

INTRODUCTION

Wood smoke exposure (WSE) is a major environmental risk factor for lung cancer in resource-limited settings, disproportionately affecting women due to domestic biomass fuel use. In Mexico, this may contribute to higher rates of never-smoker lung cancer in females.

The objective was to examine gender-specific patterns, risk factors, and molecular features of non-small cell lung cancer (NSCLC) linked to chronic WSE in a cohort of 212 patients.

METHODS

Retrospective analysis of 212 NSCLC cases (mean age 68 years) from the State Oncology Center.

Exposure history: 46 patients (22%) reported chronic WSE (all never-smokers); 133 (63%) had tobacco history.

Among WSE cases, 37 were women (80%) and 9 men (20%). EGFR mutation testing was performed on available samples..

DISCUSSION AND CONCLUSION

Chronic wood smoke exposure strongly correlates with NSCLC in Mexican women, predominantly never-smokers with adenocarcinoma, EGFR-mutated tumors, and late-stage presentation.

These findings highlight a significant gender disparity and underscore the need for public health interventions, such as clean cookstoves and targeted screening in high-risk female populations.

REFERENCES & ACKNOWLEDGEMENTS



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RESULTS

Women were far more likely to report WSE than men (80% vs. 20% of the 46 exposed cases; $p < 0.001$).

Among these 46 WSE patients, all were never-smokers, and adenocarcinoma predominated ($\approx 90\%$ in women vs. mixed subtypes in men). In this subgroup, 41 presented at clinical stage IV, while only 5 were at stage III ($p = 0.03$ for stage distribution difference vs. non-exposed).

EGFR mutations occurred in 18 cases, 17 women (94%) vs. 1 man (6%; $p < 0.001$).

Overall, women showed higher adenocarcinoma frequency ($p = 0.02$) and never-smoker status ($p < 0.001$) compared to men, who had greater tobacco exposure ($p < 0.001$) and histologic variety.

