Cognitive and emotional aspects of patients with multiple sclerosis during illness and hospitalization process: Contributions of cognitive-behavioral therapy

Aspectos cognitivos e emocionais dos pacientes com esclerose múltipla durante a doença e o processo de hospitalização: Contribuições da terapia cognitivo-comportamental

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ABSTRACT
Multiple Sclerosis (MS) is a demyelinating disease, characterized by lesions in the Central Nervous System (CNS) that affects its healthy cells, causing motor and neurological sequelae. This work aims to understand the psychological and emotional aspects of patients inserted into a hospital and diagnosed with MS. Thus, a narrative review of the literature was carried out, investigating the main topics related to the theme, and illustrated through the case report of three patients treated with brief cognitive-behavioral psychotherapy, in a tertiary healthcare center in 2021. The literature indicates that, commonly, 30 to 50% of individuals with the disease present significant cognitive impairment symptoms, such as dysarthria, executive dysfunction, and reduced processing speed, in addition to greater depressive symptoms and dysfunctional beliefs. The most common psychological phenomena in the cases referred to were maladaptive cognitive distortions, such as catastrophizing and negative filtering, as well as saddened affection and psychomotor retardation. Considering the common semiology presented by them, and also taking into consideration the characteristics of the family and the social and environmental context in which they are placed, it is evident that there is an influence of these factors on their belief systems and thoughts, as already predisposed characteristics or originated by the progression of the disease. Cognitive-Behavioral Therapy (CBT) techniques, such as motivational interviewing and psychoeducation, are shown to be effective for the treatment of dysfunctional comorbidities associated with the disease.

Keywords: Multiple Sclerosis, Cognition, Hospitalization.

RESUMO
A Esclerose Múltipla (EM) é uma doença desmielinizante, caracterizada por lesões no Sistema Nervoso Central (SNC) que afecta as suas células saudáveis, causando sequelas motoras e neurológicas. Este trabalho visa compreender os aspectos psicológicos e emocionais dos pacientes inseridos num hospital e diagnosticados com EM. Assim, foi realizada uma revisão narrativa da literatura, investigando os principais tópicos relacionados com o tema, e ilustrada através do relato de caso de três pacientes tratados com breve psicoterapia cognitivo-comportamental, num centro de saúde terciário em 2021. A literatura indica que, normalmente, 30 a 50% dos indivíduos com a doença apresentam sintomas significativos de défice cognitivo, tais como disartria, disfunção executiva, e velocidade de processamento reduzida, para além de maiores sintomas depressivos e crenças disfuncionais. Os fenômenos psicológicos mais comuns nos casos referidos foram as distorções cognitivas maladaptativas, tais como as catastrofizantes e a filtragem negativa, bem como o afeto entristecido e o atraso psicomotor. Considerando a semiologia comum apresentada por eles, e tendo também em consideração as características da família e o contexto social e ambiental em que estão inseridos, é evidente que existe uma influência destes factores nos seus sistemas de crenças e pensamentos, como características já predispostas ou originadas pela progressão da doença. As técnicas de Terapia Cognitivo-Comportamental (TCC), tais como entrevistas motivacionais e psicoeducação, mostram-se eficazes para o tratamento de comorbidades disfuncionais associadas à doença.

Palavras-chave: Esclerose Múltipla, Cognição, Hospitalização.
1 INTRODUCTION

Multiple Sclerosis (MS) is an autoimmune, chronic, and demyelinating disease, which usually disturbs the structures of the Central Nervous System (CNS) and the spinal cord by affecting healthy cells due to a flaw in the immune system, and in consequence, damaging myelin sheaths – adipose tissue layers that protect nerve cells – thus causing nerve impulses to become slower and slower and occasionally fail to be transmitted (Adams, R.D. & Victor, M 1989).

In Brazil, its prevalence is approximately 15 cases per 100,000 inhabitants – through data obtained by the Ministry of Health – which infers that it usually affects the population aged between 18 and 55 years. It is commonly diagnosed through brain magnetic resonance imaging (MRI), which can show lesions caused by the disease.

There are four types of clinical evolution that MS can take, namely: (1 – RRMS) Relapsing-Remitting: characterized by complete or partial improvement after a symptomatic crisis caused by the disease – that occurs in 85% of cases; (2 – PPMS) Primary Progressive: there is a slow progression of the symptoms, which can cause permanent damage, without periods of evident symptomatic crisis; (3 – PRMS) Progressive Relapsing: rigid and continuous progression of the disease with periods of acute symptomatic crisis, and without phases of recovery; (4 – SPMS) Secondary Progressive: the disease manifest itself through successive impairments, without full recovery and with permanent sequelae (Carvalho et al., 2014).

