Table S1. Cognitive impairment risks under hypothetical interventions among different age groups.

| Intervention       | <80 years old |          |          | ≥80 years old |          |          |
|--------------------|---------------|----------|----------|---------------|----------|----------|
|                    | Risk          | 95% CI   | RR       | 95% CI        | Risk     | 95% CI   | RR       | 95% CI        |
| No intervention    | 16.89         | 14.78,18.90 | 1.00     | ——            | 19.55    | 17.00,22.77 | 1.00     | ——            |
| Social engagement  | 14.01         | 11.74,16.57 | 0.83     | 0.72,0.93     | 10.28    | 7.49,14.14  | 0.53     | 0.38,0.76     |
| PWB                | 15.94         | 13.84,17.96 | 0.94     | 0.93,0.98     | 19.49    | 16.62,22.51 | 1.00     | 0.98,1.02     |
| Vegetables         | 16.76         | 14.55,18.67 | 0.99     | 0.97,1.01     | 19.32    | 16.76,22.31 | 0.99     | 0.97,1.01     |
| Fruits             | 16.37         | 14.04,19.03 | 0.97     | 0.95,1.01     | 19.54    | 17.06,22.44 | 1.00     | 0.97,1.03     |
| Fish               | 17.33         | 14.82,19.18 | 1.03     | 0.98,1.08     | 19.17    | 16.62,22.16 | 0.98     | 0.93,1.03     |

Notes: CI = confidence interval; RR = risk ratio, PWB = psychological well-being.

Table S2. Cognitive impairment risks under hypothetical interventions among different gender groups.

| Intervention | Male |          |          | Female |          |          |
|--------------|------|----------|----------|--------|----------|----------|
|              | Risk | 95% CI   | RR       | Risk   | 95% CI   | RR       | 95% CI   |
| No intervention | 17.95 | 16.12,19.68 | 1.00     | ——     | 22.10    | 18.97,24.68 | 1.00     | ——     |
| Social engagement | 14.82 | 12.53,18.50 | 0.83     | 0.69,0.94 | 14.61    | 11.73,17.38 | 0.66     | 0.57,0.73 |
| PWB          | 17.60 | 15.68,19.06 | 0.98     | 0.95,1.00 | 21.37    | 18.62,23.39 | 0.97     | 0.95,0.99 |
| Vegetables   | 18.09 | 15.93,19.58 | 1.01     | 0.97,1.01 | 21.88    | 18.96,24.37 | 0.99     | 0.98,1.00 |
| Fruits       | 17.01 | 14.83,19.04 | 0.95     | 0.90,0.99 | 20.37    | 17.57,22.80 | 0.92     | 0.88,0.96 |
| Meat         | 18.36 | 16.05,20.09 | 1.02     | 0.97,1.03 | 21.93    | 19.10,24.14 | 0.99     | 0.96,1.02 |
| Fish         | 17.79 | 15.60,19.57 | 0.99     | 0.92,1.05 | 22.70    | 19.61,25.62 | 1.03     | 0.95,1.05 |

Notes: CI = confidence interval, RR = risk ratio, PWB = psychological well-being.

Table S3. Cognitive impairment risks under hypothetical interventions in different education groups.

| Intervention | Illiteracy |          |          | Literacy |          |          |
|--------------|------------|----------|----------|----------|----------|----------|
|              | Risk       | 95% CI   | RR       | Risk     | 95% CI   | RR       | 95% CI   |
| No intervention | 20.15 | 17.63,21.51 | 1.00     | ——     | 19.76    | 17.17,21.59 | 1.00     | ——     |
| Social engagement | 15.16 | 12.16,18.17 | 0.75     | 0.63,0.87 | 14.42    | 12.12,16.74 | 0.73     | 0.67,0.83 |
| PWB          | 19.30      | 16.87,20.51 | 0.96     | 0.93,0.98 | 19.19    | 17.03,20.98 | 0.97     | 0.96,1.01 |
| Vegetables   | 19.85      | 17.46-21.26 | 0.98     | 0.97,1.00 | 19.42    | 16.91,21.40 | 0.98     | 0.97,1.01 |
| Fruits       | 18.71      | 16.18,20.29 | 0.93     | 0.87,0.98 | 18.45    | 15.91,20.25 | 0.93     | 0.90,0.99 |
| Meat         | 20.07      | 17.78,21.70 | 1.00     | 0.96,1.03 | 19.61    | 16.66,21.41 | 0.99     | 0.96,1.03 |
| Fish         | 20.41      | 17.68,18.17 | 1.01     | 0.95,1.07 | 19.39    | 16.56,21.46 | 0.98     | 0.95,1.07 |

Notes: CI = confidence interval, RR = risk ratio, PWB = psychological well-being.