Adjustment issues of Mediterranean diet or vegan diet treatment on

Rheumatoid arthritis

A review of literature

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Introduction

In the modern world, because of different kinds of living habit and dietary culture, people’s daily diets have become much more diverse and full of regional characteristics. Eating is one of life’s great pleasures, in addition to pleasures, many kinds of diets have been proved that have beneficial effect on human body situations. The Mediterranean diet (MD) was been claimed to have positive influences on “human mortality and age-related morbid conditions, principally the metabolic syndrome, hypertension, cardiovascular disease, excess body weight, cancer, poor bone mineralization and rheumatoid arthritis, and neurodegenerative disorders” (Pérez-López, F. R.; 2009). In addition, according to the research article published by Hafström in 2001 and by McDougall in 2002, the vegan diets—the very low fat vegan diet that does not contain animal products or any kinds of added fats and oils, or the pure vegan diet that free of gluten—have significant reductions in rheumatoid arthritis (Hafström, 2001; McDougall, 2002).

“Rheumatoid arthritis (RA) is a chronic autoimmune disease that affects between 0.3% and 1.0% of the general population and has a significant effect on patients’ physical, emotional, and social functioning” (Smedslund, G., 2010). For decades, patients have tried to use different diets to improve the symptoms of rheumatoid arthritis, and dietary manipulation is widely used today.
There are many speculations about why some patients with RA show improvement by changing diet. According to Kjeldsen-Kragh’s research, one of the hypotheses concludes that

“A significant alteration in the gut flora has been reported to be associated with clinical improvement in patients with RA during dietary treatment. Conceivably, absorption of some microbial antigens has a role in the pathogenesis of RA and if the intestinal flora is altered owing to a changed diet this might have favorable effects on the disease activity “(Kjeldsen-Kragh, 2003).

Despite numerous studies, there is a need to examine what has been investigated in order to further understand the research being done on using diet manipulation to improve the symptoms of rheumatoid arthritis. Thus, the purpose of this article is to review articles related to the manipulation effects of Mediterranean diets or vegan diets on rheumatoid arthritis. The key research question guiding the review of the literature was: whether Mediterranean diets or vegan diets will improve the signs and symptoms of rheumatoid arthritis (RA)?

Content

Reviewing the benefits of Mediterranean diet

After reading two research articles provided by Kieldsen-Kragh and Pérez-López, in their trials, even though both of the scholars have used Mediterranean diet to improve the symptom of rheumatoid arthritis, the diets have different combination.

In Kieldsen-Kragh’s clinical trial of dietary treatment, a traditional Cretan diet—a diet rich in fish, olive oil, and cooked vegetables—was been detected that might have a protective effect against rheumatoid arthritis (Kieldsen-Kragh, 2003). Similarly, in Pérez-
López’s research, the scholar thought that consumption of olive oil and fish were inversely associated with RA and an increase in olive oil consumption by two times per week reduced the risk of RA. A “12-week supplementation of fish and olive oil”, especially in combination, improved joint pain, handgrip strength and other objective variables among RA patients (Berbert AA, 2005).

In the experiment, the RA patients expressed a significant improvement when they changed their diets from traditional diets, like ordinary omnivorous diets, to the Mediterranean diets. Furthermore, due to the olive oil and vegetables, the Mediterranean diets also decrease the risk of high blood pressure, heart disease, cancer and obesity.

**Reviewing the benefits of Vegan diet**

After reading two research articles provided by Hafström and McDougall’s research, both of the scholars have used the vegan diet to improve the symptom of rheumatoid arthritis, however, the compositions of their diets are different.

The low-fat vegan diet was used in McDougall’s research. The diet contained no animal products or added fats and oils of any kinds. The menus were based around common starches, such as beans, breads, corn, pastas, potatoes, sweet potatoes, and rice. To this centerpiece was added fresh or fresh-frozen fruits and vegetables. “Participants were encouraged to eat *ad libitum*” (McDougall, J, 2002). Based on Hafström’s research, the scholar made use of the gluten-free vegan diet, which contained vegetables, root vegetables, nuts and fruits. Because the gluten was not permitted, buckwheat, millet, corn, and rice were be added in to the diet. Further more, unshelled sesame seeds in the form of sesame milk were a daily source of calcium (Hafström, 2001).
Both studies showed that after switched to very low-fat vegan diets or free gluten vegan diets, patients with moderate-to-sever RA disease experienced significant reductions in RA symptoms. And for the free gluten vegan diet treatment, this benefit might be related to “a reduction in immune-reactivity to food antigens eliminated” by the change in diet (Hafström, 2001).

