**Supplementary tables**

**Table 1.** Quality assessments for interventional studies

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| References | Selection bias (random sequence generation) | Selection bias (allocation concealment) | Performance bias (blinding of participants and clinicians) | Detection bias (blinding outcome assessment) | Attrition bias (incomplete outcome data) | Reporting bias (selective reporting) | Other bias | Limitations |
| Hillesund et al, 2018 | √ | X | X | √ | √ | √ | √ | Selection bias: the dietary recommendation was not randomly sequenced and concealed. Performance bias: the study participants and investigators were not blinded for the intervention allocation |
| Huybregts et al, 2009 | √ | √ | X | √ | √ | √ | √ | Performance bias: the study participants and investigators were not blinded for the intervention allocation |
| Janmohamed et al, 2016 | √ | √ | √ | √ | √ | √ | √ |  |
| Khoury et al, 2005 | √ | √ | √ | √ | √ | √ | √ |  |
| Moses et al, 2006 | X | X | X | √ | √ | √ | X | Selection bias: the study participants were not randomly assigned; The allocation of dietary assignment was not randomly sequenced and known to the study personnel in advance; Performance bias: the study participants and investigators were not blinded to dietary assignment. Other bias: Power of analyses was not estimated to determine the simple size. |
| Potdar et al, 2014 | √ | √ | X | √ | X | √ | √ | Performance bias: there was no blinding of the study participants and the outcome likely to be influenced. Attrition bias: there was high loss to follow-up (34%) and not balanced across the group |

