

Overview Table

Table 4-C-III-1. Studies examining what combinations of food intake (assessed using reduced rank regression) explain the most variation in risk of obesity

| Study (Quality Rating) Study Design (Location) | Response Variables | Dietary Patterns Identified |
|--|---|--|
| Ambrosini, 2012 (Positive Quality) Prospective Cohort (ALSPAC; United Kingdom) | <ul style="list-style-type: none"> • Dietary energy density • Fiber density • Percentage of energy intake from fat <p>Pattern 1 explained 45% of the variation in the response variables at all ages (7, 10 & 13 y), and over 80% of the variation in DP scores was explained by the top 5 and bottom 5 factor loadings.</p> | Pattern 1 at all ages ("energy dense, high fat, low fiber"): (+) confectionery chocolate, low-fiber bread, biscuit and cakes, crisps, full fat milk; (-) fresh fruit, raw/boiled vegetables, high-fiber breakfast cereal, boiled potatoes, and high-fiber bread. |
| Johnson, 2008 (Positive Quality) Prospective Cohort (ALSPAC; United Kingdom) | <ul style="list-style-type: none"> • Dietary energy density • Fiber density • Percentage of energy intake from fat <p>Pattern 1 explained 47% of the variation in the response variables at ages 5 & 7 y.</p> | <p>Pattern 1 at 5 y: (+) lower fiber bread, crisp and savory snacks, chocolate and confectionary, high-fat milk and cream, cheese and cheese dishes; (-) fresh fruit, vegetables, boiled or baked potatoes, high-fiber bread, high-fiber breakfast cereals</p> <p>Pattern 1 at 7 y: (+) crisps and savory snacks, chocolate and confectionery, low-fiber bread, biscuits and cakes, processed meat; (-) fresh fruit, vegetables, high-fiber breakfast cereals, boiled or baked potatoes, high-fiber bread</p> |
| Noh, 2011 (Positive Quality) Prospective Cohort (SUN; Korea) | <ul style="list-style-type: none"> • Change in BMI • Change in % body fat • Change in bone mineral content • Change in bone mineral density <p>Patterns 1 and 2 explained 14% of the variation in the response variables.</p> | <p>Pattern 1 ("egg and rice pattern"): higher intakes of eggs and rice, and lower intakes of nuts and seeds, processed meats, potatoes, and eastern grains</p> <p>Pattern 2 ("fruit, nut, milk, beverage, egg, grain pattern"): higher intakes of fruits, nuts and seeds, milk/dairy products, other beverages, eggs, fruit juices, and eastern grains, and lower intakes of vegetables mushrooms, and kimchi</p> |
| Schulz, 2005 (Positive Quality) Prospective Cohort (EPIC-Potsdam; Germany) | <ul style="list-style-type: none"> • Total fat • Total carbohydrate • Fiber <p>Pattern 1 explained 53% of the variation in the response variables.</p> | Pattern 1: (+) whole-grain bread, fresh fruit, fruit juices, grains (cereals), raw vegetables; (-) processed meat, butter, high-fat cheese, margarine, meat (other than poultry) |
| Sherafat-Kazemzadeh, 2010 (Positive Quality) Prospective Cohort (Tehran Lipid and Glucose Study; Iran) | <ul style="list-style-type: none"> • Fat • Polyunsaturated to saturated fat ratio • Calcium • Cholesterol • Fiber <p>Pattern 1 explained 39%, Pattern 2 explained 19%, Pattern 3 explained 13%, Pattern 4 explained 9%, and Pattern 5 explained 5% of total variation.</p> | <p>Pattern 1 ("traditional pattern"): high intake of sources of hydrogenated and saturated fat, egg, red and processed meat, refined carbohydrates, vegetables, and whole grain and starchy vegetables</p> <p>Pattern 2 ("fiber and PUFA pattern"): high intake of plant oils, starchy vegetables, legumes, other vegetables, salty snacks, and fruit and nuts, and low intake of dairy</p> <p>Pattern 3 ("fiber and dairy pattern"): high intake of fruits and vegetables, dairy, and whole grain, and low intake of plant oil and egg</p> <p>Pattern 4 ("dairy pattern"): high intake of dairy, egg, and plant oil, and low intake of saturated and trans fat, refined carbohydrates, vegetables, and fruit</p> <p>Pattern 5 ("egg pattern"): high intake of egg, fruit, and salty snacks, and low intake of dairy, plant and saturated oil, and red meat</p> |
| Wosje, 2010 (Positive Quality) Prospective Cohort (United States) | <ul style="list-style-type: none"> • Fat mass • Bone mass <p>Pattern 1 explained 13-19% of variation in the response variables, and Pattern 2 explained 11-18% of the variation.</p> | <p>Pattern 1: whole grains, cheese, processed meats, eggs, fried potatoes, discretionary fats, and artificially sweetened beverages</p> <p>Pattern 2: dark-green vegetables, deep-yellow vegetables, and processed meals</p> |

Key: (+) Higher intake (-) Lower intake