V. CONCLUSION AND RECOMMENDATIONS

A. CONCLUSION

The highest amount food predicted to contain plant sterols consumed by male respondents was cereals and cereal product, vegetables and vegetable products, and snack food. Meanwhile, in female respondent, consumption was dominated by cereals and cereal products, vegetables and vegetable products and fruits and fruit products. The consumption was slightly higher in female respondent (909.37 g/cap/day) than in male respondent (862.91 g/cap/day). The level of plant sterols intake of total respondent was averagely 223.80 mg/day; 223.41 mg/day in male and 224.19 mg/day in female respondent. Plant sterols intake was slightly higher in female than male respondent although the difference was not statistically significant. The plant sterols intake in all respondents as mostly contributed by cereals and cereals product (37.46%), followed by legumes and legume products (24.41%). The results might show an underestimate tendency due to some foods that assumed to contain zero plant sterols (no secondary data available about the plant sterols content). However, the proportion of those foods was rather small hence the contribution to intake considered very low. According to Pearson correlation test, there is no association between daily intake of plant sterols and total blood cholesterol. No association means that the level of plant sterols intake by 223.80 mg/day not yet have visible effect in lowering or raising total blood cholesterol levels in respondents with health nutritional status, but presumed maintain normal blood cholesterol levels in respondents.

B. RECOMMENDATIONS

There were several recommendations which could be considered by population when consuming plant sterols to lower cholesterol, industries, or other researchers to develop plant sterols study in Indonesia. To maintain normal blood cholesterol level in healthy population, consumption of plant sterols rich food such as whole grain cereals combined with low fat foods is recommended. However, to hypercholesterolemic population, plant sterol in supplemental doses is required up to 2 g/day, which should be consumed at each cholesterol containing meal and distributed in 2-3 meals per day to achieve optimal effect. For functional food industries, supplementation of plant sterols should be done to suitable foods and preferably low fat food to promote healthier effect. With concerns to plant sterols oxidation, foods without further processing prior consumption are preferable, such as spreads, yogurt, milk, or bread.

Since this research was done to healthy respondents with similar socioeconomic and nutritional characteristics, further studies which involve different characteristics of respondents are highly recommended. To obtain more relevant and precise information about plant sterols intake, the plant sterols content of food items consumed by respondent should be fully identified. List of food with no plant sterol data consumed by respondents in this research could be an initial data source to start a laboratory analysis to quantify plant sterols content in foods consumed by Indonesians. Furthermore, since vegetable oils are high in plant sterols, specific questionnaire to gain more information about its consumption might also required. In addition, total serum cholesterol should be measured by complete laboratory blood analysis to picture more detailed relationship between plant sterols intakes and blood cholesterol level.