

# Investigation of oxidation and sensory properties of different forms of fish oil supplements during consumer use

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## Abstract

Omega-3 fatty acid consumption is getting more and more common due to their positive impacts on human health. Since consumers cannot get their omega-3 needs from natural sources, omega-3 supplements play an essential part of the diet. Omega-3 fatty acids are highly susceptible to oxidation; thus, storage conditions affect the quality of these fatty acids. Supplement form is also another factor, which is critical for stability. In this project, it is aimed to compare the effects of different forms (capsule, chewable and syrup) and packaging types of fish oil supplements on fatty acid composition, oxidative stability and sensory properties when stored at room temperature and in dark conditions. Moreover, the effect of consumer behavior regarding the recommended usage after the bottles are opened were assessed during storage study. It was observed that, syrup forms are more susceptible to oxidation than capsule and chewable forms. Moreover, capsule forms complied more with limit values during storage and better protected according to the sensory evaluation scores. Fish oil samples belonging to the same company but provided from different stores showed significant differences in some of the sensory attributes which is an indicator of non-standard raw material, ingredient or processing.

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