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Care Intervention in People with Mulitple Sclerosis: a Systematic Review

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Abstract
Multiple sclerosis (MS) is the first leading cause of disability in young adults. Therefore, despite their epidemiologic relevance, health care interventions by health professionals are not clear. In preventing the remission of disease outbreaks. (excluding drugs). According to this, the following question comes out: what interventions in the last five years have health professionals done to make decisions about human care in people with MS? Methodology. Systematic review, the main data bases with keywords in three different languages were consulted. Results: From 1893 articles 1870 were excluded by title and 176 were eliminated by summary. Conclusion: The articles came mainly from psychology, nursing and medicine. The main interventions involved exercise, cognitive themes, rehabilitation, palliative care, continuity of care and management of chronic fatigue. The information is important for the health disciplines, specially for nursing as it leads to a closer and quality care for people with MS.
Key-words: Multiple sclerosis. Interventions. Systematic reviews. Randomized clinical trials. Case studies.

Intervenciones para el cuidado de personas con esclerosis múltiple: revisión sistemática

Resumen
La esclerosis múltiple (EM) es la primera causa de discapacidad en adultos jóvenes. A pesar de su relevancia epidemiológica, no son claras las intervenciones de cuidado que realizan los profesionales de la salud para evitar la remisión de brotes de la enfermedad (independientemente del tratamiento farmacológico). Por lo tanto surge la siguiente pregunta ¿Qué intervenciones en los últimos cinco años realizan los profesionales de salud para la toma de decisiones sobre el cuidado humano en personas con EM? Metodología. Revisión sistemática, se consultaron las principales bases de datos con palabras clave en tres idiomas. Resultados principales: de 2093 artículos se excluyeron 1870 por título y se eliminaron 176 por resumen. Conclusión: Los artículos provienen principalmente de psicología, enfermería y medicina. Las principales intervenciones versaron en ejercicio, temáticas cognitivas, rehabilitación, cuidados paliativos, continuidad de cuidados y manejo de fatiga crónica. La información resulta importante para las disciplinas de salud, sobre todo para enfermería, al liderar un cuidado más cercano y de calidad en personas con EM.
Palabras clave: Esclerosis múltiple. Intervenciones. Revisiones sistemáticas. Ensayos clínicos aleatorizados. Estudios de caso.

Introduction

Multiple sclerosis (MS) is an autoimmune, demyelinating, degenerative disease of the central nervous system,[1,2] characterized by tremor, numbness, motor problems, loss of sensation, anxiety, stress, depression and fatigue.[3] The MS is classified into four presentations with symptoms to a lesser or greater extent or its acute or chronic presentation: 1) Recurrent-Remitting, 2) Primary-Progressive, 3) Secondary-progressive and 4) Progressive-Recurrent.[4] Statistics indicate that the first occuers in 2,125 million people (85% of the cases), while the latter exists in a million people. However, there are still cases without diagnosis.[5,6] In Spain, around 120 cases develop per 100,000 inhabitants[7] and in Mexico there are between 15 to 18 cases with the same rate,[8] in Colombia and Argentina there are between 5 and 35 cases respectively.[9] Likewise, MS represents an economic problem due to hospitalization and family expenses, although the real costs per person are not clear; In

Spain an average of 20,800 euros is estimated,[10] in Mexico between 1,000 and 1,600 US dollars per month.[11] In accordance with the foregoing, it is important to clarify that treatment not only fluctuates in the administration of drugs, but also in the performance of patient care. comprehensive and specialized way, with the aim of improving each of the symptoms of the disease.[12,13] It is for this reason that it is important to identify interventions on human care that are supported by the different levels of scientific evidence available as meta-analysis (MA), systematic reviews (SR), randomized clinical trials (RCTs), which belong to the best quality of evidence; Likewise, non-randomized studies, up to case-control studies (CC), with a cross-sectional design and case reports, which, although they have less scientific evidence, represent valid knowledge to be integrated into the care of people with MS problems.[14] According to this, the objective was to carry out a literature review to identify reliable evidence-based interventions for decision-making on human care in people with MS.

