SMOG IN LAHORE: A LOOMING THREAT TO REPRODUCTIVE HEALTH

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INTRODUCTION

Smog, a pervasive environmental health hazard, has cast a shadow over Lahore, endangering the health of its inhabitants and disrupting the delicate ecosystem. Among its numerous adverse effects, its potential impact on women's reproductive health warrants urgent attention.[1] This editorial explores the implications of smog on female fertility and pregnancy, emphasizing the critical need for research and preventive strategies.

Emerging evidence suggests that air pollutants, particularly those found in smog, act as endocrine disruptors, oxidative stressors, and genotoxic agents. However, the relationship between air pollution and infertility remains under debate. Many of these endocrine disruptors display estrogenic, anti-estrogenic, androgenic, or anti-thyroid activity. Notably, fine particulate matter (PM2.5) has been associated with reduced fertility rates and increased risks of miscarriage.[2] Additionally, pollutants such as sulfur dioxide, carbon monoxide, and nitrous oxide have been linked to miscarriages and stillbirths. Studies on women undergoing in vitro fertilization (IVF) cycles show that those residing in areas with heavy traffic pollution exhibit lower success rates compared to women living in less polluted environments.[3]

While these findings may have limitations, they raise serious concerns about the potential role of air pollutants in infertility and adverse pregnancy outcomes.[4] Pregnant women exposed to smog face heightened risks. Their babies may be more susceptible to growth restriction, preterm delivery, and a predisposition to asthma.[5] Alarmingly, exposure to particulate matter in smog is linked to complications such as gestational diabetes, pregnancy-induced hypertension, infections, and premature rupture of membranes—an outcome strongly associated with neonatal morbidity and mortality.[6] The health of educated couples in Lahore reflects growing anxiety about the detrimental effects of smog on their children, both during pregnancy and after birth. Polluted air can impair fetal lung development and weaken immunity, while the specific composition of smog determines its precise impact on pregnancy. Infections during pregnancy, exacerbated by smog exposure, can also trigger preterm labor and related complications.

CALL TO ACTION

In light of these alarming findings, it is imperative to educate the public on mitigating the harmful effects of smog. Practical measures such as staying indoors during peak smog hours, wearing masks, maintaining a healthy diet, staying hydrated, and avoiding high-traffic areas can help minimize exposure.

Simultaneously, there is a dire need for comprehensive research into the effects of air pollutants on fetal development, placental function, and maternal health. Babies exposed to smog in utero should be closely monitored for their health outcomes post-birth to identify and address potential long-term complications.

As Lahore continues to grapple with the challenge of smog, proactive steps, coupled with robust public health

initiatives, are essential to safeguard the health and well-being of mothers and their children.

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