

Special Article

Suffering, a Concept Present in Non-Cancer Patients: Multiple Sclerosis Patients

Paula Encarnacao, PhD

Adjunct Professor, University of Minho, School of Nursing, Braga, Portugal

Clara Costa Oliveira, PhD

Associate Professor with Aggregation,; University of Minho, Institute of Education, Braga, Portugal

Teresa Martins, PhD

Coordinator Professor, School of Nursing, Porto, Portugal

Correspondence: Paula Encarnacao, University of Minho, School of Nursing. 3º Piso – Edif. da Biblioteca Geral (BGUM), Campus de Gualtar 4710-057, Braga, Portugal, E-mail: pse@ese.uminho.pt

Abstract

According to the Multiple Sclerosis International Federation, it is estimated that 2.5 million people worldwide suffer from Multiple Sclerosis (MS). MS aetiology is still uncertain, however its complex pathogenesis and unpredictable clinical course generates intense suffering and represents a continuous challenge for nurses to identify it. The aim of this article is to provide a review into the concept of Suffering in patients with MS, other than cancer patients. For people diagnosed with this disease suffering becomes a natural human response since symptoms tend to register unpredictable levels of variation in type, severity and progression, leading to an increasing degree of uncertainty. In the health-disease transition processes of people diagnosed with MS who are experiencing suffering, the palliative nursing interventions aimed at the relief of symptoms can increase hope and help people to adapt to future expectations and experience a better transition process.

Keywords: Suffering, Palliative Care, Nurse's Role, Multiple Sclerosis.

Introduction

The demographic transition from a younger to an ageing population has significant socio-economic implications, impacting sustainability and social policies, as well as at a personal level with the adoption of new lifestyles, which contributes to a change in the epidemiological morbidity and mortality of some diseases.

Nowadays, chronic diseases are considered one of the greatest public health problems as they are long-lasting, almost always irreversible and always associated with long term disability. Consequently, they greatly affect the life of individuals (physical, emotional and socially), change family relationships and require continuous healthcare services.

The chronic disease represents an obstacle or a constraint to personal interests and to the fulfilment of individual needs, thus the transition to this condition is often a source of suffering, frustration and adaptation problems (Meleis et al., 2000).

The concept of transition is central to nursing (Meleis et al., 2000; Meleis, 2007, 2010). Meleis et al. (2000, 2007, 2010) developed a middle range theory based on transition experiences triggered by life events. Transition is a process of change from one situation, condition or *status* to another. It means transformation and personal development. It requires adjustment and adaptation. Meleis (2010) argues that the main challenge of nursing interventions is to help people experience healthier transitions in order to achieve personal balance and well-being. According to this theory, MS patients experience health/disease transitions as a result of a pathological process, where the nurse is required to have in-depth understanding of the MS patient and the impact of the disease on patient and family.

The different life stories (Margareth, 2010; Oliveira et al., 2012; Frank, 2015) are centred on the suffering as a phenomenon which manifests itself both inside and outside the context of the disease, in the form of a variety of experiences.

Suffering may involve experiencing, going through, dealing with, anguish, sadness, loss and/or unpredictable and undesirable changes (Wright, 2005). The suffering is personal, deep and unrelated to age (Encarnacao et al., 2015). The individual who is suffering often raises questions, such as: *why me? What did I do to deserve this?* (Ferrell and Coyle, 2008); He desperately tries to obtain an explanation of the causes of the disease and thinks of how he will be able to cope with this condition (Encarnacao et al., 2015; Hemberg, 2017b).

