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Toward a Transdisciplinary Integration of the Health Disciplines: The Case of the Fibromyalgia Syndrome

ABSTRACT

Fibromyalgia is a chronic pain disorder with a multifaceted nature and its biological, psychological and social aspects are strongly interconnected. Therefore, the integration of the different health disciplines is strongly recommended for its care. There is a growing number of interventions based on this principle but each of them is heterogeneous with regards to how the included disciplines are integrated with each other. With this regards, multidisciplinary and interdisciplinary programs are distinguished. The former are organized in order to treat the various aspects of the syndrome using different perspectives and their various treatment components are usually provided separately by the different care providers. Conversely, interdisciplinary treatments are planned in order to foster a dialogue between the operators by providing a joint conduction of the treatment or scheduling plenary discussions about the cases. In the field of chronic pain, some authors are suggesting to move beyond these approaches and to plan transdisciplinary treatments, which would allow the professionals to move across their disciplinary boundaries. Although no examples of these interventions have been proposed for the treatment of fibromyalgia, there is a visible trend in the literature toward more holistic forms of care.

KEYWORDS: Fibromyalgia, interdisciplinary, transdisciplinary, patient care

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INTRODUCTION

The fibromyalgia syndrome is a multifaceted chronic pain disorder of unknown etiology with a marked prevalence among women (Guymer, Maruff, & Littlejohn, 2012). Its symptoms range from widespread pain, stiffness, fatigue, cognitive impairment, disturbed sleep, anxiety and depression (Longley, 2006; Ryan, 2011) and, as a result, the quality of life of the person is often compromised (Andrell et al., 2014). Although the first descriptions of this condition date back to the first years of the 1900, its acknowledgement as a specific diagnosis is recent (Goldenberg, 1987). This is due to the fact that fibromyalgia had long been considered as a “psychogenic” disorder, whose symptoms only simulated the signs of other chronic pain syndromes. This simplistic view was challenged by the first evidences about the physiological basis of the condition and, above all, by the rise of theoretical frameworks that acknowledged the joint contribution of the biological and psychological aspects of the disease (Inanici & Yunus, 2004). The multifaceted nature of the fibromyalgia syndrome is now considered as one of the clearest examples of the complexity of the relationship between body and mind (Perrot, 2014). The biopsychosocial model has become the main paradigm that is used to account this complexity. Introduced by Engel four decades ago (Engel, 1977), the biopsychosocial model states that illness has to be viewed as the outcome of interacting mechanisms at the cellular, tissue, organismic, interpersonal and environmental levels and that, therefore, the care of the person has to be rooted in a holistic consideration of all these aspects. The core assumption of this theory is the fact that the different levels are intertwined. Indeed, in order to understand and to treat fibromyalgia, it is not sufficient to address all its facets separately, since all of them simultaneously concur in its development.

FIBROMYALGIA: THE BIOPSYCHOSOCIAL PERSPECTIVE

Although there are several gaps in our knowledge of the pathogenesis of fibromyalgia, it is now clear that different genetic, neuroendocrine and functional brain abnormalities are interlinked in the development of the syndrome (Buskila, 2003). A genetic predisposition has been reported as a background of the other aspects of the disease (Ablin & Buskila, 2015). In particular, hereditary anomalies play an important role in the process of central sensitization, that will be explained later. More interesting, genetic anomalies are linked to the psychological aspects of the disease, since they are able to partially explain the high incidence of psychological distress in the fibromyalgia population (Offenbaecher et al., 1999). On the other hand, psychological distress is in turn involved in the expression of these genes, so that the relationship between them can be seen as reciprocal. These aspects are related to the process of central sensitization, i.e. an increased responsiveness of the central nervous system to noxious stimuli, which helps to explain the presence and the characteristics of the widespread pain that is typical of the syndrome (Cagnie et al., 2014). It is clear that the increase in the sensitivity to painful stimuli has a strong impact in the psychological state of the person and on his behaviors. Fibromyalgia patients are more alerted in order to prevent possible threats to their bodies, and this in turn leads to the overuse of some brain structures and to consequent abnormalities in pain processing (Meeus & Nijs, 2007). In addition, other psychological aspects, such as depression, anxiety, pain catastrophizing, avoidance, anger, uncertainty about the future are associated with the amplification of pain (Castelnuovo et al., 2016a). Pain behaviors, emotions and cognitions not only have an impact on the structures at the biological levels, but they are also strongly related to environmental and social issues. The presence of the syndrome, as well as depression, hypervigilance, anxiety, the tendency to catastrophize about the own pain and all the

other psychological aspects have a strong effect on the interactions and the relationships with other persons (Armentor, 2015; Ong & Keng, 2003). The reactions of the others, in turn, influence the adaptation of the patient to the disease and, consequently, to a worsening or an improvement of its psychological aspects.

