

# BIOMASS COOKING STOVES

## LINKED TO DEPRESSION

Indoor air pollution caused by cooking with biomass fuels could be a risk factor in depression among women in their child-bearing years, a new study shows.

The study covered 952 women, between 25 and 46 years of age, from 15 villages in West Bengal state, who cooked with wood, dung cakes, crop residues and other biomass for five to six hours daily.

Depression was greater among these women when compared to a control group of 804 women who used cleaner liquefied petroleum gas (LPG) for cooking, scientists at the Chittaranjan National Cancer Institute (CNCI), Kolkata, found.

The study published online in *Social Science Medicine* in May, assessed depression using a questionnaire and sampled polluting particles and carbon monoxide emitted from burning biomass.

The scientists also measured levels of serotonin a chemical produced by the brain to help transmit nerve impulses and associated with depression in the blood of the volunteers

While over 44 per cent of women who cooked with biomass had symptoms associated with mild to severe depression, fewer than 21 per cent of women using LPG had similar symptoms, the researchers reported

Studies have linked urban air pollution with brain inflammation and Alzheimers disease. However, there are no studies on depression among poor women, due to indoor air pollution from biomass fuels, the report said.

This is consistent with the notion that the mental health of women is a neglected area of medical attention in the developing world, it said.

The risks from biomass stoves could be lowered by ventilating the kitchen with a chimney or window above the stove, according to Manas Ranjan Ray, lead author of the study and head of CNCIs department of experimental haematology.

Ray said risks associated with indoor air pollution were greater compared with outdoor air pollution in cities as women cooking with biomass inhaled up to seven times more tiny polluting particles than their urban counterparts.

Biomass smoke contains more health-damaging pollutants, such as fine and ultrafine particles, and cancer-causing chemicals, than vehicular exhaust

A woman who cooks with biomass inhales carcinogens equivalent to smoking two packs of cigarettes a day, Ray told *SciDev.Net*.

Improving technology for biomass-burning stoves could make them less dangerous, said Anumita Roy Choudhury, head of the air pollution team at the New Delhi-based non-government organisation (NGO), Centre for Science and Environment.

Choudhury told *SciDev.Net* that it was shameful that regulatory effort has been focussed on outdoor pollution rather than on women directly inhaling toxic fumes indoors.

Mira Shiva, coordinator for Health and Equity in Society, another New Delhi-based NGO, observed that the study should serve as a wakeup call.

Source: <http://www.scidev.net/global/climate-change/news/biomass-cooking-stoves-linked-to-depression.html>