**Supplementary Document1.** Development of free sugars content database

Free sugars intake(7) was estimated using a recently developed comprehensive food composition database(11) for common Japanese food items included in the Standard Tables of Food Composition in Japan (STFCJ)(21,22). In the development steps of the free sugars database(11), the free sugars content of all food items was determined on the basis of total sugar and saccharide contents using a published step wise method(16,23). Briefly, the steps were as follows: step 1: assign 0 g per 100 g of food to foods with 0 g total sugar per100 g; step 2: assign 0g per 100g of food to no free sugar food groups (e.g. plain cereals); step 3: assign values of total sugar to 100% free sugar food groups (e.g. soft drinks except for milk beverages); step 4: calculated based on standard recipes available in STFCJ(21,22) to foods whose ingredients were all assigned in steps 1-3; step 5: calculated based on unsweetened variety; step 6: Estimated from content of each saccharide (i.e. calculated as subtracting lactose content from total sugar content for sweetened dairy products and confectionaries containing daily products); step 7: use values from food composition databases in other countries; step 8: calculated based on common recipes or ingredients; step 9: calculate based on standard recipes available in STFCJ(21,22) for foods with ingredient values that were assigned in from steps 5-8; step 10: assign a half of total sugar content; and step 11: assign 0 g per 100 g of food.