Methodology

Systematic review based on the guidelines of the PRISMA statement.[15] The search question for the studies was established in Table 1 according to the PICOT-D format:[16] What interventions in the last five years have health professionals performed? health for decision-making about human care in people with MS?

Table 1. *Formulation of the PICOT-D question*

Acronym PICOT-D	P. Population	I. Intervention	C. Comparation	O. Outcomes	T. Time	D. Data
Results	People with multiple sclerosis	Specialized care interventions, excluding experimental interventions on the introduction of drugs.	Carry out a comparison between interventions with high levels of scientific evidence in the world.	Reliable interventions to establish quality care.	2015-2019	Electronic databases

The search was carried out in: CUIDEN, PUBMED, COCHRANE, EBSCO Host, SCIELO, DIALNET, LATINDEX, ENFISPO, SCIENCE DIRECT, REDALYC, BMC, OVID and CINAHL.

Inclusion criteria

The search was limited to the languages of Spanish, Portuguese and English. The keywords in Spanish were: interventions, multiple sclerosis, randomized clinical trial, systematic review, and case study. In Portuguese: interventions, multiple sclerosis, randomized clinical trial, systematic review and case studies. An in English: interventions, multiple sclerosis, randomized clinical trial, systematic review, case studies.

Exclusion criteria

Articles including pharmacological treatment.

Elimination criteria

All the articles not presenting the necessary information in full text.

Procedures

Articles were selected from the period January 2015 to June 2019; the articles were analyzed according to the study designs; for example, systematic reviews and meta-analyzes were used PRISMA, [15] randomized clinical trials with the guidelines of the CONSORT group, [17] case studies the list of the National Heart, Lung, and Blood Institute (NIH) library. [18] To make the search efficient, the following was carried out: 1) Search by keywords, (query in DeCS[19] and MeSH[20]). 2) Reading of titles. 3) Complete reading of the abstract. 4) Review of the abstract.[21] 5) Analysis of full text.

Results

Of 2,093 articles identified, nine were selected. Figure 1 shows the screening of the studies.

General characteristics of the studies

The main disciplines that published interventions were: nursing (33.3%), psychology, medicine, and multidisciplinary teams of doctors, nurses, and psychologists (66.6%).

The designs: 22.2% systematic / integrative reviews, 66.6% randomized clinical trials, 11.1% case studies, and 11.1% descriptive designs. Country of origin: Spain (11.1%), Amsterdam (11.1%), Brazil (11.1%), Cuba (11.1%), Iran (11.1%), Italy (22.2%), United States (11.1%) and United Kingdom (11.1%).

Evaluation criteria

Table 2 presents the analysis of each article according to the predetermined evaluation criteria.

Table 3 shows the summary of each of the selected articles, in order to show the different interventions to improve MS symptoms.

