Annotated Bibliography

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This essay provides an annotated bibliography on five sources with reference to the picot question. 'In overweight African American adults with hypertension (P), does following a strict ketogenic diet (I), as opposed to no dietary changes and taking antihypertensive drugs (C) contribute to reduced blood pressure (O) within one year (T)?

A 2-week cross-over intervention with a low carbohydrate, high-fat diet compared to a high carbohydrate diet attenuates exercise-induced cortisol response, but not reduced exercise capacity, in recreational athletes. (2021). Nutrients, 13(1), 157. doi:http://dx.doi.org/10.3390/nu13010157

This article examined the effect of low-fat diets like ketogenic diets in recreational athletes because low carbohydrate diets are directly linked to low energy levels. In the study, fourteen male athletes chosen randomly were exposed to a two-week low-fat diet trial. A dietary test was conducted two days after the beginning of the dietary trial and another test at the end of the trial. After the two weeks' dietary trial, they were given questionnaires to fill on how they felt in the upper respiratory tract and breathing rates. The results indicated lower work output, reduced energy levels and higher ketones in the blood. This article is useful in my EBP project because I have found one contraindication of ketogenic diets; athletes or very active African American hypertensive patients. It is reliable because the study involves athletes who were strictly on a two-week ketogenic diet to monitor and test their energy levels.

Dutta, M., Singh, P., Ghai, S., Garg, G., Duggal, K., Kaur, P., . . . Dhillon, M. (2018). Complementary and alternative medicine (CAM) therapies to use and their perceived effectiveness among cardiac patients. Indian Journal of Health and Wellbeing, 9(7), 927-933. Retrieved from https://www.proquest.com/scholarly-

journals/complementary-alternative-medicine-cam-therapies/docview/2157811373/se-2?accountid=45049

The authors of this article focus primarily on complementary and alternative medicines (CAM) in managing various healthcare cardiac complications. A study was conducted on 530 out-patient participants who were average, 56 years old. Most of them were Hindu believers and were from average socioeconomic backgrounds. Some had diabetes, but most were hypertensive. Most of them were using the CAM therapies, for instance, the use of little salt, garlic, aloe-vera and participating in physical exercise therapies. The study results indicated the usefulness of the CAM therapy in these patients because of the lowered morbidity rates and disease burdens. This article will be so useful in my EBP change project because it will help me explain the importance of combining both pharmacological and non-pharmacological therapy in hypertension management. According to the study results in the article, I find positive implications of ketogenic diet usage with hypertensive drugs in the management of high blood pressure. The article's validity is dependent on the participants chosen, the Hindu, who are well-known for their herbal therapies with beneficial effects. Their knowledge blends well with the topic and the effectiveness of my EBP change project.

Gomez-Arbelaez, D., Bellido, D., Castro, A. I., Ordoñez-Mayan, L., Carreira, J., Galban, C., ... & Casanueva, F. F. (2017). Body composition changes after a very-low-calorie ketogenic diet in obesity evaluated by three standardized methods. The Journal of Clinical Endocrinology & Metabolism, 102(2), 488-498.

The authors of this article had the objective of understanding the body composition effects of a low-calorie ketogenic diet on overweight patients. Twenty obese patients were selected for the study and followed up for sixteen weeks. This study revealed a significant weight

loss in the patients, changes in body water, and no muscle strength changes in all three standardized methods. Changes in water composition were linked to ketonuria but got recovered later on, on hydration recommendations. I found this article useful in my EBP change project because of its highlight of several methods of determining body composition effects of the ketogenic diet on overweight patients. This indicated the study's validity, as all methods were compared to determine a conclusion on the study. The study will help me choose appropriate methods of finding the effects of the ketogenic diet on my patients in overweight solutions and blood pressure control.

Moreno, B., Crujeiras, A. B., Bellido, D., Sajoux, I., & Casanueva, F. F. (2016). Obesity treatment by very low-calorie-ketogenic diet at two years: reducing visceral fat and the burden of disease. Endocrine, 54(3), 681–690. https://doi.org/10.1007/s12020-016-1050-2

Most hypertensive patients are obese and, the commonest intervention is weight loss even before pharmacotherapy. This article focuses on the long-term effects of a ketogenic diet on obese hypertensive patients. Much keenness was set on the visceral fat mass, which is the aetiology behind increased blood pressure. A group of 45 patients was selected as participants, with 23 on a standard low-fat diet and 22 on a very low-fat ketogenic diet. After 24 months, the patients on the ketogenic diet had a greater percentage of weight loss and reduced disease burden compared to those on standard low-fat diets. The validity of this study lies in the follow-ups done on the patients to determine the impact of the diets, without fail. Also, the participants were hypotensive patients, which increase the chance of validity and reliability. The article's impact on my EBP change project is the fact that ketogenic diets have a positive impact on hypotensive patients. However, they need careful monitoring and patience on the patient’s side to determine

the long-term effects. Patience is a lesson learnt, determining the article's usefulness in my project.

You, Y., Guo, Y., Jia, P., Zhuang, B., Cheng, Y., Deng, H. . . . Huang, B. (2020). Ketogenic diet aggravates cardiac remodelling in adult spontaneously hypertensive rats. Nutrition & Metabolism, 17, 1-11. doi:http://dx.doi.org/10.1186/s12986-020-00510-7

The authors of this article suggest that ketogenic diets on hypertensive patients may lead to several adverse effects on hypertensive hearts. Therefore, clinicians need to evaluate this before recommending it. You et al. (2020) confirmed their hypothesis in a study involving 10-month old rats given normal or ketogenic diets for twenty-one days. Their blood pressure and remodelling of their cardiac systems weekly assessed. Findings indicated that cardiac fibroblasts had already formed in the 1 to 3 days old pups. The fibroblasts were then cultured in vitro with a ketone to examine their mechanisms. Notably, there was an increase in the mammalian human target rapamycin activity following ketogenic diet consumption. The activation of the mammalian human target rapamycin complex two pathways was directly related to the fibrosis and inflammation cases in hypertensive patients. This article implies that taking ketogenic diets increases blood pressure because of the fibroids and inflammations. Therefore, taking antihypertensive drugs for these patients may not significantly impact their blood pressure, but removing this diet from their meals might make a difference. It is a valid article because the study was conducted in mammalian animals, rats with almost similar cardiac systems as humans. Therefore, it has proven its effectiveness and usefulness in my EBP change project.

References

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