IMPLICATIONS FOR THE TREATMENT

It is therefore clear why the traditional medical, physical or psychological treatments have poor efficacy if they are provided singularly. The paradigm shift from the deterministic and mono-disciplinary frameworks to the biopsychosocial model has led to a more comprehensive understanding of the complexity of the disease and, as a consequence, to a rapid growth of integrated treatments, which are built for the purpose to address all its aspects simultaneously. These programs involve multiple care providers coming from different disciplines who work in a collective manner, sharing their competencies in order to provide a more effective rehabilitation. It is not surprising that they are considered the best practices for the care of the syndrome (Hauser et al., 2008). They act at different levels. The main symptoms of the disease are generally treated with a pharmacological approach (Macfarlane et al., 2016), combined with a close monitoring of the eventual overuse or chronic use of drugs (Rivera & Vallejo, 2016). Another important step of the care is to provide education about the disease, the realistic goals that can be set during the treatment, the activities that have to be gradually introduced, the management of sleep and the communication with the others (Turk & Adams, 2016). This is the basis for the introduction of the physical and occupational therapies, that are crucial for the functional recovery of the patient. These therapies are important since they are effective in alleviating pain and they teach how to exercise and move without suffering, leading to the possibility

for the patient to begin to control his own disease (Blehm, 2006; Mannerkorpi, 2005). The efficacy of these treatments is enhanced if they are followed by interventions that help the patient to change his maladaptive behaviors and to address the psychological comorbidities of the syndrome. A number of psychotherapies are available and have proven to be effective (Castelnuovo et al., 2016b). The most studied psychological programs for fibromyalgia are based on the principles of the Cognitive – Behavioral Therapy (CBT). CBT is based on helping the patient to improve his self – management and problem – solving skills and on taking care of the emotions, attitudes and thoughts linked to the syndrome. Various other psychotherapies are widely used in the care of fibromyalgia or can be complemented with such an approach.

INTEGRATING THE TREATMENTS

The systematic reviews and the meta-analyses which pooled the integrated programs generally agree about their positive effects (Papadopoulou, Fassoulaki, Tsoulas, Sifaka, & Vadalouca, 2016). However, it is to be noted that there are substantial differences among these treatments and the possibility to consider them as a whole is theoretically debatable. Each of them is usually original with regards of its characteristics, including its duration, its objectives, its setting, its components, the number of professionals involved and their disciplines (Scascighini, Toma, Dober-Spielmann, & Sprott, 2008). More importantly, although these programs have in common the fact that they involve multiple healthcare providers, they diverge with regards to how their competencies are integrated. Terms such as “multimodal” “multidisciplinary”, “interdisciplinary” describe very different ways to provide such an integration. Since multimodal interventions cannot be properly grouped among the integrated treatments due to the fact that they combine different components but are

provided by operators from a single discipline (see as an example the study by Van Abbema, Van Wilgen, Van Der Schans, and Van Ittersum (2011)), we will attempt to describe below the characteristics of multidisciplinary and interdisciplinary programs for fibromyalgia, providing examples. We will then try to emphasize the differences between the two approaches. We will complete our discussion presenting the first considerations available in the literature about transdisciplinary treatments, which might represent the future trend for the care of the syndrome.