Figure 1. *Screening of the Studies*

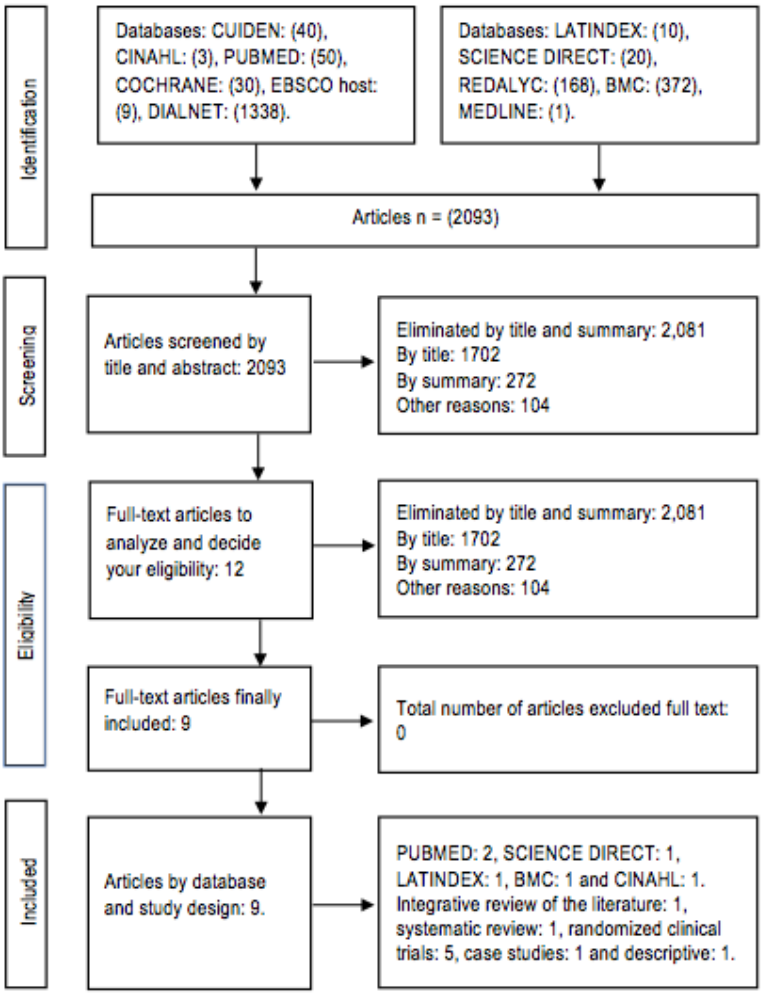

Table 2. *Methodological quality of the information*

Article Evaluation criteria Limitations and possible biases Strengths.	Article Evaluation criteria Limitations and possible biases Strengths.	Article Evaluation criteria Limitations and possible biases Strengths.	Article Evaluation criteria Limitations and possible biases Strengths.
1. Integrative review of the literature.	1. Integrative review of the literature.	1. Integrative review of the literature.	1. Integrative review of the literature.
Brazil country	Brazil country	Brazil country	Brazil country
Base: LATINDEX. Without criteria They include care and opinions of books, theses and pages of MS organizations, without evaluating their quality. It uses nursing theory, they approach the patient by functional health patterns.	Base: LATINDEX. Without criteria They include care and opinions of books, theses and pages of MS organizations, without evaluating their quality. It uses nursing theory, they approach the patient by functional health patterns.	Base: LATINDEX. Without criteria They include care and opinions of books, theses and pages of MS organizations, without evaluating their quality. It uses nursing theory, they approach the patient by functional health patterns.	Base: LATINDEX. Without criteria They include care and opinions of books, theses and pages of MS organizations, without evaluating their quality. It uses nursing theory, they approach the patient by functional health patterns.
2. Systematic review.	2. Systematic review.	2. Systematic review.	2. Systematic review.
Country Spain	Country Spain	Country Spain	Country Spain
Base: SCOPUS. PRISMA: 60.62% The PRISMA criteria were not considered.	Base: SCOPUS. PRISMA: 60.62% The PRISMA criteria were not considered.	Base: SCOPUS. PRISMA: 60.62% The PRISMA criteria were not considered.	Base: SCOPUS. PRISMA: 60.62% The PRISMA criteria were not considered.
The total of selected articles is not mentioned. Consider the emotional factor, depression, fatigue and quality of life.	The total of selected articles is not mentioned. Consider the emotional factor, depression, fatigue and quality of life.	The total of selected articles is not mentioned. Consider the emotional factor, depression, fatigue and quality of life.	The total of selected articles is not mentioned. Consider the emotional factor, depression, fatigue and quality of life.
3.Randomized clinical trial.	3.Randomized clinical trial.	3.Randomized clinical trial.	3.Randomized clinical trial.
Country: Amsterdam. Base: PUBMED / OVID. CONSORT: 54.04% The approach to the experiment was limited to outpatients, not hospitalized patients. The RCT was carried out taking into account the criteria set out by the CONSORT.	Country: Amsterdam. Base: PUBMED / OVID. CONSORT: 54.04% The approach to the experiment was limited to outpatients, not hospitalized patients. The RCT was carried out taking into account the criteria set out by the CONSORT.	Country: Amsterdam. Base: PUBMED / OVID. CONSORT: 54.04% The approach to the experiment was limited to outpatients, not hospitalized patients. The RCT was carried out taking into account the criteria set out by the CONSORT.	Country: Amsterdam. Base: PUBMED / OVID. CONSORT: 54.04% The approach to the experiment was limited to outpatients, not hospitalized patients. The RCT was carried out taking into account the criteria set out by the CONSORT.

