

Content validity and reliability of a food frequency questionnaire to measure eicosapentaenoic acid and docosahexaenoic acid intakes in young adults: A pilot study

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ABSTRACT:

Background: The food environment is rapidly changing with regard to omega-3 fatty acids. Research is hindered by the lack of a tool specifically designed to measure intakes of long-chain omega-3 fatty acids in US populations. The purpose of this pilot study was to assess the content validity and reliability of a novel 14-item food frequency questionnaire (FFQ) designed to measure contemporary sources of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA).

Methods: During May of 2009, college students (n = 165) completed the FFQ and provided feedback. Forty-five completed the questionnaire a second time allowing for the evaluation of test-retest reliability.

Results: None of the students reported consuming a food naturally rich in EPA and DHA that was not included in the FFQ. Overall instrument reliability (n = 54) was strong ($\rho = 0.86$, $p < 0.001$) and the reliability for each of the non-functional food items ranged from moderate to strong ($\rho = 0.48$ to 0.86 , $p < 0.001$). Correlation coefficients for each of the functional food items were low and/or non-significant. Uncertainty regarding omega-3 functional foods was listed as a reason by eight of the twelve who felt one or more of the questions were difficult to answer.

Conclusions: Overall instrument reliability was strong and content validity was good. Nonetheless, participant feedback, and the decreased test-retest coefficients for the omega-3 functional foods, suggests unfamiliarity may be problematic when measuring intakes from these food sources.

Keywords: Functional foods, n-3 fatty acids, dietary assessment, seafood, eicosapentaenoic acid, docosahexaenoic acid