes Test* (RMET) was significantly lower than that of healthy control subjects. The patients were found to have more dysfunctional metacognitions.

Di Tella et al. (2015) found that patients with FM have impairments in social cognition skills (independent of executive function deficit). Deficits were found in the regulation of their own affect and the recognition of emotions and representation of the mental states of others.

In an experimental study on the activation of brain regions in an empathy scenario (in pairs, a nociceptive stimulus is performed to observe the previously known reaction). De Tommaso et al. (2019) found that FM patients showed an increase in the sensation of pain, and they desynchronize the same frontocentral regions as the stimulation itself, while healthy subjects share the pain of the other by activating areas of the scalp compatible with visual attention. The FM patients showed a pattern that was compatible with the activation of somatosensory circuits in the expectation of their own pain and that of others.

This latest study explains a certain direct relationship between pain and empathy. Because of the significance of pain in FM, one might think that FM patients have a very good empathic capacity —an aspect that can be seen in the clinic with this type of patient. The latter would be in contradiction with the study by Di Tella et al. (2015), which indicates that FM patients exhibit impairments in representing other people's mental states.

Material and Methods

Objective

To study the relationship between empathic capacity and the symptomology and impact of fibromyalgia on people diagnosed with this syndrome.

Participants and Method

The population that participated in this study consisted of people with FM from the Maldonado department in Uruguay. The sample was formed through access to non-governmental organizations that work with central sensitivity syndromes in the department of Maldonado. As an inclusion criterion, the participants, who voluntarily took part in the study, had to be of legal age with a medical diagnosis of FM. It should be noted that only female FM patients were accessible, although this was not considered a prerequisite.

This study was descriptive and correlational, not experimental, quantitative, and cross-sectional.

Instruments

The techniques that were used were the interview of patronymic data, and the application of validated tests, which corresponded to the variables.

Information collected in the interview: Sex, age, marital status, education, profession/occupation, family structure, estimated time to obtain the diagnosis, year in which the diagnosis was made, treatment, other pathologies, psychiatric history, family history of FM or other pathologies.

The *Revised Fibromyalgia Impact Questionnaire* (FIQR) is an internationally used instrument (Bennett et al., 2009) validated in Spanish (Salgueiro et al., 2013). It consists of a 21-item self-administered questionnaire, with visual analog scales with a score from 0 to 10. It allows for the evaluation of three domains: functional, general impact, and symptomatology. The maximum score is 100 points. The higher the score, the greater the severity (Salgueiro et al., 2013).

Interpersonal Reactivity Index (Davis, 1980), in its adaptation to Spanish (*Índice de Reactividad Interpersonal*, IRI) validated in Argentina (Müller, Ungaretti & Etchezahar, 2015**)**, and it was used in Uruguay (Bentancour & Vales, 2021; Vales, 2022). This is a self-report measure, consisting of 28 items divided into four subscales of 7 items each, which assesses the dimensions that make up empathy: a) cognitive dimension: Perspective Taking (PT), which measures the ability to understand the other's point of view; Fantasy (FS), indicates the imaginative ability to put oneself in fictional situations; b) affective dimension: Empathic Concern (EC), assesses the feelings of compassion, concern, and distress that the individual exhibits when observing the negative experiences of others; and Personal Distress (PD), assesses the feelings of anxiety and distress that the individual exhibits when observing the negative experiences of others.

Statistical Analysis

The Shapiro Wilk Test is applied to the variables to examine their normality. The Student's *t* Test is used to compare groups with normal distribution, and the Wilcoxon Test is used for non-normal distribution. The Pearson correlation coefficient

(*r*) is used to correlate variables with a normal distribution of data, and the Spearman coefficient is used for non-normal distributions. Hedges' *g* is used to measure effect size.

Ethics

This study was endorsed by the Research Ethics Committee of the Francisco de Asís University Institute in the city of Maldonado, Uruguay. The participants signed the corresponding informed consent.

Results

Twenty-two women diagnosed with FM, residing in the department of Maldonado, participated in the study. They range between the ages of 29 and 69 years, with the average being 54 +–10.4 years of age. 64% of the women have a husband or partner, and 100% of the participants have children. More than 50% stated that they had between 6 and 9 years of schooling, and 14% stated that they had received tertiary education. More than 50% are currently working.