Table 3. *Studies Characteristics*

Article 1. Lavareda et al., 2016. 22 Discipline: Nursing; study design: integrative review of the literature			
Participants	Duration	Interventions or research summary	Results
28 articles of which 21 were scientific, 2 books, 3 theses, 2 websites.	Not mentioned.	Interventions based on Gordon's functional patterns in patients with progressive MS. The most prominent feeding and elimination patterns, incorporating basic care such as the placement of nasogastric and bladder tubes.	Multidisciplinary health interventions are proposed that promote direct teaching to the patient according to the functional pattern that requires attention, in this way the nurse will be able to intervene on the ailments of the adult with MS, on the emotional, physical and social cognitive well-being. Includes support networks for optimal development; with rehabilitation strategies.
Article 2. Muñoz et al., 2015.23 Discipline: Psychology; study design: systematic review of the literature.			
Participants	Duration	Interventions or research summary	Results
The total number of items included is not mentioned.	Search of the last five years.	Psychosocial and psychotherapeutic interventions for the management of anxiety-depressive symptoms and perceived stress.	The improvement of the quality of life of the patients is concluded; the update of the MBI technique by Mindfulness-Based Stress Reduction (MBSR), which reports clearer results on improving the quality of depression and fatigue; use of the technique by Skype and the decrease in pain, less emotional dysregulation and a better quality of life are reflected. The drug-free benefit is recommended.
Article 3. Rietberg et al., 2014.24 Discipline: medicine and nursing; study design: randomized, single-blind clinical trial.			
Participants	Duration	Interventions or research summary	Results
A group of 84 adult participants, 37 excluded and 48 randomized, into two groups G1: 23 and G2: 25	Twelve weeks of intervention and follow-up at 24 weeks.	Ambulatory Rehabilitation (MDR), on chronic fatigue. For the experimental group (G1) the use of a series of physical, occupational therapy and social work activities. For the control group (G2), nursing consultancy, through the planning of activities and prioritizing energy conservation through the use of disability devices.	The results of the fatigue severity scale were statistically significant in the items of symptoms and mobility (p = .03), so that the trend of the intervention of the MDR group is clear, which favors its effectiveness compared to the consultation of Nursing.
Article 4. Jiménez-Morales et al., 2017.25 Discipline: Medicine; study design: pilot study.			
Participants	Duration	Interventions or research summary	Results
40 patients were obtained, 8 were excluded leaving 32 patients, in both EG and CG they had 13 participants.	Six weeks of intervention.	Compare the combined training program (physical and cognitive) against a physical training program and observe its effectiveness on the optimization of cognitive functions in patients with MS. Impairment in young adults, such as alterations in attention, memory and executive functions; that affect your work, personal and social life. By performing interventions that combine physical and cognitive rehabilitation. In the EG, a graded resistance aerobic exercise intervention was performed with cognitive training with a didactic instrument for cognitive-motor training for 45 minutes. In the CG, they performed the same aerobic exercise, eliminating cognitive training.	Significant changes between groups: tests of attention (p = .26), visuospatial long-term memory (p = .00), inhibitory control (p = .007). There was a cognitive improvement compared to the control and the positive effect of exercise in combination with cognitive therapy on attentional processes was tested.
Article 5. Khodaveisi et al., 2016.26 Discipline: Nursing; study design: single-blind, randomized controlled clinical trial.			
Participants	Duration	Interventions or research summary	Results
Seventy patients. Randomized to two groups GE: 35 and CG: 35.	Eight weeks of intervention.	Intervention to the EG in 4 stages: 1) Orientation, 2) Sensitization, 3) Control, 4) Evaluation. Complications and the coping strategy about them were explained, feelings were expressed through personalized interviews, telephone counseling and weekly group education. The CG without specific intervention.	Significant changes were observed in the EG in the lifestyles, between the first, fourth and eighth weeks (p = .001). Reduces risks of disease, improves self-efficacy, rest, diet, physical activity and reduces stress
Article 6. Carletto et al., 2016.27 Discipline: Psychology; study design: randomized and controlled clinical trial.			
Participants	Duration	Interventions or research summary	Results
88 patients with MS were recruited. Two groups were randomized.	Eight weekly sessions and eight weeks.	To assess the effectiveness of MBI on depression, with eight sessions of three hours per day and one of seven hours, which included activities of body exploration, meditation, breathing exercises, stretching and yoga. Difference is obtained between the baseline up to six months of follow-up, favoring the intervention group. It is observed that under-treated and underdiagnosed depression has a low quality of life.	A difference is obtained between the baseline up to six months of follow-up, favoring the intervention group. It is observed that under-treated and underdiagnosed depression has a low quality of life.
Article 7. Solari et al., 2018.28 Discipline: Nursing, Psychology and Medicine; study design: randomized, blinded and controlled clinical trial.			
Participants	Duration	Interventions or research summary	Results
78 dyads of MS patients and their caregivers were recruited. Randomized to EG: 49 patients and to CG: 25	Three to six months.	To determine the effectiveness of a home palliative approach for people with severe MS and their caregivers.	Non-significant result on the quality of life of the patients (p = .57). The burden of MS symptoms is slightly reduced, but does not present evidence on the needs of the caregiver, in order to better address the strengths and challenges of palliative care interventions.
Article 8. Leary et al., 2015.29 Discipline: Nursing; study design: case study.			
Participants	Duration	Interventions or research summary	Results
Analysis of 420 cases with MS, with six nurses.	Ten years, hindsight.	Through a change of reactive management for a "proactive" one (a single nurse), care is established by a specialist nurse, avoiding distracting her from caring for the patient and thus providing better care, if necessary establishing continuity of care.	It was possible to reduce the average hospital admissions, change from 225 admissions to 33 admissions, by the end of the study.