MULTIDISCIPLINARY INTERVENTIONS

There is a growing number of multidisciplinary treatments that are available for the treatment of fibromyalgia. They vary from programs which include only two disciplines (e.g. Carbonell-Baeza et al., 2011; Van Koulil et al., 2011) to more complex approaches which involve more professionals (e.g. Anderson & Winkler, 2006; Van Eijk-Hustings et al., 2013). The active components of the different sub – treatments are provided separately and the operators have independent goals. These programs are usually based on the work of physical therapists or, more rarely, of physicians, whereas the other operators, such as psychologists, nurses and occupational workers, add their competencies during the treatment. This does not prevent a dialogue between the professionals, but the integration between them is secondary and it is not encouraged by the organization of the program. An example of such an approach is the multidisciplinary program described by Lemstra and Olszynski (2005). Their six – weeks intervention is complex, since it involves visits by a rheumatologist and physical therapist, two massage therapy sessions, eighteen group exercise therapy sessions and various group lessons about pain, diet, stress management and fibromyalgia education. The visits of the physician and the physiotherapist are scheduled at

the beginning of the program and at discharge, whereas during the treatment the various operators are alternated and they provide separately their care. However, they are encouraged to tailor their activity to the characteristics of the patient and to involve him in the development of his own pain management plan. The multidisciplinary nature of the treatment resides in the differences between the backgrounds, perspective and competencies of the various operators.

INTERDISCIPLINARY INTERVENTIONS

There are less interdisciplinary programs than multidisciplinary interventions for fibromyalgia. Their main characteristic is the integration of the competencies of the operators, that is of primary importance. This is ensured by planning plenary team discussions about the patients (e.g. Angst, Verra, Lehmann, Brioschi, & Aeschlimann, 2009; Turk, Okifuji, Sinclair, & Starz, 1998) or organizing a joint conduction of the treatment (e.g. Amris, Waehrens, Christensen, Bliddal, & Danneskiold-Samsoe, 2014; Martin et al., 2014). The objective of the treatment is shared by the different professionals, who regularly meet and make common decisions beginning from the assessment period. Physicians, physical therapists, occupational therapists and psychologists are usually all present. An example of this approach is the Zurzach Interdisciplinary Pain Programme (ZISP) (Angst, Brioschi, Main, Lehmann, & Aeschlimann, 2006; Angst et al., 2009). It is a 4 – week inpatient intervention that includes physiotherapy, psychotherapy, education, Chinese medicine, creative activities, relaxation therapy and medical consultation. The different sub – treatments are provided separately, but the operators are reunited once a week in order to discuss about the patients and to tailor the interventions based on their characteristics and needs. In order to do so, the professionals are trained with specific education programs concerning the

theoretical, conceptual, and therapeutic basics of interdisciplinary pain management. Although the background of each team member is recognizable, they all work as “pain specialists”. In this case, the interdisciplinary nature of the treatment resides in the fact that the differences between the operators are shared in order to create a common vision of the patient.

DIFFERENCES BETWEEN THE TWO APPROACHES

Multidisciplinary and interdisciplinary interventions can be discriminated examining the degrees of integration of their components and therefore they can be seen as two parts of the same continuum (Choi & Pak, 2006). The components of the former are generally juxtaposed, whereas in the latter efforts are made in order to ensure a harmonization among them. While in multidisciplinary interventions the goal of addressing all the facets of the disease is reached using different perspectives, in interdisciplinary approaches the same goal is achieved through their integration. In these latter programs, the operators are interdependent and their competencies are shared for a common objective. As a consequence, the different organizational strategies are planned in order to help the team to consider the patient as a whole. The complexity of the organization reflects the complexity of the disease: not only fibromyalgia is associated with biological, psychological and social issues, but these aspects are intertwined. Similarly, the different backgrounds of the operators are organized in order to be interconnected. From the perspective of the patient, with this approach it is possible for him to notice how the different components of the disease are linked with each other and how they can be simultaneously challenged in their entirety. He not only acknowledges that his chronic pain syndrome has different facets that are addressed by different specialists, but he also experiences that all these aspects interact with each other. It will be

interesting to investigate if a greater integration is associated with a greater efficacy of the care, further studies are needed in order to quantitatively compare the two approaches. A summary of the main differences between them, as well as with transdisciplinary interventions, is provided in Table 1.