**Table 2.** Covariates adjusted in the association between maternal diets and adverse birth outcomes (Preterm birth, LBW, and SGA)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Socio-demographic factors | | | | Life style factors | | | Nutritional status | | Pregnancy complication | | History of adverse birth outcomes | | | Reproductive factors | Nutritional Supplementations | | | Caffeinated beverages | | |  |
| References | Maternal age | Marital status | Maternal education | Income | Smoking | Alcohol Intake | Physical activity | BMI | TEI | GDM | HDP | Preterm | LBW | SGA | Parity | Folic acid | Iron | Zink | coffee | Tea | Cola | Additional |
| Bouwland et al, 2012 | √ | √ | √ | √ | √ |  |  | √ | √ | √ | √ |  |  |  | √ | √ |  |  |  |  |  | Comorbidity, newborn sex |
| Brantsaeter et al, 2012 | √ |  | √ |  | √ |  |  | √ | √ |  |  |  |  |  | √ |  |  |  |  |  |  | Marine n-3 intake pregnancy duration mother tongue |
| Chatzi et al, 2012 | √ |  | √ |  | √ | √ |  | √ | √ | √ | √ |  |  |  | √ | √ | √ | √ |  |  |  | Foetal sex, social class, weight gain during pregnancy |
| Chia et al, 2016 | √ |  | √ |  | √ | √ |  | √ | √ | √ | √ |  |  |  | √ |  |  |  |  |  |  | Ethnicity |
| Emond et al, 2018 | √ |  | √ |  | √ |  | √ | √ |  | √ | √ |  |  |  | √ |  |  |  |  |  |  | Newborn sex |
| Englund-Ogge et al, 2014 | √ | √ | √ | √ | √ | √ | √ | √ | √ |  |  | √ |  |  | √ |  |  |  |  |  |  |  |
| Englund-Ogge et al, 2017 | √ | √ | √ | √ | √ | √ | √ | √ | √ |  |  | √ |  |  | √ |  |  |  |  |  |  | Fibre intake |
| Grieger et al, 2014 | √ |  |  | √ | √ |  |  | √ |  | √ | √ | √ | √ | √ | √ |  |  |  |  |  |  |  |
| Janmohamed et al, 2016 | √ |  |  |  |  |  |  | √ |  |  |  |  |  |  | √ |  |  |  |  |  |  |  |
| Hajianfar et al, 2018 | √ |  |  | √ |  |  | √ | √ | √ |  |  | √ | √ | √ |  |  |  |  |  |  |  | IUGR, Preterm, HX. Abortion |
| Halldorsson et al, 2007 | √ |  |  | √ | √ |  |  | √ | √ |  |  |  |  |  | √ |  |  |  |  |  |  | Infant sex Occupation |
| Haugen et al, 2008 | √ | √ | √ |  |  |  |  | √ |  |  |  |  |  |  | √ |  |  |  |  |  |  |  |
| Heppe et al, 2011 | √ | √ | √ |  | √ | √ |  | √ | √ |  |  |  |  |  | √ | √ |  |  | √ |  |  |  |
| Heppe et al, 2012 | √ | √ | √ |  | √ | √ |  | √ | √ |  |  |  |  |  | √ | √ |  |  | √ |  |  | Consumptions of fruit, vegetables, meat, fish |
| Hillesund et al, 2014 | √ | √ | √ |  | √ |  | √ | √ | √ |  |  |  |  |  | √ |  |  |  |  |  |  | Region |
| Hillesund et al, 2018 | √ | √ | √ | √ | √ |  | √ | √ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Huybregts et al, 2009 | √ |  | √ |  |  |  |  | √ |  |  |  |  |  |  | √ |  |  |  |  |  |  | GA, weight gain, |
| Khoury et al, 2005 |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  | Excluded (past history of still birth, abortion; Present history of diabetes, hypertension, gastro-intestinal, endocrine, cardiac, pulmonary diseases |
| Knudsen et al, 2008 | √ |  | √ |  | √ |  |  | √ | √ |  |  |  |  |  | √ |  |  |  |  |  |  | Father height |
| Knudsen et al, 2012 | √ |  |  |  | √ |  | √ | √ | √ |  |  |  |  |  | √ |  |  |  |  |  |  | Occupation, gestational weight gain |
| Lu et al, 2016 | √ |  | √ | √ | √ | √ |  | √ |  | X | X | X |  |  | √ | √ |  |  |  |  |  | Present diabetes |
| Lu et al, 2018 | √ |  | √ | √ | √ |  |  | √ |  |  |  | √ |  |  | √ | √ |  |  |  |  |  |  |
| Martin et al, 2015 | √ | √ | √ | √ | √ |  |  | √ | √ |  |  |  |  |  | √ |  |  |  |  |  |  | Race |
| Mendez et al, 2010 | √ |  | √ |  | √ | √ |  | √ | √ |  |  |  |  |  | √ |  |  |  |  |  |  | Occupation |
| Mikkelsen et al, 2008 | √ | √ |  | √ |  |  |  | √ |  |  |  |  |  |  | √ |  |  |  |  |  |  |  |
| Mitchell et al, 2004 | √ |  |  | √ | √ | √ |  | √ |  |  | √ |  |  |  |  |  |  |  |  |  |  | occupation, |
| Moses et al, 2006 | √ |  |  |  | X |  |  | √ |  |  |  |  |  |  | √ |  |  |  |  |  |  | Infant sex, GA, ethnicity |
| Myhre et al, 2011 | √ | √ | √ | √ | √ | √ | √ | √ | √ |  |  | √ |  |  | √ |  |  |  |  |  |  |  |
| Myhre et al, 2013 | √ | √ | √ | √ | √ | √ |  | √ | √ |  |  | √ |  |  | √ |  |  |  |  |  |  | Foetal sex |
| Muthayya, 2009 | √ |  | √ |  | √ |  |  | √ |  |  |  |  |  |  | √ |  |  |  |  |  |  | weight gain, GA |
| Okubo et al, 2012 | √ |  | √ | √ | √ |  | √ | √ |  |  |  | X |  |  | √ |  |  |  |  |  |  | Occupation, family structure, Dietary supplement, gestational weeks, present medical condition, baby's sex |
| Olmedo et al, 2016 | √ |  | √ |  | √ | √ | √ | √ | √ |  | √ |  |  |  |  |  |  |  |  |  |  | intake of vegetables and fruits, and fish, social class |
| Olsen et al, 2002 | √ | √ | √ |  | √ | √ |  |  |  |  |  |  |  |  | √ |  |  |  |  |  |  | Infant sex, maternal height and weight |
| Olsen et al, 2007 | √ |  |  | √ | √ |  |  | √ | √ |  |  |  |  |  | √ |  |  |  |  |  |  | Infant sex, Occupation, Mother & Father height, weight gain during pregnancy |
| Poon et al, 2013 | √ |  | √ | √ | √ | √ |  | √ | √ |  |  |  |  |  |  |  |  |  |  |  |  | Race, gestational weight gain |
| Potdar et al, 2014 | √ |  | √ | √ |  |  |  | √ |  | √ |  |  |  |  | √ |  |  |  |  |  |  | Infant sex, GA |
| Rasmussen et al, 2014 | √ | √ | √ | √ | √ | √ | √ | √ |  |  |  |  |  |  | √ |  |  |  |  |  |  | Urbanity, dietary supplement |
| Ricci et al, 2010 | √ |  | √ |  | √ | √ |  | √ |  |  | √ |  |  | √ | √ |  |  |  |  |  |  | weight gain in pregnancy |
| Saunders et al, 2014 | √ | √ | √ |  | √ | √ |  | √ | √ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Thompson et al, 2010 | √ | √ |  | √ | √ |  |  | √ |  |  |  |  |  |  | √ |  |  |  |  |  |  | infant sex, GA, ethnicity |

