The role of income and education in food consumption and nutrient intake in a Chinese population

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Objectives: To investigate the role of socioeconomic status in food consumption and nutritional status in the Tianjin population; to ascertain the socioeconomic difference in nutritional status.
Methods: A random representative sample of some 9 million population of Tianjin was chosen using a stratified multi-stage cluster sampling method. 2236 eligible subjects (1096 men and 1140 women), aged between 15 to 64 years, were enrolled in the study. Food weighing and a three-day food record method were used to assess food consumption and nutrient intakes. The population was categorised into four income groups and three educational groups according to monthly average income per capita and years of education.

Major results: Both income and education attainment were positively correlated with the intake of fruit, meat, milk and egg, and negatively correlated with cereal consumption. Income and education attainment were also correlated positively with fat, calcium, riboflavin and potassium intakes. Years of education were inversely correlated with carbohydrate and fibre intakes. The low income and the less educated group consumed much less fruit, meat and milk, and more cereal than other groups. They had low intakes of calcium, vitamin A and riboflavin. For the least income group, intakes of vitamin A, calcium and riboflavin were 20.0 %, 38.8 % and 43.7 % of the Chinese RDA, respectively. The fat intake of the most educated group provided 32.1 percent of total energy intake.

Conclusion: Socioeconomic status determined food consumption in this population. The least income group was at risk of low calcium, vitamin A and riboflavin intakes and possibly related food component deficiencies. The more educated group tended to eat more meat. These findings stimulate interest in economically feasible food-based solutions where possible and, if necessary, interim measures to increase specific essential nutrient intakes by supplementation and fortification.