

The studies included in this analysis were obtained by performing a comprehensive electronic literature search using Embase, Medline, Pubmed and Web of Science from 1966 to 18th of June 2008 using the Medical Subject Heading Terms (MeSH) related terms of bodyweight, waist–hip ratio (WHR), body mass index (BMI), body fat distribution, overweight, obesity, weight change, weight gain, body weight and diabetes related keywords (i.e. diabetes; diabetic; NIDDM; diabetes mellitus). 27,140 articles related to overweight/obesity and 236,545 articles related to diabetes were found. Combining results of these predictor variables with health outcome then produced 3585 obesity and diabetes related studies. Only studies meeting the inclusion criteria of (1) analyzing the relationship between overweight/obesity and diabetes in a prospective study; with reporting of a relative risk or hazard ratio; and (2) analyzing the risk associated with overweight and obesity as categorical variables were further analyzed. 512 studies were identified as prospective cohort studies. The titles for these 512 studies were scanned independently by two designated authors. If the titles sounded relevant, the abstracts of these were read by the two authors. Any disagreements were discussed with a third author. 460 studies were excluded at this stage leaving 52 articles for detailed independent assessment by 3 of the authors. Some articles were excluded because the titles were not relevant. Some articles sounded relevant at the title stage, however, after reading the abstract, it was clear that they did not analyze or report the relative risk of type–2 diabetes for overweight or obese people from a prospective cohort study. These types of studies were excluded from further analysis. A matrix table of study characteristics was completed and after discussion consensus was reached to omit a further 30 studies because of failure to meet the inclusion criteria of this study. Most of the studies excluded at this stage did not provide data of relative risk or equivalent of diabetes per BMI category. Some studies reported relative risk per unit BMI or per body weight. Other studies only provided the incidence rate of diabetes, not relative risk. The remaining 22 studies were read in detail and the relevant information was extracted. Seven studies were identified as using the same cohort study dataset, publishing analyses using different follow–up durations in different years. It was decided to use the latest publication with the longer follow–up. The studies published by Colditz et al. [5], Carey et al. [6], Field et al. [7], and Hu et al. [8] analyzed the same dataset from Nurse's Health Study. The most recent publication from that study – that of Hu et al. – was included in the analysis. Wilson et al. [9] and Meigs et al. [10] both used data from Framingham heart studies. Again, the most recent publication from that study – that of Meigs et al. – was included. Consequently 18 studies matched all the inclusion criteria and all relevant information was extracted for further analysis.