Note been: (√) adjusted covariates, (X) excluded variables

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 3.** Newcastle-Ottawa Quality Assessment Scale for cohort studies | | | | | | | | | | | |
|  | Selection | | | | Comparability | | Outcome | | |  |  |
| References | Representativeness of exposed cohort | Selection of non-exposed cohort | Ascertainment of exposure | Outcome of interest was not present at start of study | Study controls for the most important factor | Study controls for any additional factor | Assessment of outcome | Was follow-up long enough for outcomes to occur | Adequacy of follow up | NOS | Limitations |
| Akbari et al, 2015 | \* |  | \* |  |  |  | \* |  |  | 3 | Sampling: Small sample; the period, method and extraction method of dietary assessment were not described. Comparability: all covariates were not adjusted. Outcome: follow-up was not long enough for outcomes to occur. |
| Bouwland et al, 2012 | \* | \* | \* | \* | \* |  | \* | \* | \* | 8 | Unadjusted variables: History of adverse birth outcomes, caffeinated beverages |
| Brantsaeter et al, 2012 | \* | \* | \* | \* | \* |  | \* | \* | \* | 8 |  |
| Chatzi et al, 2012 | \* | \* | \* | \* | \* |  | \* | \* | \* | 8 | Unadjusted variables: History of adverse birth outcomes, Caffeinated beverages |
| Chia et al, 2016 | \* | \* | \* | \* | \* |  | \* | \* |  | 7 | Unadjusted variables : Previous birth outcomes, nutritional supplementations, and caffeinated beverages |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Emond et al, 2018 | \* | \* | \* | \* | \* |  | \* | \* | \* | 8 | Unadjusted variables: Income, history of pregnancy outcomes, nutritional supplementation and caffeinated beverages |
| Englund-Ogge et al, 2014 | \* | \* | \* | \* | \* |  | \* | \* | \* | 8 | Unadjusted variables: nutritional supplementations and caffeinated beverage |
| Englund-Ogge, 2017 | \* | \* | \* | \* | \* |  | \* | \* | \* | 8 | Unadjusted variables: nutritional supplementations and caffeinated beverage |
| Hajianfar et al, 2018 | \* | \* |  | \* | \* |  | \* | \* | \* | 7 | Selection: the maternal diets were collected with a self-administered FFQ.  Unadjusted variables: Caffeinated beverages, alcohol intake, and pregnancy complications |
| Halldorsson et al, 2007 | \* | \* |  | \* | \* |  | \* | \* | \* | 7 | Selection: method of dietary data collection was self-administered postal questionnaires. Unadjusted variables : Alcohol intake, previous birth outcomes, nutritional supplementations |
| Haugen et al, 2008 | \* | \* | \* | \* | \* |  | \* | \* | \* | 8 | Unadjusted variables: alcohol intake, physical activity, income, history of pregnancy outcomes, nutritional supplementation and caffeinated beverages |
| Heppe et al, 2011 | \* | \* | \* | \* | \* |  | \* | \* | \* | 8 | Unadjusted variables : Income, previous birth outcomes |
| Heppe et al, 2011 | \* | \* | \* | \* | \* |  | \* | \* | \* | 8 | Unadjusted variables : Income, Previous birth outcomes |
| Hillesund et al, 2014 | \* | \* | \* | \* | \* |  | \* | \* | \* | 8 | Unadjusted variables: alcohol intake, history of pregnancy outcomes, Nutritional supplementation and caffeinated beverages |
| Knudsen et al, 2008 | \* | \* |  | \* | \* |  | \* | \* | \* | 7 | Selection: the maternal diets were collected with a self-administered FFQ. Unadjusted variables: Income, history of pregnancy outcomes, Nutritional supplementation and Caffeinated beverages |
| Knudsen et al, 2012 | \* | \* |  | \* | \* |  | \* | \* | \* | 7 | Selection: the maternal diets were collected with a self-administered FFQ. Unadjusted variables: Income, education, parity, history of pregnancy outcomes, Nutritional supplementation and Caffeinated beverages |
| Lu et al, 2016 | \* | \* |  | \* | \* |  | \* | \* | \* | 7 | Selection: the dietary consumption was collected with a self-administered FFQ. Unadjusted variables: caffeinated beverages |
| Lu et al, 2018 | \* | \* |  | \* | \* |  | \* | \* | \* | 7 | Selection: the dietary data was self-reported. Unadjusted variables: Caffeinated beverages, alcohol intake, and pregnancy complications |
| Martin et al, 2015 | \* | \* |  | \* | \* |  | \* | \* | \* | 7 | Selection: method of dietary data collection was self-administered questionnaires. Unadjusted variables: alcohol intake, physical activity, history of pregnancy outcomes, Nutritional supplementation and caffeinated beverages |
| Mendez et al, 2010 | \* | \* | \* | \* | \* |  | \* | \* | \* | 8 | Unadjusted variables: Income, history of pregnancy outcomes, Nutritional supplementation and Caffeinated beverages |
| Mikkelsen et al, 2008 | \* | \* |  | \* | \* |  | \* | \* | \* | 7 | Selection: method of dietary data collection was self-administered postal questionnaires. Unadjusted variables: alcohol intake, physical activity, history of pregnancy outcomes, nutritional supplementation, and caffeinated beverages |
| Muthayya, 2009 | \* | \* | \* | \* | \* |  | \* | \* | \* | 8 | Unadjusted variables: Income, TEI, previous birth outcomes and nutritional supplements |
| Myhre et al, 2013 | \* | \* | \* | \* | \* |  | \* | \* |  | 7 | Unadjusted variables: Nutritional supplementation and caffeinated beverages |
| Myhre et al, 2011 | \* | \* | \* | \* | \* |  | \* | \* |  | 7 | Unadjusted variables: nutritional supplementation and caffeinated beverages were not adjusted |
| Okubo et al, 2012 | \* | \* |  | \* | \* |  | \* | \* | \* | 7 | Selection: the dietary consumption was collected with a self-administered FFQ. Unadjusted variables: Income, history of pregnancy outcomes, nutritional supplementation and caffeinated beverages |
| Olmedo et al, 2016 | \* | \* | \* | \* | \* |  | \* | \* | \* | 8 | Unadjusted variables: Parity, Nutritional supplementation and Caffeinated beverages |
| Olsen et al, 2002 | \* | \* | \* | \* | \* |  | \* | \* | \* | 8 | Unadjusted variables: Pregnancy complications, and caffeinated beverage |
| Olsen et al, 2007 | \* | \* |  | \* | \* |  | \* | \* | \* | 7 | Selection: method of dietary data collection was self-administered postal questionnaires. Unadjusted variables: alcohol, history of pregnancy outcomes, nutritional supplementation and caffeinated beverages |
| Poon et al, 2013 | \* | \* |  | \* | \* |  | \* | \* | \* | 7 | Selection: the data was obtained through mailed questionnaires. Unadjusted variables: Parity, adverse pregnancy outcomes and Caffeinated beverages |
| Rasmussen et al, 2014 | \* | \* |  | \* | \* |  | \* | \* | \* | 7 | Selection: method of dietary data collection was self-administered postal questionnaires. Unadjusted variables: Adverse birth outcomes and caffeinated beverage |
| Saunders et al, 2014 | \* | \* | \* |  | \* |  | \* |  |  | 5 | Selection: The dietary data was collected after delivery. Unadjusted variables: Income, physical activity, parity, history of pregnancy outcomes, nutritional supplementation and caffeinated beverages. |

