Consumption of Omega-3 Fatty Acids in CPP Students

Yunle Wang, Nutrition Dietetics

Mentor: Dr. Erik Froyen

Kellogg Honors College Engaged Learning Experience

Abstract

Many past studies show that people who consume fish and other seafood will decrease cardiovascular disease risk, help increase infant's health and development, and prevent some diseases such as dry eye. The American Heart Association (AHA) recommends consuming about 1 g of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) per day for people with cardiovascular disease. Omega-3 fatty acids are essential in cell membrane components, and the three primary omega-3 fatty acids help the body's energy and functions. Alpha-linolenic acid (ALA) is usually found in plant oil, and EPA and DHA are found in fish and seafood. ALA is an essential fatty acid the human body can only consume from foods and beverages. The small amount of EPA and DHA can be turned from ALA and mainly from foods and supplements. The project Consumption of Omega-3 Fatty Acids in CPP Students is a research survey about the different fatty acids college students intake and if they intake omega-3 fish oil supplements. Some studies suggest that US adults consume low amounts of omega-3 fatty acids, which may increase the risk for cardiovascular disease. This project reviewed omega-3 fatty acids, including food sources, supplements, mechanisms of action, biochemistry, health benefits, etc. This project compares the CPP students' knowledge of omega-3 fatty acids in different majors and departments. In addition, to determine if CPP students meet the recommendations for omega-3 fatty acids.

Objectives

The objective of the present analysis is to assess Cal Poly Pomona students who are over 18 years old and have heard about omega-3 fatty acids, alpha-linolenic acid (ALA), eicosapentaenoic acid (EPA), and docosahexaenoic acid (DHA) and how often they consume food sources of ALA, EPA, and DHA.

Methods

Participants were a sample of 18 years or older Cal Poly Pomona students. This study has been approved by Cal Poly Pomona's Institutional Review Board office (IRB# 22-195). The participants signed the consent form and answered Qualtrics survey questions.

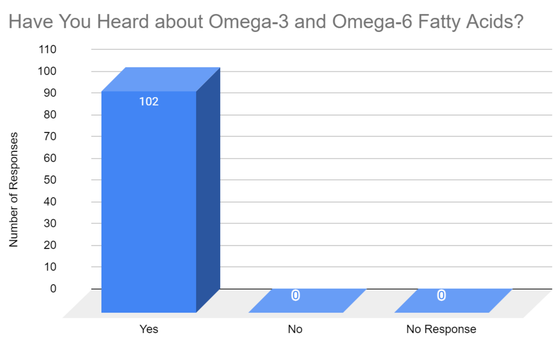

Figure 1. Student Awareness of Omega-3 and Omega-6 Fatty Acids

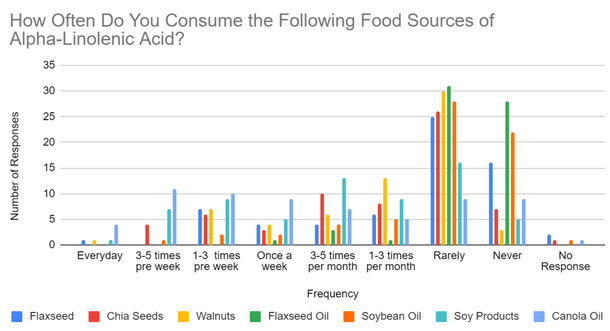

Figure 2. Student Consumption of Alpha-Linolenic Acid Food Sources

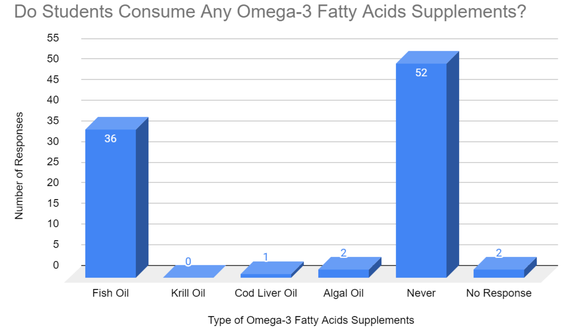

Figure 3. Student Consumption of Omega-3 Fatty Acids Supplements

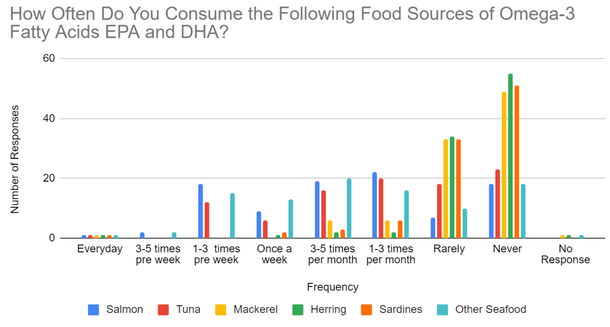

Figure 4. Student Consumption of EPA and DHA Food Sources

Conclusions

From the data collected, all the students were aware of omega-3 and omega-6 fatty acids. However, more than half of the students did not know that the essential omega-3 fatty acid is called Alpha-Linolenic Acid. More people never or rarely consume food sources of Alpha-Linolenic Acid and Omega-3 Fatty Acids EPA and DHA. More than half of the students responded that they never consume any omega-3 fatty acids supplements, and 36 responded that they consume fish oil. Fish oil is one of the most common supplements for people to increase their omega-3 fatty acids intake. Most CPP students did not meet the recommendations for omega-3 fatty acids.

References

1. Office of dietary supplements - omega-3 fatty acids. NIH Office of Dietary Supplements. July 18, 2022. Accessed August 27, 2023. https://ods.od.nih.gov/factsheets/Omega3FattyAcids-Consumer/.