Background: Air pollution is one of the major environmental concerns today, because of its many negative impacts on ecosystems, human and animal health, and the environment. The United States has considered this problem in the problem of the Health and Development Goals for the next generation.

Methods: A structured literature review was conducted in the PubMed (Medline) database to investigate the research question. The keywords searched in the final strategy were "gestational diabetes mellitus (GDM)" and gestational diabetes mellitus AND "air pollution". A total of 23 articles were included in the search, with studies with different methods and implications included.

Results: The initial search strategy returned 18 results, with the final number of articles being narrowed down to 5. Only study was able to confirm a positive association between the two variables under study. Three other studies showed weak evidence of an association between exposure to ozone or PM2.5 and GDM, but only under very specific conditions. The remaining study did not show an association between the variables under study.

Conclusions: The literature does not show robust evidence of an association between ozone or PM2.5, and the development of GDM. Further research is needed in order to be able to draw more accurate conclusions.

Key Findings:

- Three of the five articles conclude that there exists some sort of association between PM2.5 or O3 exposure and GDM risk.
- One of the five studies showed a non-significant risk of GDM with O3 exposure.
- One of the five studies showed a non-significant risk of GDM with PM2.5 exposure.

- The relationship between air pollution and GDM is complex and requires further investigation.

- The majority of the studies included in this review were conducted in high-income countries, and the results may not be generalizable to low- and middle-income countries.

- Future research should focus on understanding the mechanisms by which air pollution affects GDM risk, and on developing strategies to mitigate this risk.

- Future research should also consider the role of other factors, such as socioeconomic status and lifestyle, in the relationship between air pollution and GDM.