The participants had between 1 to 20 years of diagnosis, whereas the time during which they experienced symptoms before obtaining the diagnosis extends to 57 years, as they described having them since they were girls, with the average being 13.3 years.

100% of women suffer from some other disease, the most frequent being osteoarthritis, digestive system issues (irritable bowel, gastritis, among others), digestive and thyroid problems. Notably, the psychiatric history showed a high frequency of depression and anxiety, with 68% and 64%, respectively.

FIQR Test

Since the general results of the FIQR were applied to the participants of this study (Table 1), it can be said that the average values of the different domains correspond with the original document described by Bennett et al. (2009).

Table 1.
Descriptive statistics according to FIQR domains and comparison with other studies.

	Minimum	Maximum	Median	Mean $N = 22$	Mean (SD) Bennett et al. (2009)
Functional domain (0 to 30)	1.3	26.6	16.6	16.85	15.6 (5.98)
Overall impact domain (0 to 20)	0	20	105	10.01	11 (6.01)
Symptoms domain (0 to 50)	5	49	33	31.14	30 (9.9)
Total (0 to 100)	6.3	95.6	60.7	58.09	56.58 (19.9)

Source: Authors.

SD Standard Deviation

With regard to the total scores, which show the overall evaluation of the impact and severity of FM on the women interviewed, there was a wide variation in the final values, with the highest percentage peak being at a severe level (Table 2).

TABLE 2.
Descriptive statistics according to FIQR severity scale.

	Minimum	Maximum	Mean	*N* = 22	%
Extreme (level 75-100)	84	95.6	87.6	3	13.6
Severe (level 60-74)	61.6	73.5	67.2	8	36.3
Moderate (level 43-59)	49	59.8	55.7	6	27.3
Mild (level 0-42)	6.3	42.3	28.4	5	22.7

Source: Bennett et al. (2009).

IRI Test

The data from the Interpersonal Reactivity Index (IRI) denotes increased results in the dimensions that this test is concerned with, compared to (Müller et al., 2015), who analyzed the psychometric properties of the IRI in its Spanish version in Argentina with a sample of 202 adult women. The size of the effect is presented according to the Hedges' *g* (Table 3).

TABLE 3.
Descriptive statistics according to IRI scales and comparison with other studies.

	Minimum	Maximum	Mean (SD) *N* = 22	Mean of women (SD) (*N* = 202) (Müller et al., 2015)	Effect size (Hedges' g)
PT	6	27	20.27 (6.84)	14.18 (2.30)	2.00 large effect
FS	4	21	14.27 (5.68)	13.76 (3.70)	0.23 small effect
EC	19	28	25.23 (4.18)	11.38 (2.00)	6.01 large effect
PD	0	28	14.27 (7.17)	10.32 (3.68)	0.95 large effect

Source: Authors.

SD Standard Deviation

Correlations were made between the variables, finding the significant relationships (Table 4).

Bivariate statistics

TABLE 4.
Correlations.

Variable 1	Variable 2	Coefficient	Direction	Intensity	P-Value
Age	Diag. FM	Pearson	+	0.52	0.01
Age	Diag. Time	Spearman	+	0.43	0.04
Age	Overall impact	Spearman	–	0.40	0.06
Age	FS	Spearman	+	0.43	0.04
Overall impact	FS	Pearson	–	0.44	0.03

Source: Authors.

Groups of the dimensions of the variables are compared according to whether or not the participants have a partner, and according to the median years of schooling, the FIQR subscale, and the IRI dimensions. Significant differences were found in the following groups: marginally significant relationship to the age of the participants according to their education, where 0 means that they have up to 9 years of schooling, and 1 means that they have more than 9 years of schooling (Table 5); Marginally significant relationship PD according to the average symptomatology (value 33), where 0 means that the score is lower than the median, and 1 means that it is higher (Table 6).

TABLE 5.
Group comparison: Age according to schooling.

Schooling	Average	N	SD
0	58.17	12	7.97
1	50.00	10	11.56
$P = 0.06$			

Source: Authors.

TABLE 6.
Group comparison: PD according to median symptomatology.