MS is an organic alteration that, so far, has an unknown etiology, which makes it a neurological pathology that still is poorly understood, where those affected do not always have fixed symptomatological patterns and a defined prognostic. Still without a cure, its treatment consists of the use of immunosuppressants, that is, psychopharmacological drugs that suppress nerve impulses in the immune system, helping the body to fight the symptoms caused by the progression of the disease, so that there is a delay of these impairments, not letting the physical problems arise and solidify. MS presents an acute and spontaneous clinical condition, followed by distinct symptomatology, with isolated or a combined semiology of symptoms, the most common ones being: optic neuritis (inflammation of the optic nerve, causing eye pain and partial or total loss of vision), paresis (partial loss of motricity) or limb paresthesia (numbness or a tingling sensation in a specific limb, such as legs and/or arms), coordination and balance disorders, myelitis (a type of inflammation that affects the spinal cord), sphincter disorders and cognitive disorders.
In this review, we aim to better understand the symptoms raised by MS in individuals affected by it, primarily considering the cognitive alterations that are usually identified, such as dysarthria (weakness in the muscles used for speech), verbal and short-term memory, attention, executive functions changes (including speed of processing), and increased sense-perception.

These cognitive aspects usually get worse over time (Rogers & Panegyres, 2007), causing social harm, altering the everyday functioning of these patients, generating a great impact on their daily activities, affecting their quality of life and also that of their loved ones, and resulting in the high prevalence of depressive and anxiogenic symptoms after the onset of the disease. Therefore, this study aims, through a literature review, to understand more reliably the cognitive and emotional impacts of MS during hospitalization, illustrated by cases treated in a general hospital, to highlight the benefits of Cognitive-Behavioral Therapy (CBT) during this illness process.

2 METHODS

This is a qualitative study, made through an exploratory and active investigation of the literature, where databases that could provide a theoretical-practical foundation were used with the purpose to bring greater reliability to it.

A literature search was performed in Scielo, Medline, and Google Scholar, which were able to synthesize all observed practices and techniques used, with a valid theoretical basis, through 23 different scientific articles and books that covered the topic from 1973 to mid-2014.

With this literature search, we aimed to explore the aspects experienced and observed in adult inpatient wards in hospital settings in general. Also, three clinical cases (A; B; C) were observed for four consecutive months, directly examining the symptoms and changes caused by Multiple Sclerosis. – Emphasizing that, for ethical reasons, all the personal information of patients assessed during the study was changed, to ensure their safety.

3 RESULTS AND DISCUSSION

3.1 PATIENT A

The first patient evaluated was a 15-year-old, recently diagnosed with MS, after an erroneous diagnosis of Neurocysticercosis – due to similar symptoms shared with MS, such as epileptic crisis.
**Observed social and emotional aspects**: He has a flawed and unstable family structure. As well as conflicts in his social and romantic life. So, the lack of affection in his surroundings reinforces his dysfunctional beliefs of worthlessness.

3.2 PATIENT B

The second patient was a young woman in his 20s, who received his diagnosis during hospitalization, and was already undergoing treatment within the hospital setting. The MS symptoms were sudden, affecting directly his autonomy and body control, followed by unilateral optical neuritis.

**Observed social and emotional aspects**: She has an active and structured family network, that was present throughout her hospitalization period. However, she has a history of conflicting factors in her loving relationships, in a way that contributes to her dysfunctional belief of worthlessness and with the belief that she doesn’t feel loved by others.

3.3 PACIENTE C

The third patient was a 65-year-old woman, diagnosed with MS just over nine years ago. She presents irreversible physical impairments, after recurring symptomatic crisis of the disease during her life.

**Observed social and emotional aspects**: She has an absent and fragile family network, which makes her place her frustrations in subsequent unsuccessful love relationships, contributing to the paranoid trait she presented during therapeutic follow-up. These characteristics are concomitant with her need for social control, presented along with her beliefs of worthlessness and helplessness.

Considering the emotional and psychological needs of these individuals, techniques of the cognitive-behavioral psychotherapeutic method were used, since this is an evidence-based approach that has a lot of accuracy and potential for treatment and psychoeducation, and it is utilized as a psychotherapeutic basis in the context of health psychology in hospital healthcare. This approach corresponds to the rules and norms of the Federal Council of Psychology in Brazil, which states:

“The main task of a psychologist is the evaluation and monitoring of psychological complications in patients who are or will be undergoing medical procedures, basically aiming for promotion and/or recovery of physical and mental health. Promoting interventions aimed at the doctor/patient, patient/family, and patient/patient relationships, as well as the relationship of
the patient with the disease, the hospitalization process and the emotional repercussion that emerge in these cases.” (Conselho Federal de Psicologia, 2007, p. 21)

We then decided to start the intervention using the motivational interview approach, a patient-centered technique that stipulates that their motivations can be directed to create the necessary changes in their behavior and also greater adherence to medical treatment. We stipulated an informal contract in which we establish a cooperative partnership between both parties, in order to encourage the individual’s emotional independence and also support his feelings of vulnerability.