Article 9. Kalb et al., 2018.30 Discipline: Medicine; study design: descriptive.			
Participants	Duration	Interventions or research summary	Results
Not applicable.	Not applicable.	Promote awareness and care of cognitive decline, which is a common and disabling symptom of the disease. Support the inclusion of the cognitive area as a key part of MS care. Identify and address the barriers that prevent adequate cognitive care.	Specific recommendations are addressed within the education and awareness care such as: timely management of complications, approach to cognitive impairment and lastly, suggestion of the use of exercise to reduce said impairment.

Disscusion

According to this, the authors Lavareda et al., Muñoz et al., Rietberg et al., Jiménez-Morales et al., Khodaveisi et al., Carletto et al. and Solari et al., established systematic reviews or randomized clinical trials representing higher levels of evidence, thus supporting the reliability of their interventions.[22-27] While Leary et al. and Kalb et al., conducted lower-level investigations such as case-control studies or descriptive studies, which are related to the interventions carried out by the other authors on human care. [29.30]

By obtaining such diverse results regarding the levels of scientific evidence, it was identified that seven of nine authors did not report the use of checklists such as PRISMA, [15] CONSORT & NIH.[17,18] In contrast, Rietberg et al. and Solari et al. who did not report deficiencies in the procedures.[24,28] Despite this, the nine selected works were considered valuable in the content and the way in which the procedures were carried out, as reliable evidence to identify human care from different disciplinary points of view in health.

The organization of the search was done by the keywords and Boolean operators allowed a wide range of results in human care interventions in MS, this was corroborated from the screening of articles.

Based on the above, a rigorous analysis of care was established, by level of evidence and by scientific discipline, where the following was observed.