Multiple Sclerosis (MS) is an unpredictable, chronic disease of complex pathogenesis, which causes great suffering to people who suffer from this condition and their families (Wollin et al., 2006; Russell, 2010; Golla et al., 2014; Strupp et al., 2016). It represents an enormous challenge for nurses (Golla et al., 2014; Harrison, 2014). Because of the nature of care, nurses establish a close relationship with the individual and their family, share their personal experiences and play an important role as witnesses of their suffering (Wright, 2005). Studies on MS provide nurses with a better understanding of the pathology and its related suffering (Kurtzke, 1983; Sadovnick, 2001; Zorzon et al., 2001; Boeije, 2004; DeBolt and McCubbin, 2004; Wollin, 2006; Fry et al., 2007; Russell, 2010; Feinstein, 2011; Straudi et al., 2013; Harrison, 2014; Alschuler, 2015), and empowers them to provide specialised interventions to relieve suffering of patients and families.

The purpose of this article is to explore the concept of suffering in people with MS. We hope it encourages future research towards potential targeted interventions to soothe and relieve suffering in these people, beyond cancer patients. In fact, relief of suffering has been mainly associated to cancer patients and their families (at home or in palliative care units). However, there are still few scientific studies on the relief of suffering in patients with incurable, progressive, long-term diseases, such as MS (Elman et al., 2007).

About MS

According to the Multiple Sclerosis International Federation (2017) it is estimated that 2.3 million people suffer from MS worldwide, making it the most common autoimmune disease of the nervous system. The European Multiple Sclerosis Platform (2017) further indicates that there are

over 400,000 people with MS in Europe, with higher incidence in Nordic countries.

This is a highly disabling disease (Kurtzke, 1983) with an important social dimension, since the age range for the diagnosis is in early adulthood, between 20 and 40 years old (Boeije and Janssens, 2004; DeBolt and McCubbin, 2004). The physical and mental impairment of the individual impacts their academic and professional life, leading to recurrent absences from work, thus seriously affecting the livelihood for themselves and their families.

The aetiology of MS is multifactorial; however, evidence has shown that both genetic and environmental factors are likely to play a significant role in the onset of the disease (Compston and Coles, 2008). The National Multiple Sclerosis Society has defined four standard types of MS (Lublin et al., 2015): i) Relapsing-Remitting MS (RRMS), characterised by relapses that can last days or weeks, followed by periods of remission when symptoms improve or disappear; ii) Secondary-Progressive MS (SPMS), initially characterised by relapsing-remitting periods and later becomes progressive, with gradual loss of physical and cognitive functions which, in many cases, can be irreversible; iii) Primary-Progressive MS (PPMS), characterised by symptoms that tend to worsen from the onset with no remission of the initial relapse; and iv) Progressive-Relapsing MS (PRMS), characterised by being initially progressive, with clearly identifiable relapses, full or partial recovery and increasing severity of symptoms between relapses. There are other atypical variants of MS and the discussion on whether these pathologies are variants of MS or autonomous diseases raises an important issue among experts (Stadelmann and Bruck, 2004).

These forms of MS show the unpredictable prognosis of the disease, even among people with the same MS typology. The disease is thus an inevitable experience due to the severe discomfort caused by a perception of current or imminent threat to the individual's integrity or life (Bjorkmark, & Koskinen, 2016). This translates into suffering, according to Cassell (2004), Ferrell and Coyle (2008) and Krikorian et al. (2014).

MS is caused by a demyelination of nerve fibres in the central nervous system (CNS). This clinical semiology can trigger the onset of a vast

number of signs and symptoms, including fatigue, physical weakness, spasticity, ataxia, dysarthria, dysphagia, phosphine, diplopia, nystagmus, acute or chronic pain, bladder dysfunction, sexual dysfunction, and cognitive impairment, among others, which can be of short/long lasting or permanent (Klingbeil et al., 2004; Compston and Coles, 2008). Advances in MS treatments have led to more effective interventions. Initially the same medication used to treat infections, rheumatic diseases, and cancer was also prescribed to MS patients. In addition to the typical therapy with corticosteroids, the current MS therapy involves a group of substances described as immunomodulatory (e.g., interferon α and β , fingolimode or glatiramer acetate) (Cohen et al., 2010; La Mantia et al., 2015). These drugs may produce serious, adverse side effects and are ineffective in preventing disease progression in many MS patients (Racca et al., 2015; Chen and Ding, 2016). At an advance stage of the MS, the “risk of death from aspiration pneumonia, urinary tract infections, complications of falls and fractures, and sepsis secondary to pressure ulcers” (Solari et al., 2015, p. 185) is similar to cancer patients.

