**Supplementary Table1. The characteristics of all included eligible studies**

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| --- | --- | --- | --- | --- | --- | --- |
| Author, publication year, country | Study name | Study design (mean follow-up) | Study size, gender, age, number of cases in cohort;number of cases and control in case control | Dietary assessment | Exposure | Adjustment for confounders |
| Vogtmann E et al，2013，China | Shanghai Women's Health Study (SWHS) | Prospective cohort (11.2 years) | 72 966 women,age 40–70 years,139 HCC cases | Validated FFQ, 77 food items | Glycemic index Glycemic load Carbohydrate | age, education, income, smoking status, alcohol consumption, menopausal status (women only), family history of liver cancer, BMI,  physical activity, total energy intake, and history of diabetes and hepatitis/chronic liver disease |
| Vogtmann E et al，2013，China | Shanghai Men's Health Study (SMHS) | Prospective cohort (5.3 years) | 60 207 men,age 40–74 years,208 HCC cases | Validated FFQ, 81 food items | Glycemc index Glycemic load Carbohydrate | age, education, income, smoking status, alcohol consumption, menopausal status (women only), family history of liver cancer, BMI,  physical activity, total energy intake, and history of diabetes and hepatitis/chronic liver disease |
| Hu J et al,2013,Canada | the National Enhanced Cancer Surveillance System (NECSS) | Hospital-based case–control | 2547 men and 2492 women,age 20-76 years,309 HCC cases | Validated FFQ, 69 food items | Glycemic index Glycemic load | age, province, education, body mass index (BMI), alcohol consumption, pack-year smoking and energy intake (non-carbohydrate and alcohol) |
| Fedirko V et al,2013,West-Europe | European Prospective Investigation into Cancer and Nutrition (EPIC) study | Prospective cohort (an average of 11.4 years) | 142 194 men and 335 012 women,191 HCC cases | Validated FFQ | Glycemic index Glycemic load Carbohydrate | age, sex, center, total energy intake,sex-specific physical activity level, education, body mass index , smoking status and intensity ,  self-reported diabetes status, baseline alcohol intake and lifetime alcohol intake pattern |
| Rossi M et al,2009,Italy |  | Hospital-based case–control | 185 HCC cases and 412 controls | Validated FFQ, 63 food items | Glycemic load | sex, quinquennia of age and study center,years of education, tobacco smoking , alcohol consumption, and energy intake without alcohol  and carbohydrates |
| Lagiou P et al,2009,Athens |  | Hospital-based case–control | 333 HCC cases and 360 controls | semiquantitative FFQ, 120 food items | Glycemic load | gender, age, years of education, tobacco smoking, alcohol consumption and energy intake without alcohol and carbohydrates |
| Liu Y et al,2020,USA | Nurses’ Health Study | Prospective cohort (20 years) | 88,770 women,age 34–59 years,85 HCC cases | Validated FFQ, 131 food items | Carbohydrate | Age, FH-CC, prior endoscopy screening, aspirin use, height, BMI, pack-years of smoking before age 30 years, physical activity, cereal  fiber, alcohol, calcium, folate, processed meat, red meat |
| Liu Y et al,2020,USA | Health Professionals Follow-up Study | Prospective cohort (14 years) | 48,197 men,age 45–75 years,71 HCC cases | Validated FFQ, 131 food items | Carbohydrate | Age, FH-CC, prior endoscopy screening, aspirin use, height, BMI, pack-years of smoking before age 30 years, physical activity, cereal  fiber, alcohol, calcium, folate, processed meat, red meat |
| George et al,2008,USA | The National Institutes of Health (NIH)–AARP Diet and Health Study | Prospective cohort (8 years) | 183535 women,age 50-71 years,72 HCC cases | Validated FFQ, 124 food items | Glycemic index Glycemic load | age, race/ethnicity, education, marital status, body mass index, family history of any cancer, total energy intake, physical activity, smoking, alcohol consumption, and menopausal hormone therapy use among women. |
| George et al,2008,USA | The National Institutes of Health (NIH)–AARP Diet and Health Study | Prospective cohort (8 years) | 262,642 men,age 50-71 years,238 HCC cases | Validated FFQ, 124 food items | Glycemic index Glycemic load | age, race/ethnicity, education, marital status, body mass index, family history of any cancer, total energy intake, physical activity, smoking, alcohol consumption, and menopausal hormone therapy use among women. |

**Abbreviations**:FFQ: Food Frequency Questionnaire;HCC:hepatocellular carcinoma;BMI：Body Mass Index