Symptomatology	Average	N	SD
0	11.45	11	6.62
1	17.09	11	7.00
$P = 0.06$			

Source: Authors.

Discussion and Conclusions

Given the data obtained in the FIQR questionnaire, and its comparison to the study by Bennett et al. (2009), it has been demonstrated that according to the sample used, the population of women with FM in the department of Maldonado, Uruguay corresponds with similar values in the very research that gave rise to the questionnaire that was used. On the other hand, the existence of one more prominent domain is not observed, which indicates that the impact of their FM is not distinguished by the variation of one particular domain.

With regard to the IRI test and the results according to the different dimensions, compared to the study by Müller et al. (2015), the FS in this study was the only dimension that obtained results within the standard deviation ($g = 0.23$ corresponds to a small effect). This dimension aims to evaluate the imaginative capacity of the individual through identification with fictional characters from movies, literature, or plays (Davis, 1980; Mestre, Frías & Samper, 2004). There were higher scores in the other three dimensions. The dimension that corresponds to PD obtained a higher mean score of 4 points; a value that corresponds to more than one standard deviation ($g = 0.95$ corresponds to a large effect). The scores observed in PT were higher than in the previously described dimension, exceeded by 6.9 points, which corresponds to 2.6 standard deviations ($g = 2.00$ corresponds to a large effect). Finally, EC is the dimension that stands out in the comparisons, because it exceeds the mean by 13.85 points: EC is greater than 6 standard deviations ($g = 6.01$ corresponds to a large effect). It can be said that people with high levels of EC: social anxiety and shyness, chronic fear, insecurity, emotional vulnerability greater emotionality, and concern for others; are slightly prone to totality (Davis, 1983; Batson, Fultz & Schoenrade, 1987). The following characteristics can be associated with people with FM, for example, social phobia (Revuelta, Segura & Paulino, 2010), unsociable and with a high insulation tolerance (Alboil, Gomà-i-Freixanet, Valero, Vega & Muro, 2014), altruism (Uboldi, 2012), anxious and insecure personality (Alboil et al., 2014; Ramos-Rodriguez, López-Rios & Ordoñez-Carrasco, 2019), psychological vulnerability (Besteiro et al., 2008; Ramos-Rodriguez et al., 2019); neuropsychological deterioration (Munguía-Izquierdo, Legaz-Arrese, Moliner-Urdiales & Reverter-Masía, 2008).

In the bivariate statistics of the patronymic data, age was found to be interrelated with other variables (Table 4): positively with years of FM diagnosis ($p = 0.01$), and the time to get the diagnosis ($p = 0.04$), which was expected, and a marginally significant negative relationship with schooling ($p = 0.06$) (Table 5), where the lower the age, the higher the schooling. The latter may be related to issues of a social nature, whereas in previous generations there were higher dropout rates (Peri, 2005). On the other hand, age also marginally significantly and negatively correlates with the FIQR's Overall impact domain ($p = 0.06$), and positively with IRI's FS ($p = 0.04$); in other words, the older the person with FM, the lower the overall impact, and the greater the fantasy. With regard to the latter, what is stated in the study by Chen, Chen, Decety & Chenga (2014), in which they examined empathy according to differ-

ent ages (young, middle-aged, and elderly), they concluded that the older the person, the lower the empathy, and specifically in the IRI results, the FS also decreases with age. This differs from the results obtained from the participants with FM in this study where, conversely, the older the subject, the higher the FS.

As for the interrelations between the different dimensions of the tests used in the study, relevant relationships were found. On the one hand, there is a negative relationship between FM (Overall Impact) and FS (Table 4); on the other hand, low and high FM symptomatology is related to PD (Table 6). Firstly, the aforementioned shows that more imaginative people reported a lower overall impact of FM. The Overall impact domain seeks to elucidate, in general terms, how much FM interferes with the person's goals and to quantify the overwhelmingness of their symptoms. These components are in turn also marginally related to age, which is negatively associated with FM and positively with FS; that is, the older the person, the lower the overall impact and the higher the FS. Based on this, one can make various assumptions as to the reasons for these correlations, such as 1) the older the person, the fewer the goals that are set during the week and, therefore, the lower the impact; 2) age also correlates positively with the years of diagnosis and time before getting the diagnosis, so it can be conjectured that after several years with FM, the participants have already adapted to the limitations; therefore, the management of frustration regarding the difficulty in achieving their goals, as well as the symptom burden, is less; 3) FS can be considered a positive (cognitive) coping strategy, where the possibility of getting involved with a fictional character (whether it be cinema, theater or literature) corresponds to the possibility of creating a distraction, having a positive effect on the overall impact of FM (Weisenberg, Tepper & Schwarzwald, 1995; Bernard, Prince & Edsall, 2000).

