OIL POLLUTION

Hazards underground

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Leakage of oil products from underground tanks into soil and groundwater can have serious consequences for public health. However, many health impacts arising from leaks go undocumented because the extent of underground pollution and exposure is not known. Now, Michelle Marcus at Vanderbilt University shows that potential exposure to pollution from underground petroleum leaks can increase the probability of low birth weight and preterm births by 7–8%, an affect that can be mitigated to some extent by maternal education.

The researcher used birth data from Pennsylvania, Florida and New Jersey and mapped it against data of known leaks. Exposure was determined by identifying leak end and start dates during gestation periods and proximity of underground storage tanks to the mother's addresses. The analysis controlled for socioeconomic indicators and maternal fixed effects. The study found that while leaks increase preterm births and low birth weight instances, regulations requiring tank owners to upgrade or replace existing tanks by 1998 reduced exposure probability by 16.5% and eliminated the effect of leakages on low birth weight. Furthermore, information about the leaks in newspapers reduced the negative health effects for highly educated white mothers. Economic analysis showed that the monetary value of health benefits could be up to 125% of the cost of regulations requiring tank upgrades and significantly higher than the cost of information dissemination.

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