Suffering as a human response of people with MS

When exploring the concept of suffering, literature is consistent in relating sadness, fear, anguish, distress, loss; pain (chronic) and threat to the individual integrity as manifestations of suffering (Cassell, 2004; Wright, 2005; Ferrell and Coyle, 2008; Krikorian et al., 2014). The suffering experienced by people living in a health-disease transition process implies self-awareness (perception, knowledge and understanding of the new health condition), commitment (self-involvement in relation to the disease) and changes that occur throughout life, as a result of events and critical points (Meleis et al., 2000), such as MS relapses.

Physical symptoms compromise the quality of life (Kuempfel et al., 2007) of these people and can cause anguish and distress. Although pain tends to be associated with suffering, the two phenomenon are not synonymous (Cassell, 2004, 2012; Encarnacao et al., 2015). It would be very unrealistic to explain suffering solely as physical pain and thus underestimate the meaning and understanding of suffering, which affects the intrinsic nature of the person and their personhood (Ferrell and Coyle, 2008; Cassell,

2012; Krikorian et al., 2014). Hence, when interpreting suffering, the approach must explore the individual thoroughly (e.g., physical, psychological, socially and so forth), as a whole (Cassell, 2012). Therefore, suffering in MS is associated with physical symptoms, the prospect of job loss, the fear of not being able to pay for treatment (medications, travel from the residence-hospital-residence) due to insufficient socioeconomic resources, the fear of having to rely on people or technical aids or becoming disabled (Bjorkmark, & Koskinen, 2016). All of these may trigger negative feelings (e.g., anger, pessimism, despair, revolt, distress) from the moment patients are confronted with the disease diagnosis, which is aggravated by the uncertainty of its prognosis.

The disease shows higher prevalence in females causing additional concern to women when considering pregnancy and the impact that treatments may have in the development of the foetus (Sadovnick, 2001). Decision-making on health, changes in lifestyle, as well as treatment preparedness could be easier if the MS prognosis were predictable. However, people with MS are faced with high levels of uncertainty because the disease shows increasing changes in type, severity and progression in symptoms, which, according to Alschuler and Meghan (2015), have negative impact on patients' psychological well-being. Uncertainty can generate fear, anguish, and sadness that might influence decision-making on treatment preparedness, on motherhood, in finding a new job or in buying a house, and this suffering is very likely to undermine hope and future expectations.

Suffering can cause depression (Patten et al., 2017) that can arise from the fear and frustration of progressive disability and unpredictability of the course of the disease. On the other hand, depression may be from an organic source and be related to a possible disconnection at cortical or subcortical levels in the areas of projection of the limbic system (Zorzon et al., 2001). Thus, depression with organic origin, if not carefully monitored from the onset, is also likely to cause suffering. Studies show that suicidal tendencies are present in more than a quarter of the people diagnosed with MS, with an increased risk in young men who are at least five years into their diagnosis, and is related to the persistence and severity of depression, social isolation and alcohol abuse (Feinstein, 2011).

Recent research studies highlight the fact the health professionals have the ethical responsibility to diagnose suffering in people with chronic diseases other than cancer, in order to provide specific care or even palliative care (Etkind et al., 2017).

Palliative care (PC) has been focused almost entirely on cancer patients (Edmonds et al., 2010), due to the unpredictable disease progression, usually associated with intense suffering and inevitable death. Thus, suffering relief becomes a major concern for these patients and their families. Today, symptoms related to cancer patients are comparable to the severity of symptoms at an advanced stage of some chronic disease, namely those suffering from advanced MS (Higginson et al., 2006). Therefore, according to this related severity of symptoms, palliative care may be considered as an effective response (Elman et al., 2007; Edmonds et al., 2010; Opara et al., 2016). This specific care intervention aims to prevent, decrease or relieve suffering caused by the disease and potentially improve patients and families' quality of life.

