Wellness Journey with Multiple Sclerosis—Where to Start

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Lifestyle factors can increase one’s wellness or overall health for patients with multiple sclerosis (MS). This independent editorial clarifies the supporting literature behind the topics of discussion in a series of accompanying Bayer-supported videos filmed in partnership with the Multiple Sclerosis Association of America (MSAA).

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Wellness, nutrition, multiple sclerosis, vitamin D, vascular risk factors, smoking, microbiome, Mediterranean diet

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Multiple sclerosis (MS) is a demyelinating and neurodegenerative disorder of the central nervous system (CNS), for which disease-modifying therapy is a mainstay treatment approach. In addition to conventional therapy, there is growing evidence and interest in the effects of certain comorbidities and the role of lifestyle factors on MS, such as vitamin D deficiency, tobacco smoking, and obesity. While the current literature is not entirely conclusive, there is sufficient evidence to support a potential role for vitamin D deficiency, tobacco smoking, and vascular risk factors on the onset and worsening of MS disease.1,2 In this context, preventing obesity and vascular comorbidities and maintaining sufficient vitamin D levels and physical activity have positive health benefits and may result in improved MS disease outcomes. Beyond conventional medicine, an increasing number of patients and healthcare providers are interested in treatment approaches that focus on health and lifestyle strategies within a supportive clinician-patient relationship that optimizes their overall well-being.

In the accompanying video interviews between Nicole Sconzo, MS Clinical Nutritionist, and Noel, a Multiple Sclerosis Association of America (MSAA) patient advocate, we hear about the importance of a “lifestyle support team”. The first video discussion focuses on “getting busy” and “finding out” where lifestyle behaviors can have an impact. The discussion talks about looking at lifestyle behaviors as “opportunities” for enhancing or changing MS symptoms and long-term disability levels. There is now a growing interest in wellness practices that incorporate a comprehensive approach to health and well-being while living with MS. These practices augment rather than replace traditional MS management. Abiding by a healthy diet, exercising routinely, maintaining sufficient vitamin D levels, abstaining from tobacco use, incorporating stress management techniques, remaining active in the community, and engaging in health maintenance are all ways in which persons living with MS can help improve the way they live their everyday lives. Healthy lifestyle, where patients take control and learn how to advocate for optimal “brain health” includes learning to find reliable sources of information.

Ms. Sconzo reminds patients to look at experts’ credentials and ask about their level of knowledge to be assured the information is accurate and valid. MS has economic consequences due to its impact on work capacity, physical and psychosocial functioning, in addition to direct treatment costs. Healthy lifestyle interventions are likely cost effective for MS patients and should be addressed at the onset of the disease;3 this is also suggested by studies showing more vascular comorbidities are associated with higher level disability, assuming preventing these disabilities would increase one’s ability to remain employed and active in the community.4 It is important to note that quality of life goals may vary between patients and providers; communication needs to consider the patient’s short- and long-term goals in order to issue personalized lifestyle recommendations.
The second video focuses on the medical evidence with regards to vitamin D, supplements, oils and the inflammation cascade. Noel shared her experience and asked for clarification where there is medical support to use various supplements and nutritional products. Vitamin D is a group of related fat-soluble compounds that play a role in modulating the degree of disease activity. There are many studies globally looking at optimal levels of vitamin D but at this time the recommendation is for patients with MS to take 2,000–5,000 IU of vitamin D3 daily and recheck the level in 3 months and annually, as MS patients tend to have a hard time reaching the proposed blood levels of 40–70 nmol/L as compared with those without MS. Food products and the amount of fat in the meal that help the various forms of vitamin D to be absorbed are not known at this time. Fish oils and plant-based oils like flax seed were discussed. The optimal dose and/or the frequency of the oils in ones’ diet is not known, studies with reported intake of plant-based omega 3 oils, such as flax seed oil, show associations of lower disability with higher intake of plant-based omega 3 oils rather than fish oil intake. Storage conditions, such as refrigeration, may affect the content of polyunsaturated fatty acids in fish oils, this may be one reason that the efficacy toward MS may have been less when taking fish oil capsules. Medicinal plants are traditional remedies for treating various diseases, the video discussed curcumin as a possible therapy to help MS. Curcumin has been reported to possibly interact with cellular targets involved with MS but at this time has not been confirmed to help MS. There is a small study looking at a nutritional intervention with a combination of calorie restriction, semi-vegetarian diet and vitamin D, fish oil, lipoic acid, omega 3 poly unsaturated fatty acids, reservatrol and multivitamin complex, and the results show that after 6 months there was no change in the examination, but the blood tests of inflammation decreased suggesting a combination of factors is involved and supplementation may assist in lessening systemic inflammation. Selenium is also mentioned in the discussion. Selenium and other metal’s serum levels were similar in MS and non-MS patients in one study and another showed lower selenium levels in MS patients. At this time, we do not have enough evidence to suggesting a causal role of selenium and MS. The American Academy of Neurology reviewed many studies looking at the various supplements and many other complementary alternative medical therapies in MS. The authors concluded that fish oils were ineffective at decreasing relapse rate in MS, and the other supplements that were studied did not confirm high level effects on MS.

The third video focuses on the exciting topic of the gut microbiome in patients with MS. First it was explained that the bacteria in the gastrointestinal tract relate to the associated immune cells and are involved in our CNS immune system. There is a wealth of manuscripts in both adult and pediatric MS looking at how to identify the gut microbiome’s function with MS and if we are able to alter it to help MS. The early studies of MS and the gut microbiome show that there is gut microbial dysbiosis, with a decreased population of bacteria generating immune-modulating molecules, and more bacteria producing immune-stimulatory molecules. This dysbiosis may promote immune responses to the CNS. The interventions that may alter the gut microbiome in MS include vitamin D supplementation, probiotic consumption and diet modification. Dietary changes and the use of probiotics in animal models of MS suggest diet and/or probiotics may indeed alter the course of MS, but more work needs to be done to determine if this occurs in humans. Fiber and various diets likely affect the microbiome. In a pilot study, a high-fiber diet high in vegetables and low in protein resulted in improvement in disability scores on the Expanded Disability Status Scale (EDSS) and relapse rate in the one-year follow-up period, as well as an alteration of the microbiome composition following the diet change, compared with a typical "Western diet".

Cardiovascular risk factors also seem to affect the risk of having MS, the development of brain atrophy, clinical outcomes and lesion burden. Addressing cardiovascular risks can be used as an opportunity to improve overall health, lessen long-term disability and avoid comorbidities. Comorbidities, diseases in addition to MS, have many negative effects on MS including delay to diagnosis, higher level of...
In summary, as discussed in the videos, “getting busy” on making healthy changes is likely to result in positive outcomes for our patients.