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## CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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**In-door air pollution from cooking with biomass fuels and chronic bronchitis among women in a rural district of Rwanda****Olivier Manzi**

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**Aim:** From March 2015 to May 2016, a study was conducted in the District of Gisagara located in southern Rwanda to determine the prevalence of chronic bronchitis among women cooking indoor with biomass fuel.

**Methods:** Using a multistage stratified sample design, 448 women aged 20 years and above were recruited for the study, among them 302 were using biomass fuel for cooking and there was a control group of 146 women who were using either liquefied gas petroleum or had not been cooking the last 3 years. Using a short version of the European Community Respiratory Health Survey (ECRHS) participants underwent a face to face interview on socio demographic status and respiratory symptoms. Chronic bronchitis was defined using the commonest definition used in epidemiological studies as the presence of cough and expectoration for at least three months for two consecutive years.

**Results:** A total of 436 women were accepted in the study among them 298 (68.3%) were using biomass fuel for cooking and 138 (31.7%) belonged to the control group. Mean age for both groups was 32.2 years (range 20-83 years). The main respiratory symptoms was cough found in 59.7% of women using biomass fuel and in 14.5% of control cases, wheezes were found in 5.2% of all participants. Using our case definition of chronic bronchitis the overall prevalence was 10.7% of all participants. A strong association was found between cooking indoor with chronic bronchitis ( $P < 0.001$ ). Other factors associated with chronic bronchitis were age, level of education OR; 2.32 (1.93-3.59) and the level of education OR: 1.66(0.90-3.11).

**Conclusion:** This study showed that cooking indoor with biomass fuel, age and the level of education are the main risk factors for chronic bronchitis.

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