Secondly, they show that the higher the PD, the greater the symptoms they experience. This dimension of empathy is affective in nature, directed at oneself, where feelings of anxiety and distress are manifested in the tense and stressful situations of others. According to Davis (1983), higher levels of personal distress are associated with people that have low self-esteem and emotionality that is characterized by vulnerability, uncertainty, and fear. These particularities are typical of people with FM (Fietta, Fietta & Manganelli, 2007; Revuelta et al., 2010; Garaigordobil & Govilard, 2013; Galvez-Sánchez, Duschek & Reyes, 2019). Personal distress is associated with negative self-affirmation, which intensifies the pain (Camacho & Anarte, 2003; Galvez-Sánchez et al., 2019), and as such intensify the perception of the symptomatology. Since the PD is directed selfward when empathizing, when faced with the needs or distress of another, people with FM direct the distress to themselves, increasing the intensity and perception of their symptoms.

It should be noted that no significant correlations were found between any of the dimensions of the empathy test itself. When compared with the study by Müller et al. (2015), one can see from the results that women with FM show high scores in the IRI questionnaire. This makes it possible to affirm the existence of a high empathic capacity in women with FM.

Conclusions

According to the results obtained in this study, which was based on this very complex syndrome, it is possible to confirm the existence of a high empathic capacity in women with FM. This could be observed in the comparative results, where women with FM show high levels in the four dimensions of empathy studied in the IRI questionnaire, in which EC was characterized as a prominent dimension in people with FM, followed by PT, PD, and finally FS. EC refers to feelings of compassion, sympathy, and concern for others; therefore, it is possible to presume that people with FM are characterized by being altruistic, with a disinterested and unselfish concern for others, as well as presenting greater emotionality, psychological vulnerability, social anxiety and chronic fear (Batson et al., 1987; Davis, 1983).

Notably, both EC and PT, which are the dimensions with the highest scores, do not seem to be directly related to the symptoms or the impact of FM. However, on the one hand, it was found that fantasy seemed to serve as a buffer in FM, perceiving a lower overall impact from the syndrome. Because of this, it is suggested that people with FM who are more imaginative perceive this pathology as being less of a hindrance to their goals and that they are not too overwhelmed by their symptoms. On the other hand, and along the same lines, experiencing someone else's distress (PD) has implications for the development of more symptoms related to this syndrome. This suggests that, when faced with the needs of others, people with FM direct their distress towards themselves, thereby intensifying their symptoms. The latter could be related to the study by De Tommaso et al. (2019), where they relate the activation of brain regions in an empathy scenario with somatosensory circuits; in this case, activation in the expectation of other people's pain. On the other hand, it contradicts the study by Di Tella et al. (2015), primarily with regard to the representation of other people's mental states.

For all of these reasons, it is important to note that the personal process of each FM sufferer is unique since it is a pathology whose development is influenced by life experiences, personality characteristics, symptomology, and comorbidities. And, within this development, where the body becomes the scapegoat for emotions, in this case presenting mainly as pain, there is a conscious modification of habits and particularities in the individual's personality. It is in the latter where psychotherapeutic treatment becomes important, as it is essential to meet this need by providing favorable tools so that patients can cope with the syndrome. According to the data obtained, working on excessive concern for others, as well as self-regulating personal distress when faced with the other person's needs, can be positive for FM. At the same time, since fantasy buffers its impact, it is related to promoting reading, the cinema, as well as other activities that encourage this quality. From this point of view, what has been said can be applied both in clinical interventions and in possible community or public health programs that enable individual and/or group work with people affected by FM.

Conflicts of Interest

The authors report no conflicts of interest to report about this study.

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