Flame retardants linked to preterm birth

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Researchers at The University of Texas Medical Branch have determined that maternal exposure to high levels of flame-retardants may be a contributing factor in preterm births.

The new UTMB study by Dr. Ramkumar Menon, assistant professor in the department of obstetrics and gynecology, in collaboration with Winthrop University Hospital and the Kaiser Permenante Southern California Medical Group, found that pregnant women with higher levels of flame-retardant chemicals in their bodies, namely polybrominated diphenyl ethers, were more likely to deliver their babies early than women with lower levels.

The investigators collected and analyzed blood samples from pregnant women when they were admitted to the hospital for labor and delivery. The study was recently published in the *Journal of Reproductive Immunology*.

Each year, more than 15 million babies around the world are born preterm, or before 37 weeks gestation. More than 1 million of these babies die shortly after birth, making preterm birth the second-leading cause of death in children under 5. Most preterm births happen for unknown reasons.

Flame-retardant chemicals have been widely used for more than 40 years in home construction, furniture, clothing and electronic appliances. They save lives and reduce injury by giving people time to extinguish or escape from a spreading fire. Unfortunately, these chemicals don't

permanently bond with the materials they are used on so they leach into the environment and become a pollutant over time.

"Nearly all women have some amount of exposure to flame-retardant chemicals," said Menon. "Many people have no idea that these chemicals can be found on many common items, including household dust and clothes dryer lint."

The levels of flame-retardant chemicals in peoples' bodies have been rising since companies started putting these compounds on their products. Scientists have detected these chemicals in amniotic fluid, umbilical cord tissue, fetal tissue and breast milk.

"Since stopping the use or exposure of flame-retardants during pregnancy is not likely, our laboratory is currently studying the mechanisms by which flame retardants cause preterm birth," said Menon. "Understanding these mechanisms might help us to reduce the incidence of preterm birth caused by flame retardants."

More information: *Journal of Reproductive Immunology*, www.sciencedirect.com/science/ … ii/S0165037814001570

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