Nursing focus: relief of Suffering in MS

Among the team of health professionals, nurses have a closer and longer interaction with suffering related to people with MS. The nurses are the main caregivers of people suffering from chronic diseases and are often their sole support (Van Der Cingel, 2009). For nurses, it is essential to know the meaning and manifestations of suffering in MS patients experiencing a health-disease transition process (Leary et al., 2015). This knowledge enables the improvement of the quality of the relationship between the nurse, patients and families and the understanding of their deepest feelings, thoughts and behaviours. It also encourages people with MS to acknowledge events and critical situations arising from personal experience, helping them to accept these episodes, enabling coping, mobilization and self-resilience to face the disease (Antonovsky, 1988; Hemberg, 2017a), revealing their strengths (Gottlieb, 2013; Hemberg, Eriksson, & Nystrom, 2016) and encouraging them to perceive the experience of suffering as an opportunity to acquire knowledge, thus avoiding the feeling of loss of control and helplessness towards suffering (Hemberg, 2017a).

In order to identify the suffering in the person with MS, specific assessment instruments are

required (Krikorian et al., 2013), such as interview (Cassell, 2004; Charon, 2004, 2007). The patient interview must contain objective and specific questions addressing this phenomenon giving nurses the necessary information for an efficient intervention aiming at reducing or eliminating suffering.

The interventions of the nurses should be structured on a partnership logic, including the patients – and their informal caretakers – in the planning and provision of the medical care that is destined to them. That means that professionals and patients are on an equality relationship on the decision making process. This approach acknowledges and respects the experiences and knowledges from both partners. This does not mean that the nurse will transfer all responsibility to the person. This means that the nurse listens to the person, acknowledges the experience of the person and together they elaborate a care plan which is tailored to the objectives, needs, preferences, lifestyles and circumstances of the person and the family.

Some therapeutic education programs have been developed with the goal of reducing the impact of the suffering of the disease (Baixinho et al., 2016; Rodrigues and Moreira, 2015), with structured and organized activities adapted to the needs of each patient. For nine weeks Rodrigues and Moreira (2015) implemented a therapeutic education program, which had the goal of increasing the knowledge of the patients about the EM, improving the symptomology; improving the management of complications, improving the knowledge and the management of the treatment; to promote the active role of the patient, to develop a critic spirit and decision making skills. After the evaluation of the implementation of the program, the authors determined that the therapeutic education allows for the patient with EM to rebuild his life journey through the acquisition of newfound knowledge. It also allows to mobilize his internal and external resources, to develop new skills and to acquire a new meaning for life, reducing the impact that the disease has on him (Bjorkmark, & Koskinen, 2016). Rodrigues and Moreira (2015) acknowledge that the nurses involved in the training, have improved their relationship, communicational and teaching skills. In addition, nursing education should also include simulated training (e.g., roleplay, PBL- Problem Based Learning), fostering the necessary skills that will

enable future nurses to meet the specific needs of those who suffer (Ferrell and Coyle, 2008; Maykut, & Porter, 2015).

Conclusion

Multiple Sclerosis is a chronic inflammatory disease affecting the central nervous system with a highly variable clinical course, depending on the type, severity and progression of symptoms, which contributes to increasing levels of uncertainty as to its prognosis. It affects mainly adults in their twenties and forties with higher incidence in women. It is a potentially disabling disease, which causes aggravated suffering.

In the health-disease transition processes experienced by people diagnosed with MS and their families, suffering is expected. Loss of hope, helplessness, anger, anguish, despair, pessimism and financial difficulties, all derive from the medical treatments and potential shortfalls that the person may endure; and threaten their future expectations by increasing the levels of uncertainty which could lead to depression, contributing to the risk of suicide.

In the health team, nurses are caregivers working in close relationship with patients and families. They actively intervene in patients' personal experiences, and play an important role as witnesses of their suffering. At an advance stage of the disease, palliative care can be an effective response to relieve suffering of MS patients.

