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In-kitchen aerosol exposure in Korogocho Informal settlements in Nairobi City

In urban set-ups, the use of charcoal as a source of energy is predominant among the urban poor (low-income earners). In the urban informal settlements such as the Korogocho slums in Nairobi, households rely on kerosene and charcoal for cooking. In some cases, it has been reported that some poorest households in these informal settlements use plastic waste, cloth rags, and other unconventional fuels due to unaffordability to access conventional sources of energy. As a result, the fuels generate high levels of harmful indoor air pollutants. This study was part of the wider project in which we assessed exposure to in-kitchen particulate matter (PM2.5 and PM10) in 60 low-income homes across 12 cities, including Nairobi (Kenya). We aim to ensure cleaner air in homes and promote the development of equitable, inclusive, social, and environmental benefits in one of Nairobi's informal settlements as indoor environments have become more important during the Covid-19 pandemic thereby necessitating the need to ensure less exposure of households to harmful pollutants. We assessed indoor air pollution exposure by monitoring aerosol exposure in five different households in the informal settlement of Korogocho in Nairobi. We engaged stakeholders through co-designed webinars, outreach, and capacity-building activities. The study aimed at developing exposure strategies and assessing the feasibility of similar studies in other parts of the country. The results showed that fuel, kitchen volume, cooking type, and ventilation were the most prominent factors affecting in-kitchen exposure. There is an urgent need for increased awareness of improved cooking practices and minimizing passive occupancy in kitchens to mitigate harmful cooking emissions.

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