**Table 4.** Newcastle-Ottawa Quality Assessment Scale for Case-Control Studies

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Selection |  |  |  | Comparability |  | Exposure |  |  |  |  |
| References | Case definition adequate | Representativeness of the cases | Selection of Controls | Definition of Controls | study controls important factor | controls for any additional factor | Ascertainment of exposure | Same method of ascertainment for cases & controls | Non-Response rate | NOS | Limitations |
| Mitchell et al, 2004 | \* | \* | \* | \* |  |  | \* | \* | \* | 7 | Selection: the method of grouping of the diets were not described. unadjusted variables: alcohol intake, physical activity, parity, TEI, history of birth outcomes, Nutritional supplementation and Caffeinated beverages |
| Ricci et al, 2010 | \* | \* | \* | \* | \* |  | \* | \* | \* | 8 | Unadjusted variables: TEI, nutritional supplementation and Caffeinated beverages |
| Thompson et al, 2010 | \* | \* | \* | \* | \* |  | \* | \* | \* | 8 | Exposure: non-response rate was not described in both groups. Unadjusted variables: alcohol intake, physical activity, history of pregnancy outcomes, nutritional supplements and caffeinated beverages |

**Table 5.** Newcastle-Ottawa Quality Assessment Scale for Cross-sectional Studies

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Selection | | | | Comparability | | Outcome | |  |  |
| References | Representativeness of the sample | Sample size | Non- respondent | Ascertainment of the risk factors | Study controls for the most important factor | Study controls for any additional factor | Assessment of outcome | Statistical test | NOS | Limitations |
| Grieger et al, 2014 | \* |  | \* | \* | \* |  | \* | \* | 6 | Sampling: Small sample size. Comparability: Marital status, maternal educations, nutritional supplements and caffeinated beverages were not adjusted |
| Naghavi et al, 2017 |  |  | \* | \* |  |  | \* |  | 3 | Sampling: Small sample size, didn't use any of extraction method to explore the maternal diets; Food groups were not categorized and analysed. Comparability: the most pertinent variables were not adjusted |