Concurrent Session 8: Lipids in human health

Predictors of variation in likelihood to purchase products derived from genetically modified oilseeds as sources of long chain omega-3 fatty acids

DN Cox, G Evans, HJ Lease

Food Futures National Research Flagship and CSIRO Human Nutrition, Adelaide, SA

**Background** – Long chain omega-3 fatty acids (LCO3FA), eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), have a range of specific health benefits in the prevention and treatment of chronic diseases, particularly coronary heart disease (CHD). Australian experts’ recently recommended intakes of 610 mg /day for men and 430 mg /day for women (1). However recent estimates suggest that Australians consume, on average, only 189 mg of LCO3FA/day (2). Increasing demand for foods rich or enriched in LCO3FA may increase demand upon wild fisheries which are at maximum levels of exploitation with some declining. Aquaculture meets some demand but is also dependent upon wild caught fish for fishmeal. There is a need for alternative methods of producing LCO3FA.

**Objectives** – To elicit predictors of variation in intentions to consume foods rich in the LCO3FA, EPA and DHA, so as to understand potential demand for novel sources of LCO3FA.

**Design** – Responses from a consumer sample (n = 220) were elicited including protection motivation theory constructs as independent variables. Descriptions of model products representing options for possible (future) consumption were presented, including fish, currently available enriched foods (breads and milks) and novel products derived from genetic modification (GM) of oilseed crops for direct human consumption or consumption by fish in aquaculture.

**Outcomes** – Multivariate regression was undertaken and significant (P <0.05) predictors (β) for likelihood to purchase “farmed fish (fed fishmeal)” were: self efficacy 0.56; behaviour (product) efficacy 0.19; belief that fishmeal is unnatural -0.14 (R² 0.44). For likelihood to purchase “farmed fish (fed GM oilseed)” predictors were: self efficacy 0.65; perceived severity of CHD 0.15; BMI -0.13; significant other has arthritis 0.11; belief that GM oilseed is unnatural 0.11 (R² 0.49).

**Conclusion** – Self efficacy (confidence to consume) was the most important predictor of likelihood to purchase.

**References**