In the discipline of psychology, the use of the MIB technique was observed, through a systematic review of the literature by Muñoz et al., In order to identify the effect on the reduction of stress, where the professional raises awareness about the management experiences based on bodily sensations, to improve a) intensity of memories, b) decrease in a reactive attitude, c) generation of hope, d) acceptance of memories.[23] Those that were painful are eliminated and thus cause the person feels satisfied with the care received and improvement in their health status. Likewise, the updated technique such as MBSR is addressed, where the provider addresses similar activities that allow focusing on the present, accepting experiences, without establishing control over them, opening up to new experiences on emotional aspects, acceptance of reality, choice of actions of life according to the state of health in which they are, which only generates stress; in such a way that attention, quality of life is improved, depression, stress and fatigue are reduced. Finally, with respect to this discipline, Carletto et al., In the same way, used the MIB technique, to reduce symptoms of depression in people with MS, evaluated the effect on the patient and their primary caregiver, thus obtaining a decrease in depression and stress, through coping strategies.[27]

For the discipline of medicine, Kalb et al. Carried out a series of interventions for cognitive impairment through education, evaluation, and treatment management, to promote cognitive development, information processing, and long-term memory.[30] In one trial Similar clinical, Jiménez-Morales et al., analyzed the effects of a dynamic board game of cubes and signs to favor cognitive and motor rehabilitation.[25] The physical part consisted of using the treadmill for 30 minutes in the morning and a cycle ergometer for 10 minutes. in the afternoon, the results improved cognitive decline and mood. In another article, Rietberg et al., To evaluate the effect of multidisciplinary outpatient rehabilitation compared with nursing consultancy (CE), addresses three therapies, physical (exercise), occupational (daily activities) and social work support (addressed what psychosocial); in comparison with the EC that carried out its own nursing activities. However, the results show little clarity on the role of the intervention.[24]

For the nursing discipline, Lavareda et al., identified interventions to promote an optimal state of health of the critical patient, where they promote functionality through interventions based on education directed to the patient in the hospital and their home from Marjory Gordon's Functional Health Patterns. The role of nursing becomes important, since this discipline is the one that usually takes care of outbreaks, ailments and deficiencies in MS.[22]

Solari et al., conducted a trial with a palliative approach for people with MS and their caregivers, conducted a series of home visits on the management of the patient on his way to the end of life.[28] Although the results were not statistically significant, the background of the program considering the palliative is an important background for health care.

In another of the nursing articles, Khodaveisi et al. evaluated the effect of continuous care specifically on lifestyles. Through the MCC, the intervention was favorable and consisted of four stages: a) orientation; b) awareness of disease problems, c) lifestyle control and d) evaluation of interventions. In the CG, lifestyles were evaluated and no intervention was carried out.[26]

Leary et al., With specialized nurses, favored the continuity of care in people with MS, by increasing the period of work and contact with the patient upon admission to the emergency service, thus reducing hospital admissions.[29]

Finally, the multidisciplinary team favors the prevention of outbreaks, remissions and slowing the progression of the disease, the results in this type of work recommend always having a nursing and psychology professional to promote the area of care, which complements the pharmacological part of the patient since their diagnosis, which usually causes high costs within the family economy.

Conclusion

The main interventions that, together, can be identified as the most effective in the nine studies were: 1) inclusion of the patient with primary or secondary progressive MS and the primary caregiver for the development of interventions on ailments, 2) exercise, 3) cognitive and psychological interventions, 4) rehabilitation, 5) continuity of care, 6) chronic fatigue management strategies and 7) proactive management. These results can contribute to the care of the person with MS, especially the nursing professional, who leads a timely, complete and quality care to the person with MS.