References

- Alschuler K.N. & Meghan L.B. (2015) Intolerance of Uncertainty Shaping an Agenda for Research on Coping with Multiple Sclerosis. *International Journal of MS Care* 17: 153–158.
- Antonovsky A. (1988) *Unraveling the Mystery of Health*. Jossey-Bass: London, UK.
- Baixinho C.L., Duarte A.F., Teixeira F.M., Quental I.A., Martins S.S. (2016) Nursing Interventions Promoting Functionality among Adults with Multiple Sclerosis: integrative review. *Journal of Nursing UFPE on line* 10: 838-847.
- Bjorkmark M., & Koskinen C., (2016). A Caring Science Study on Suffering in Outsidership. *International Journal of Caring Sciences* 9: 415-421.
- Boeije H.R., Janssens A.C.J.W. (2004) 'It Might Happen or it Might Not': how patients with multiple sclerosis explain their perception of prognostic risk. *Social Science Medicine* 59: 861-868.
- Cassell E.J. (2004) *The Nature of Suffering and the Goals of Medicine*. 2nd ed. Oxford University Press, New York: USA.
- Cassell E.J. (2012) *The Nature of Healing: the modern practice of medicine*. Oxford University Press, New York: USA.
- Charon R. (2004) *Narrative and Medicine*. *New England Journal Medicine* 350: 862–864.
- Charon R. (2007) What to do with Stories: the sciences of narrative medicine. *Canadian Family Physician* 53:1265–1267.
- Chen H., Ding G. (2016) Treatment of Multiple Sclerosis with Mesenchymal Stem Cells: a worldwide research and outlook. *Medical Journal of Chinese People's Liberation Army* 41: 87-93.
- Cohen J.A., Barkhof F., Comi G., Hartung HP, Khatri BO, Montalban X, Pelletier J, Capra R, Gallo P, Izquierdo G, Tiel-Wilck K, de Vera A, Jin J, Stites T, Wu S, Aradhye S, Kappos L; TRANSFORMS Study Group. (2010) Oral Fingolimod or Intramuscular Interferon for Relapsing Multiple Sclerosis. *New England Journal Medicine* 362: 402-415.
- Compston A., Coles A. (2008) Multiple Sclerosis. *Lancet* 372: 1502-1517.
- DeBolt L., McCubbin J. (2004) The Effects of Home-Based Resistance Exercise on Balance, Power, and Mobility in Adults with Multiple Sclerosis. *Archives Physical Medicine Rehabilitation* 85: 290-297.
- Edmonds P., Hart S., Gao W., Vivat B., Burman R., Silber E. & Higginson I.J. (2010) Palliative Care for People Severely Affected by Multiple Sclerosis: evaluation of a novel palliative care service. *Multiple Sclerosis* 16: 627-636.
- Elman L.B., Houghton D.J., Wu G.F., Hurtig, H.I., Markowitz C.E. & McCluskey L. (2007) Palliative Care in Amyotrophic Lateral Sclerosis, Parkinson's Disease, and Multiple Sclerosis. *Journal Palliative Medicine* 10: 433-457.
- Encarnacao P, Oliveira CC, Martins T (2015) Pain and Suffering Intertwined Concepts - perspectives and challenges for nurses. *Palliative Care Journal*, 2: 22-31. (in Portuguese)
- European Multiple Sclerosis Platform. Available at: <http://www.emsp.org> [accessed May 5, 2017].
- Etkind S.N., Bone A.E., Gomes B., Lovell N, Evans CJ, Higginson IJ, & Murtagh, F.E.M. (2017). How Many People Will Need Palliative Care in 2040? Past trends, future projections and implications for services. *BMC medicine* 15:102.
- Feinstein A. (2011) Multiple Sclerosis and Depression. *Multiple Sclerosis Journal* 17: 1276-1281.
- Ferrell B.R., Coyle N. (2008) The Nature of Suffering and the Goals of Nursing. *Oncology Nursing Forum* 35: 241-247.

