Abstract

Epidemiologic studies of air pollution effects on respiratory health report significant modification by sex, although results are not uniform. Importantly, it remains unclear whether modifications are attributable to socially derived gendered exposures, to sex-linked physiological differences, or to some interplay thereof. Gender analysis, which aims to disaggregate social from biological differences between males and females, may help to elucidate these possible sources of effect modification. Studies of children suggest stronger effects among boys in early life and among girls in later childhood. The qualitative review describes possible sources of difference in air pollution response between women and men, which may vary by life stage, coexposures, hormonal status, or other factors. The sources of observed effect modifications remain unclear, although gender analytic approaches may help to disentangle gender and sex differences in pollution response. A framework for incorporating gender analysis into environmental epidemiology is offered, along with several potentially useful methods from gender analysis.

Keywords

Air pollution, Effect modification, Epidemiology, Gender, Sex.