Bibliografía

1. Federación Internacional de Esclerosis Múltiple (FIEM). Sobre el día mundial de la Esclerosis Múltiple. 2020. Disponible en: https://worldmsday.org/es/acerca-de/ [acceso: 20/06/2020]
2. Jiménez-Pérez C., Zarco-Montero L., Castañeda-Cardona C., Otalora M., Martínez A., Rosselli D. Estado actual de la esclerosis múltiple en Colombia. Acta Neurológica Colombiana 2015; 31(4): 385-390. Disponible en: https://bit.ly/3dzzEyt [acceso: 25/08/2019].
3. Organización Mundial de la Salud (OMS). Los trastornos neurológicos afectan a millones de personas en todo el mundo: informe de la OMS, 2007. Comunicado de prensa. Disponible en: https://bit.ly/1JaKSoC [07/08/2019].
4. Lublin F., Reingold S., Cohen J., Cutter G., et al. Defining the clinical course of multiple sclerosis: the 2013 revisions. Neurology 2014; 83(3), 278-286. Disponible en: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4117366/pdf/NEUROLOGY2013555623.pdf [acceso: 25/09/2019].
5. Esclerosis Múltiple España. Día mundial sobre Esclerosis Mútiple 2019, cifras, reivindaciones y actividades. 2019. Disponible en: https://bit.ly/2VhhQBY [acceso: 10/09/2019].
6. The International Progressive MS Alliance. Progressive MS Alliance. 2017. Multiple Sclerosis International Federation (MEIF). Disponible en: https://bit.ly/3eHwGt6 [acceso: 03/09/2019].
7. Stutz M. Más de 15 mil personas afectadas por esclerosis múltiple en Argentina. 2014. Disponible en: https://bit.ly/32uuMXc [acceso: 08/08/2019].
8. Dirección General de Comunicación Social (DGCS). En México aumenta la incidencia de esclerosis múltiple 2017. Boletín UNAM-DGCS-375. Disponible en: https://www.dgcs.unam.mx/boletin/bdboletin/2017_375.html [acceso: 03/09/2018].
9. Camargo A., Gómez A., Hernández L., Palacios E. Síntomas presentes en la esclerosis múltiple: serie de casos. Acta Neurológica Colombiana 2018; 34(2): 108-114. Disponible en: http://www.scielo.org.co/pdf/anco/v34n2/0120-8748-anco-34-02-00108.pdf [acceso: 10/09/2018].
10. Kobelt G., Thompson A., Berg J., Gannedahl M., Eriksson J., MSCOI Study and The European Multiple Sclerosis Platform. New insights into the burden and costs of multiple sclerosis in Europe. Multiple Sclerosis Journal 2017; 23(8): 1123-1136. Disponible en: https://bit.ly/3eAScjm [acceso: 10/11/2018].
11. Todos somos uno. Atención de Esclerosis Múltiple en México cuesta entre 20 mil y 30 mil pesos al mes. 2014. Disponible en: https://bit.ly/2JFlAYM [acceso: 04/10/2018].
12. Hernández J., Castañeda G., Rodríguez A. Esclerosis Múltiple en México: la clínica de su historia (segunda de dos partes). Revista de Facultad de Medicina 2009; 49(002). Disponible en: http://www.ejournal.unam.mx/rfm/no49-2/RFM49209.pdf [acceso: 15/10/2018].
13. Thompson A., Banwell B., Barkhof F., Carroll W., et al. Diagnosis if multiple sclerosis: 2017 revisions of the McDonald criteria. The Lancet Neurology 2018; 17(2): 162-173. Disponible en: https://www.sciencedirect.com/science/article/abs/pii/S1474442217304702 [acceso: 08/06/2019].
14. Polit D. y Tatano C. Investigación en Enfermería. Fundamentos para el uso de la evidencia en la práctica de enfermería. Wolters Kluwers. Novena Edición en español 2018. 23-24.
15. Urrutia G. y Bonfil X. Declaración PRISMA: una propuesta para mejorar la publicación de revisiones sistemáticas y metaanálisis. Medicina Clínica 2010; 135(11): 507-511. Disponible en: https://bit.ly/2Nqr8r7 [acceso: 01/07/2018].
16. Elias B., Polancich S., Jones C., Convoy S., MHNP-BC. Evolving the PICOT Method for the Digital Age: The PICOT-D. Journal of Nursing Education 2015; 54(10): 594-599. Disponible en: https://bit.ly/2Zaa2Dc [acceso: 09/01/2019].
17. Cobos-Carbo A. y Augustovski F. Declaración CONSORT 2010: actualización de la lista de comprobación para informar ensayos clínicos aleatorizados de grupos paralelos. Medicina Clínica 2010; 137(5): 2013-215. Disponible en: https://sochipe.cl/v3/docs/declaracion_consort.pdf [acceso: 02/07/2018].
18. National Heart, Lung and Blood Institute. Quality an Assessment Tools for case series studies. 2019. Disponible en: https://www.nhlbi.nih.gov/health-topics/study-quality-assessment-tools [acceso: 26/09/2019].
19. Paulo S., BIREME, OPS, OMS. Descriptores en Ciencias de la Salud: DeCS. 2017. Disponible en: http://decs.bvsalud.org/E/homepagee.htm [acceso: 18/07/2019].
20. Fernández-Altuna M., Martínez A., Arriarán E., Gutiérrez D., Toriz H. y Lifshitz A. Uso de los MeSH: una guía práctica. Investigación educación médica 2016; 5(20): 220-229. Disponible en: http://www.scielo.org.mx/pdf/iem/v5n20/2007-5057-iem-5-20-00220.pdf [acceso: 24/06/2020].
21. Orozco-Ugarriza M. Recomendaciones para escribir un artículo científico: principios y estructura general. Revista de Investigación Agropecuaria y Desarrollo Sostenible 2018; 3(2): 8-9. Disponible en: http://revistas.sena.edu.co/index.php/riads/article/view/1987 [acceso: 15/11/2019].