- Frank A.W. (2015) Asking the Right Question about Pain: narrative and pronesis. *British Journal Pain* 9: 209-225.
- Fry D.K., Pfalzer L.A., Chokshi A.R., Wagner M.T., & Jackson E.S. (2007) Randomized Control Trial of Effects of a 10-week Inspiratory Muscle Training Program on Measures of Pulmonary Function in Persons with Multiple Sclerosis. *Journal Neurologic Physical Therapy* 31: 162-172.
- Golla H., Galushko M., Pfaff H., & Voltz R. (2014) Multiple Sclerosis and Palliative Care-Perceptions of Severely Affected Multiple Sclerosis Patients and Their Health Professionals: a qualitative study. *BMC Palliative Care* 13:11.
- Gottlieb L.N. (2013) *Strenghts-Based Nursing Care: health and healing for person and family*. Springer, New York: USA.
- Harrison K. (2014) Fingolimod for Multiple Sclerosis: a review for the specialist nurse. *British Journal Nursing* 23: 582-589.
- Hemberg J., Eriksson K., & Nystrom L. (2016). Through Darkness into the Light - A Path to Health as Described by Adults after Having Lived through Personal Suffering. *International Journal of Caring Sciences* 9: 393-399.
- Hemberg J. (2017a). Experiencing Deeper Dimensions of Gratitude, Well-being and Meaning in Life after Suffering. *International Journal of Caring Sciences* 10: 10.
- Hemberg, J. (2017b). Finding Keys for Alleviating Human Suffering. *International Journal of Caring Sciences* 10: 47-52.
- Higginson I.J., Hart S., Silber E., Burman R., & Edmonds P. (2006) Symptom Prevalence and Severity in People Severely Affected by Multiple Sclerosis. *Journal Palliative Care* 22:158-165.
- Klingbeil H., Baer H.R., & Wilson P.E. (2004) Aging with a Disability. *Archives Physical Medicine Rehabilitation* 85: S68-S73.
- Krikorian A., Limonero J.T., Corey M.T. (2013) Suffering Assessment: a review of available instruments for use in palliative care. *Journal Palliative Medicine* 16: 130-143.
- Krikorian A., Limonero J.T., Román J.P., Vargas J.J., Palacio C. (2014) Predictors of Suffering in Advanced Cancer. *American Journal Hospice Palliative Care* 31: 534-554.
- Kuempfel T., Hoffmann L.A., Pollmann W., Rieckmann P, Zettl UK, Kuhnbach R, Borasio GD, & Voltz R. (2007). Palliative Care in Patients with Severe Multiple Sclerosis: two case reports and a survey among German MS neurologists. *Journal Palliative Medicine* 21: 109-114.
- Kurtzke J.F. (1983) Rating Neurologic Impairment in Multiple Sclerosis: an expanded disability status scale (EDSS). *Neurology* 33: 1444-1452.
- La Mantia L., Di Pietrantonj C., Rovaris M., Rigon G, Frau S, Berardo F, Gandini A, Longobardi A, Weinstock-Guttman B, & Vaona A. (2015). Comparative Efficacy of Interferon β versus Glatiramer Acetate for Relapsing-Remitting Multiple Sclerosis. *Journal Neurol Neurosurg Psychiatry* 86: 1016-1020.
- Leary A., Mynors G., Bowen A. (2015) Modelling the Complex Activity of Multiple Sclerosis Specialist Nurses in England. *British Journal Neuroscience Nursing* 11: 170-176.
- Lublin F.D., Reingold S.C., Cohen J.A., et al. (2015) Defining the Clinical Course of Multiple Sclerosis: the 2013 revisions. *Neurology* 84: 278-286.
- Margareth A. (2010) Hearing the Voice of the Family: narratives about Suffering and spirituality. *Mundo Saude* 34: 437-43.
- Maykut C.A., & Porter M. (2015). Suffering as a Means to Enhance Experiential Learning. *International Journal of Caring Sciences* 8: 256-262.
- Meleis A. (2007) *Theoretical Nursing: development and progress*. 4th ed. Lippincott Williams & Wilkins, Philadelphia: USA.
- Meleis A. (2010) *Transitions Theory: middle-range and situation-specific theories in nursing research and practice*. Springer Publishing Company, New York: USA.
- Meleis A.I., Sawyer L.M., Im E.O., et al. (2000) Experiencing transitions: An emerging middle-range theory. *Advanced Nursing Science* 2: 12-28.
- Multiple Sclerosis International Federation. Available at: <http://www.msif.org> [accessed May 5, 2017].
- Oliveira C.C., Pellanda N., Boettcher D., Reis A. (2012) Learning and Suffering: narratives. *Edunisc, Santa Cruz do Sul: Brasil*. (in Portuguese)
- Opara J.A., Broła W., Szczygiel J. (2016) Palliative Care in Polish Patients with Multiple Sclerosis. *Journal Palliative Care Medicine* 6: 245-249.
- Racca V., Di Rienzo M., Cavarretta R., Toccafondi A, Vaini E, Ferratini M, Rovaris M. (2015) Fingolimod Effects on Left Ventricular Function in Multiple Sclerosis. *Multiple Sclerosis Journal* 22: 201-211.
- Patten S.B., Marrie R.A., & Carta M.G. (2017). Depression in Multiple Sclerosis. *International Review Psychiatry* 1-10.
- Rodrigues O.C. & Moreira F. (2015) Programa ETEM – educacao terapêutica da pessoa com esclerose múltipla. In the 2nd International Congress of Nursing in Multiple Sclerosis ‘Better Practice, More Quality of Life’. *Book of Abstracts of the 2nd International Congress of Nursing in Multiple Sclerosis*, 9.
- Russell N. (2010) Management of Multiple Sclerosis and the Role of Respite and Palliative Care. *International Journal Palliative Nursing* 16: 472-474.
- Sadovnick A.D. (2001) To Treat or not to Treat the Person with Clinical Multiple Sclerosis – a dilemma. *Neurological Sciences* 22: 205-207.
- Solari A., Giordano A., Grasso M.G., Confalonieri P., Patti F., Lugaresi A., Palmisano L., Amadeo