Discussion

During their research, numerous problems are associated with clinical trials of dietary treatment. And because of the problems, some experiments cannot get the predicted results. There are four main problems have been found from the formal sources.

Recruitment

In clinical trials of dietary treatment, recruitment of patients is much more difficult because the treatment requires the patients to change their lifestyle (Kieldsen-Kragh, 2003). Different with the ordinary drug clinical experiment, patients just need to take certain number of pills at the specific time. However, in the clinical dietary treatment, patients need improve or totally change their dietary habit for a long time. In Sarzi-Puttini’s research, fifty RA patients age between 25 and 70 years need to take an experimental diet, which is “high in unsaturated fats, low in saturated fats with hypoallergenic foods—rice, cornmeal, cornbread, hydrolyzed milk, fresh pineapple, and cooked apple”—for 24 weeks (Sarzi-Puttini, 2000). In Hafström’s research, thirty-eight RA patients were randomized to either a free gluten vegan diet, which were contained “vegetables, root vegetables, nuts and fruits” and because gluten was not permitted, the diet contained “buckwheat, millet, corn, rice and sunflower” (Hafström, 2001).

Compliance
In clinical trials of dietary treatment, it is difficult to monitor patient compliance. To ensure optimal compliance, the patients in Sköldstam’s study were served either the experimental diet or the control diet during the three weeks outpatient based rehabilitation program. In addition, the patients in the experimental diet group had six lessons from a dietician about Mediterranean food and cooking. During the remaining part of the study, they could contact the dietician weekly for advice (Kieldsen-Kragh, 2003).

**Drop-out**

The dropping out rates in clinical trials of dietary treatment is very high. The reason for why participants drop out is diversity. In Sarzi-Puttini’s research, fifty patients joined in the trials, but only forty-three—twenty-two patients in the experimental group and twenty-one in the control group—completed the study. Four patients were excluded because of poor compliance with the diet and three patients for medical reasons not related to study treatment (Sarzi-Puttini, 2000). In Hafström’s research, sixty-six patients attended the experiment, however, only forty-seven patients—twenty-two patients in the vegan group and twenty-five patients in the non-vegan group—completed at least 9 months of their diet. Nine patients had their DMARD treatment changed during the study (Hafström, 2001).

**Interpretation of results**

In clinical dietary experiment, both the placebo and the treatment effect obscure the interpretation of the results (J Kieldsen-Kragh, 2003). “The “gold standard” for clinical trials is the double blind randomized clinical trial, but for obvious reasons a study investigating the efficacy of a particular diet cannot be conducted in a double blind fashion (Kjeldsen-Kragh, 1994).” Thus, for studies of dietary treatment, the scholar can never rule out the possibility that an improvement is mainly caused by the placebo effect instead of treatment effect.
Patients enrolled in such studies are highly motivated and they are most probably not representative of patients with RA in general. “Many of these patients are thrilled by the idea that the disease can be controlled by dietary intervention, and it is not unlikely that such an attitude may promote the placebo effect if they are randomly allocated to the experimental group (Kjeldsen-Kragh, 1994).” On the other side, patients may be disappointed and experience the negative effect of the “placebo” experiment when they randomly allocated to a control group, continuing to follow an ordinal diet, such as omnivorous diet (Kjeldsen-Kragh, 1994).

In addition, funding, in clinical dietary experiment, also was a problem in some research. Kjeldsen-Kragh J thought all these circumstances probably explain why so few clinical trials of dietary treatment have been carried out during the past two decades (J Kieldsen-Kragh, 2003).

**Conclusion**

The purpose of this article was to review literature related to the issue of using Mediterranean diet or vegan diet to improve the signs and symptoms of rheumatoid arthritis (RA). As a result, four scholars’ findings suggest the rheumatoid arthritis patients should have Mediterranean diets and after changing the diet for more than twenty weeks, the arthritis clinical assessments, including morning stiffness and joint pain, are decreased. The similar improvement also happened when rheumatoid arthritis patients changed in to vegan diets. Both of the diets show the benefit effects. However, according to the weakness of the experiments designing, it’s hard to contend which kind of diet is the best diet for arthritis patients. For the future clinical trials, nutritionists can focus on the difference effect between Mediterranean diets and vegan diets. If finding from this study achieve the comparing result
between these diets, the nutritionists may use this to guide rheumatoid arthritis patients to change their diet habits and improve their symptoms.

Reference:


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