### Supplement table 1 Results of the EFA of the nutritional knowledge component in validation study (n=103)*

| Items                                                                 | Factors loading |
|----------------------------------------------------------------------|-----------------|
|                                                                      | 1   | 2   | 3   |
| **Dietary recommendation**                                           |     |     |     |
| K1: If you were trying to cut down meat, which group of foods should you eat instead of meat | .705 |     |     |
| K2: Which foods contain a lot of calcium                              | .540 |     |     |
| K3: Which one of the following statements is the key to a healthy way of eating | .746 |     |     |
| K4: Which of the following statement can decrease weight gain/overweight | .352 |     |     |
| K5: Which of the following statements do experts say people should eat regularly regarding the amount of vegetables and fruits regularly | .519 |     |     |
| K6: Which of the following foods would help people to avoid becoming fat | .416 |     |     |
| K7: Which of the following behaviors can cause cross-contamination of foods | .411 |     |     |
| K8: If a person wanted to reduce the amount of fat in their diet, which would be the best choice | .634 |     |     |
| K9: Which would be the best choice for increasing high antioxidants   | .464 |     |     |
| K10: Which of the following foods can increase weight gain/overweight | .850 |     |     |
| K11: What is an indicator to measure overweight/obesity             | .768 |     |     |
| **Healthy diet**                                                     |     |     |     |
| K12: Saturated fats are mainly found in                               | .573 |     |     |
| K13: A type of oil which contains mostly monounsaturated fat is      | .630 |     |     |
| K14: Which of the following is considered good fat in a diet         | .613 |     |     |
| K15: Which of the following foods has the highest cholesterol level  | .426 |     |     |
| K16: Which of the following statement is true for cholesterol       | .473 |     |     |
| K17: Which foods contain a lot of trans fatty acids                 | .586 |     |     |
| K18: Which of the following statement is true for trans fatty acids | .639 |     |     |
| K19: According to the Thailand Nutrition Flag, how many servings of rice should a person of your age and gender eat each day for good health | .397 |     |     |
| K20: According to the Thailand Nutrition Flag, how many serving of meat should a person of your age and gender eat each day for good health | .382 |     |     |
| K21: What fatty acid do experts say people should avoid             | .631 |     |     |
| K22: Which of the following foods has the lowest fat                | .405 |     |     |
| K23: How many calories (Dietary Reference Intakes for Thais 2003: DRIs) should a working group of your age and gender consume per day | .444 |     |     |
| K24: A type of food which contains mostly sodium                    | .437 |     |     |
| **Knowledge of diet and its relationship with diseases**             |     |     |     |
| K25: Which kind of foods do you think increase osteoporosis, if a person eats a large amount every day | .246 |     |     |
| K26: Which foods contain a lot of fibre                             | .576 |     |     |
| K27: Which foods contain a lot of sodium                            | .355 |     |     |
| K28: Which of the following is true for high sodium intake          | .509 |     |     |
| K29: Which foods contain a lot of fat                               | .420 |     |     |
| K30: What are the major health problems or diseases that are related to a adding too much salt | .795 |     |     |
| K31: which are the healthy foods                                     | .691 |     |     |

*Explore Factor Analysis (EFA) was used to explore and summarize the underlying structure of data set. The assumptions underlying multivariate analysis for the EFA, including normality and no outliers were tested before further analysis was conducted. The results of EFA (nutrition knowledge and attitude) showed in supplement table 1 and supplement table 2.
**Supplement table 2** Results of EFA of the nutritional attitude component in validation study (n=103)

| Items                                                                 | Factor loading |
|-----------------------------------------------------------------------|----------------|
| **Dietary recommendation**                                            |                |
| AT1: Thai food guide (food based dietary guidelines and nutritional flag) is a useful tool for planning my food choice. | .797           |
| AT2: Nutritional flag symbolized nutrition information is easy to understand. | .843           |
| AT3: I am often aware of the nutrition flag.                          | .690           |
| AT4: Nutritional flag is a useful tool for planning a healthy diet.   | .675           |
| AT5: The nutrition information in food based dietary guidelines is easy to understand. | .835           |
| AT6: Food based dietary guidelines are a useful tool for planning a healthy diet. | .857           |
| AT7: I am often aware of the food based dietary guidelines.          | .793           |
| **Healthy eating**                                                   |                |
| AT8: Eating many different kinds of foods is healthier than eating only a few kind foods. | .457           |
| AT9: I believe that having fast food every day is healthy.           | .586           |
| AT10: Rice, noodles and bread are a better diet than meat and vegetables. | .619           |
| AT11: Canned fruit has the same health as fresh fruits.              | .685           |
| AT12: Fruit juice is just as healthy as water to drink.              | .589           |
| AT13: I should eat a lot of sugar so I can have energy.              | .660           |
| AT14: Salt should be added to all foods.                             | .821           |
| AT15: I think that I should add extra salt/sugar/fish sauce to my cooked foods. | .708           |
| AT16: It is impossible to get all the vitamins and minerals I need from food. | .545           |
| AT17: I need to take vitamin and mineral pills every day.            | .556           |
| AT18: Drinking coffee or green tea /day will give me antioxidants.  | .309           |
| AT19: I do not need to wash my vegetables before I cook them.       | .532           |
| AT20: I believe that adding lime, salt and chili to fresh meat makes it safe to eat without cooking the meat. | .612           |
| AT21: I like eating white rice more than brown rice.                 | .642           |
| AT22: If I eat sugary fruits like durian or tamarind I will not gain weight. | .439           |
| AT23: It is not healthy to eat a high fat diet.                      | .485           |
| AT24: I can have healthy body weight if I eat healthy diet and exercise. | .487           |
| AT25: I choose food based on taste rather than nutritional value.    | .434           |
| AT26: Foods need to have flavor enhancers, seasoning, or sauces added so they taste good. | .642           |
| AT27: Add salt/sugar/fish sauce to my food does no harm to my health. | .723           |
| AT28: Eating a lot of high heat-grilled meat every day is not harmful on my body. | .566           |
| **Food choice**                                                      |                |
| AT29: Skim milk is healthier than semi-skim milk and full fat milk.   | .407           |
| AT30: Western foods are always high in fat.                          | .411           |
| AT31: It is good to eat fresh fruits and vegetables because they are low calorie foods. | .560           |
| AT32: I eat a lot of fresh fruit every day because they have vitamins, minerals and antioxidants. | .436           |
| AT33: My body only needs a little bit of salt to be healthy.          | .395           |
| AT34: People who want to lose weight should increase their physical activity | .647           |
| AT35: Eating food with a lot of carbohydrates (such as rice, noodles and bread) makes people gain weight. | .559           |
| AT36: Drinking a lot of sugary drinks can make me gain weight.       | .512           |
| AT37: Fresh fruits have benefit more than sugary foods.              | .696           |
| AT38: I think I choose Thai foods over other food options.           | .289           |
| AT39: Using food labels to choose foods is better than just relying on my own knowledge about what is in the foods. | .444           |
| AT40: I believe that I read food labels before buying foods.         | .377           |