- R., Martino G., Ponzio M., Casale G., Claudia Borreani C., Causarano R., Veronese S., Zaratin P., Mario Alberto Battaglia MA. and on behalf of the PeNSAMI project. (2015) Home-Based Palliative Approach for People with Severe Multiple Sclerosis and their Carers: study protocol for a randomized controlled trial. *Trials* 16: 184-193.
- Stadelmann C. & Bruck W. (2004) Lessons from the Neuropathology of Atypical Forms of Multiple Sclerosis. *Neurological Sciences* 25: 319–322.
- Straudi S., Benedetti M.G., Venturini E., Manca M., Foti C., Basaglia N. (2013) Does Robot-Assisted Gait Training Ameliorate Gait Abnormalities in Multiple Sclerosis? A pilot randomized-control trial. *NeuroRehabilitation* 33: 555-563.
- Strupp J., Voltz R. & Golla H (2016) Opening Locked Doors: Integrating a palliative care approach into the management of patients with severe multiple sclerosis. *Multiple Sclerosis Journal* 22: 13-18.
- Van Der Cingel M. (2009) Compassion and Professional Care: exploring the domain. *Nursing Philosophy* 10: 124–136.
- Wollin JA, Yates PM, Kristjanson LJ (2006). Supportive and Palliative Care Needs Identified by Multiple Sclerosis Patients and their Families. *International Journal Palliative Nursing* 12: 20-26.
- Wright L. (2005) *Espiritualidade, Sofrimento e Doença – ideias para curar*. Ariadne editor, Coimbra: Portugal.
- Zorzon M., de Masi R. & Nasuelli D. (2001) Depression and Anxiety in Multiple Sclerosis. A clinical and MRI study in 95 subjects. *Journal Neurology* 248: 416-421.