

Study suggests link between tear gas exposures and adverse reproductive health outcomes

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In the wake of nationwide protests following the murder of George Floyd in May 2020, anecdotal reports of irregular menstrual cycles

emerged among protestors who were exposed to tear gas used by law enforcement. Those reports—and the fact that the reproductive health effects of exposure to tear gas and other chemical agents is largely unknown—were the impetus for a new study from the University of Minnesota School of Public Health (SPH).

The study, published in [*Frontiers in Epidemiology*](#), adds to previous research about the short-term and long-term adverse health effects of exposure to a range of chemical agents colloquially known as "tear gas" and often employed by [law enforcement](#) agencies. Many of these chemicals have been banned in active warfare by international treaties because they have been linked to a range of negative health effects, including blindness, glaucoma and respiratory failure.

Using a [national survey](#), SPH researchers conducted a cross-sectional analysis to collect reproductive and sexual health experiences among protest attendees with uteri who were exposed to chemical agents.

The study found:

- 83% of respondents reported at least one adverse reproductive health outcome, including uterine cramping, early menstrual bleeding, breast tenderness and delayed menstrual bleeding.
- Greater exposure to chemical agents was significantly associated with higher odds of an adverse reproductive health outcomes. Those with five days or more of exposure experienced 2.6 times more negative reproductive outcomes.

"This study adds to previous research documenting the many ways that structural racism through [police violence](#) can impact reproductive and perinatal health," said Asha Hassan, a researcher with SPH's Center for Antiracism Research for Health Equity (CARHE) and lead author of the study.

"Law enforcement agencies see chemical agents as 'less lethal' weapons, but the fact is that we simply do not know very much about the short-term or long-term public health effects tear gas and other chemical agents have on reproductive health. This study is only the beginning of raising questions about the health effects of [tear gas](#) exposure."

Given the pervasive use of these chemical agents and their potential for reproductive health harm, the researchers urgently recommend that policymakers push for limitations, conditions and [greater transparency](#) in the use of chemical agents by [law enforcement agencies](#).

More information: Asha Hassan et al, More than tears: associations between exposure to chemical agents used by law enforcement and adverse reproductive health outcomes, *Frontiers in Epidemiology* (2023). [DOI: 10.3389/fepid.2023.1177874](https://doi.org/10.3389/fepid.2023.1177874)

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