Referencias de artículos analizados:

22. Lavareda C., Marteens K., Filipa A., Miguel F., et al. Intervenções de enfermagem promotoras da funcionalidade do adulto com esclerose múltipla: revisao integrativa. Revista de Enfermagem. 2016; 10(2): 8-47. Disponible en: https://bit.ly/2B9Yjg7 [acceso: 02/05/2019].
23. Muñoz A., Oreja-Guevara C., Cebolla S., Carrillo L., Rodríguez B. Y Bayón C. Intervenciones psicoterapéuticas y psicosociales para el manejo del estrés en esclerosis múltiple: aportación de intervenciones basadas en mindfulness. Neurología 2016; 31(2): 113-120. Disponible en: https://bit.ly/3exc72G [acceso: 26/04/2019].
24. Rietberg M., van Wegen E., Eyssen I., Kwakkel G., the MS study group. Effects of Multidisciplinary Rehabilitation on Chronic Fatigue in Multipla Sclerosis: A randomized Controll. Journal Plos One 2014; 9(9): 1-9. Disponible en: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0107710 [acceso: 07/01/2019].
25. Jiménez-Morales R., Herrera-Jiménez L., Macías-Delgado Y., Pérez-Medinilla S. y Forn C. Entrenamiento combinado con ejercicios aeróbicos en pacientes con esclerosis múltiple: estudio piloto. Revista Neurológica 2017; 64: 489-495. Disponible en: [acceso: 08/01/2019].
26. Khodaveisi M., Ashtarani F., Beikmoradi A., Mohammadi N., Mahjub H., Mazdeth M. & Ashtarani E. The effect of continuous care on the lifestyle of patients with multiple sclerosis: a randomized clinical trial. Iranian Journal Nursing and Midwifery Research 2017; 22(3): 225: 231. Disponible en: https://bit.ly/3dAfPXP [acceso: 24/01/2019].
27. Carletto S., Borghi M., Francone D., Scavelli F., et al. The Effectiveness of a Body-Affective Mindfulness Intervention for Multiple Sclerosis Patients with Depressive Symptoms: A Randomized Controlled Clinical Trial. Clinical Trial 2017; 8, 2083. Disponible en: https://www.frontiersin.org/articles/10.3389/fpsyg.2017.02083/full [acceso: 26/02/2019].
28. Solari A., Giordano A., Grazia M., Confalonieri P., et al., Home-bases palliative approach for people with multiple sclerosis and their carers: study protocol for a randomized controlled trial. Trials 2015; 16, 184. Disponible en: https://bit.ly/2NuchvT [acceso: 28/08/2018].
29. Leary A., Quinn D. & Bowen A. Impact of proactive case management by multiple sclerosis specialist nurses on use of unscheduled care and emergency presentation in multiple sclerosis. International Journal of MS care 2015; 17(4): 159-163. Disponible en: https://bit.ly/3dwl7DN [acceso: 08/06/2019].
30. Kalb R., Beier M., Benedict R., Charvet L. Recommendations for cognitive screening and management in multiple sclerosis care. Multiple Sclerosis Journal 2018; 24(13): 1665-1680. Disponible en: https://journals.sagepub.com/doi/pdf/10.1177/1352458518803785 [acceso: 09/08/2019].