Table 1

A comparison between multidisciplinary, interdisciplinary and transdisciplinary interventions

| | Multidisciplinary | Interdisciplinary | Transdisciplinary |
|------------------------|---|--|--|
| Integration strategies | The professionals are coordinated | Team discussions | Crossing the boundaries between the different disciplines |
| | Presence of different perspectives | Joint conduction | Sharing of competencies and perspectives |
| | | Constant communication | Constant communication |
| Strategical objective | Take care of the multiple aspects simultaneously through the differences of the disciplines | Integrate the differences between the disciplines in order to create a comprehensive view of the patient | Allow a complete integration of the different perspective in order to treat the patient in a holistic manner |
| Goals | Independent | Shared and interdependent | Common |
| Roles | Clearly defined | Clearly defined but each member is a pain specialist | Interchangeable |
| Assessment | Made by the physician or the physical therapist | Made by the entire team, each professional adds his perspective | Collaborative and not based on roles |

| | | | |
|--|---|---|---|
| Communications with the patient and his family | Each operators independently manages his own communication with the patient | Communications are based on a shared perspective | Communications are based on a shared perspective, each operator |
| Strengths | Less costly in terms of organizational efforts | More in line with the complexity of the syndrome | More flexible and tailored on the needs of the patient |
| | | Patient is seen as a whole | Mutual learning |
| | | | More team participation in each stage of the care |
| Limitations | Fragmentation of the care | Need to constantly discuss and negotiate treatment goals and strategies | Role confusion |
| | Potential conflicting communications | Requires openness and mutual trust | Difficult to organize |
| | | Potential conflicts | Conflicts about responsibilities |
| | | More organizational efforts are needed | More organizational efforts are needed |

TOWARD TRANSDISCIPLINARY INTERVENTIONS

In the health disciplines, transdisciplinarity is considered as the fundamental concept that can give rise to a true holistic care of the person (Carter, Zawalski, Sminkey, & Christopherson, 2015; Choi & Pak, 2006). While in interdisciplinary treatments the different professionals dialogue with each other but do not cross the boundaries of their disciplines, in transdisciplinary interventions

each operator is competent on multiple tasks and the roles in the team are in some manner exchangeable (Cartmill, Soklaridis, & David Cassidy, 2011). As a result, each team member is responsible for the patient as a whole. This means that the assessment is performed in a combined manner and that the treatment goals are shared and implemented by each of them. It is required to promote a continuous dialogue between the professionals, as well as a consistent communication between the team and the patient with his family. However, the transition to a transdisciplinary team cannot be simply planned and organizational factors are not sufficient to give rise to such an approach. At the basis of this model there must be a strong trust between the operators, an openness to the dialogue and the possibility to spread and integrate the knowledge of each team member. First examples of these treatment forms have been described for chronic pain conditions (Gordon et al., 2014). However, none of them is specific for fibromyalgia. A transdisciplinary approach, in our opinion, will perfectly fit with the unique characteristics of this syndrome and might result in a more efficient care. These programs will have to be based on case managers who have competencies both on the somatic aspects of the syndrome and on its psychological features. Each of them will have to be trained to implement

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CONCLUSIONS

Different forms of integrated interventions are available for the care of the fibromyalgia syndrome and one of their critical features lies in the integration of their components. The more the different disciplines are harmonized, the more the specific characteristics of the disorder and its biopsychosocial complexity can be addressed. It is to be noted that interdisciplinary and transdisciplinary treatments might be more expensive and more difficult to organize, can give rise to conflicts between the operators and require the professional to possess strong professional and personal skills (Gordon et al., 2014). The independence between the professionals makes multidisciplinary treatments less costly in terms of efforts that have to be made to manage the intervention. In such an approach, all the roles are clearly defined and extensive discussions are generally not needed. However,

interdisciplinary and transdisciplinary programs have some important strengths, since they allow a more comprehensive care of the person, diminish the fragmentation of the health services, reduce the confusion of the family by decreasing the number of professionals with which they have to interact and prevents the conflicts between the communications of the different operators. It is therefore clear that the choice between the programs has to be made considering the available resources and the characteristics of the organization. Our hope is that the growth of the culture of the dialogue between the different disciplines, which is already visible in the constant trend in the health literature towards more holistic perspectives, will be reinforced in the next decades. The challenge is to give rise to treatments that combine feasibility with the maximum possible integration between the professionals, leading to effective treatments that are able to take care of the person in his entirety.

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