We used the incipient technique to create greater emotional autonomy, since MS ends up impairing physical autonomy in a large part of the affected patients. Relaxation techniques were used for the anxiogenic symptoms disclosed by the patients, with diaphragmatic breathing as a central pillar for containing the anxiety presented by them throughout the hospitalization process, so that they could take ownership of the technique and use it when necessary.

“The individual is asked to pay attention to their own breathing and the process of inhaling and exhaling by placing their hand on the abdomen and chest region. Then, he is asked to breathe slowly and slowly, inhaling for three seconds, holding his breath for another three, and releasing his breath through his mouth for six seconds. This type of breathing prevents hyperventilation and reduces anxiogenic symptoms and muscle tension.” (Oliveira e Duarte, 2004; Neto, 1998)

The principle of therapeutic follow-up is based on psychoeducation and making the patients emotionally independent, dismantling their present dysfunctional thoughts so that there are no crystalized psychological problems during their respective illness and treatment process. Cognitive restructuring proved to be necessary, helping to manage hospital adaptation and the subjective ways of each individual to cope.

The role of cognitive restructuring in the psychotherapeutic context aims to provide the patient with tools to identify his dysfunctional and non-adaptative thoughts and beliefs, contesting them and helping discriminate and detect if they are rational or not, since it was observed frequent cognitive distortions such as catastrophizing, negative filtering, personalization, and emotional reasoning. These distortions are what feed and help solidify even further their altered beliefs helplessness, unlovability, and worthlessness (Figure 1).
Since the predominant cognitive distortions were simultaneously observed in all patients included in the study, these distortions being consequences of depressive symptoms originated by the sudden or recurrent illness, triggering feelings of vulnerability and worthlessness, and where anxiety symptoms could initially serve as fight or flight impulse, being a maladaptive but instinctive way of coping.

Since the fight or flight instinct tends to be predisposed by the present problem and by aroused emotions, in agreement with the experiences obtained by these individuals throughout their lives, as “coping refers to cognitive and behavioral efforts aimed at handling internal or external necessities and demands, which are assessed as an overload on the individual’s resources.” (Folkman, Lazarus, Gruen & De Longis, 1986, p. 572). New forms of adoptative coping were constructed, considering the singular social and familiar context of the patients, with the purpose to extend caretaking to the ones that were willing and available to provide support.

Therefore, it is necessary to analyze their subjective self-control abilities during this process, respecting the time that this can take for them, as well as their emotional conditions and the influences these conditions have on their behavior in general, based on the stages proposed by Vasconcelos (1999) – Shock, Event, Regression and Reality Test.

Regarding the aims of this review, it was possible to identify that there are emotional and cognitive complications during illness and the hospitalization process, which impacts their functioning and well-being. It was possible to identify similar
symptoms between patients, since they – A, B, C – presented depressive and emotional symptoms, respectively, which resulted in difficulties for complying with treatment and with their adaptation to the hospital environment.

We saw that beliefs of worthlessness appeared equally in the three individuals assessed (A, B, and C), while the belief of lack of love was presented only by patient B, and the belief of helplessness only by patient C, so we obtained idiosyncratic responses resulting from particular experiences since personal belief systems are assessed concerning the patient’s functionality within specific contexts (Cordioli, 2018).

**Figure 2 - Neuropsychomotor Changes in Multiple Sclerosis**

Meaning is constructed by the individual, not basing it on preexisting components of the reality of physical illness itself, but rather on the particular and peculiar interpretation that the individual has about a situation. So, it was essential to use the Inventory of Negative Core Beliefs – ICCN (JS Beck, 2007), which helped to identify with greater accuracy the cognitive triad arising from the patients – investigating how the individual sees himself, the world, and the future, in a way that provides greater reliability to the psychotherapeutic techniques applied to the illness and hospitalization processes.

4 CONCLUSION

Through this study, we can assume that depressive and anxiogenic symptoms are found in most patients affected by MS, being expressed frequently through dysfunctional
and unregulated emotional responses, which impair their decision making and affect directly their adaptation to the hospital environment and/or treatment adherence, causing them to have catastrophic thoughts about their medical and physical conditions, exhausting their physical and cognitive energy, which are already partially compromised after the emergence of symptoms such as decreased processing speed, deficits in episodic memory and problem-solving and planning.

However, in these aspects that were observed during the literature review part, and the characteristics experienced in the hospital settings, we see the importance of a brief and objective psychotherapeutic follow-up, aimed at the subjective emotional response of each patient, which proves to be effective in conjunction with cognitive behavioral therapy techniques, providing us with reliable methods of relaxation and emotional support.

After all the intangibilities and subjectivities that emerged and took place during the study of the articles evaluated in the literature review process, we reassert the importance of having new and original articles about this theme, that can evaluate the phenomenon and the symptomatology found and developed by MS, through more comprehensive and extensive studies.
REFERENCES


