Abstract

It is a systematic review and meta-analysis of previous observational epidemiologic studies examining the relationship between residential pesticide exposures during critical exposure time windows (preconception, pregnancy, and childhood) and childhood leukemia. Searches of Medline and other electronic databases were performed (1950-2009). Study selection, data abstraction, and quality assessment were performed by two independent reviewers. Random effects models were used to obtain summary odds ratios (ORs) and 95% confidence intervals (CIs). Of the 17 identified studies, 15 were included in the meta-analysis. Exposures during pregnancy to unspecified residential pesticides insecticides, and herbicides were positively associated with childhood leukemia. Exposures during childhood to unspecified residential pesticides and insecticides were also positively associated with childhood leukemia, but there was no association with herbicides. Positive associations were observed between childhood leukemia and residential pesticide exposures. Further work is needed to confirm previous findings based on self-report, to examine potential exposure-response relationships, and to assess specific pesticides and toxicologically related subgroups of pesticides in more detail.

Keywords

Child, Environmental exposure, Leukemia, Meta-analysis, Pesticides.