

## EVIDENCE-BASED RECOMMENDATIONS TO MINIMIZE PERSONAL EXPOSURE TO HOUSEHOLD AIR POLLUTION



### USE CLEAN FUELS AND ADOPT EFFICIENT COOKSTOVES WHERE POSSIBLE

- Advise on replacing biomass fuels with cleaner cooking fuels (LPG or electricity) to reduce the risk of acute respiratory infection and respiratory symptoms.
- Shortens the hospital stays and lowers the risk of all-cause mortality versus persistent solid fuel users.



### OPTIMIZE HOUSEHOLD VENTILATION

- Suggest improved ventilation in cooking areas with cross-ventilation (opening windows or doors), chimneys or exhaust fans as it significantly improves respiratory health.



### USE PORTABLE AIR CLEANERS AS AN INDOOR ENVIRONMENTAL INTERVENTION

- Recommend the use of portable HEPA-fitted air cleaners in the most frequented rooms of the home.
- Suggest avoiding air-cleaning technologies that may emit harmful byproducts.

## ROLE OF EFFECT MODIFIERS: INTERVENTIONS TO MODIFY INDIVIDUAL RISK FACTORS



### TREAT AND MANAGE RESPIRATORY CONDITIONS

- Maximize control of airway disease through optimized care (e.g. symptom and airflow monitoring, medications, and vaccinations).
- Promote interventions to attenuate the burden of cardiopulmonary disease by:
  - Reducing obesity
  - Promoting physical activity
  - Smoking cessation and
  - Avoidance of second-hand smoke



### DIETARY RECOMMENDATIONS

- A healthy, balanced diet helps in overall well-being and is associated with reductions in the risk of chronic lung diseases.
- Do not recommend any dietary supplement specifically to counteract the detrimental effects of air pollution on respiratory health, as none has been shown convincingly to have such benefits.

#### Reference:

Carlsten C, Salvi S, Wong GWK, Chung KF. Personal strategies to minimise effects of air pollution on respiratory health: advice for providers, patients and the public. *Eur Respir J*. 2020;55(6):1902056.

Access the full article for more information on  
<https://erj.ersjournals.com/content/55/6/1902056>.

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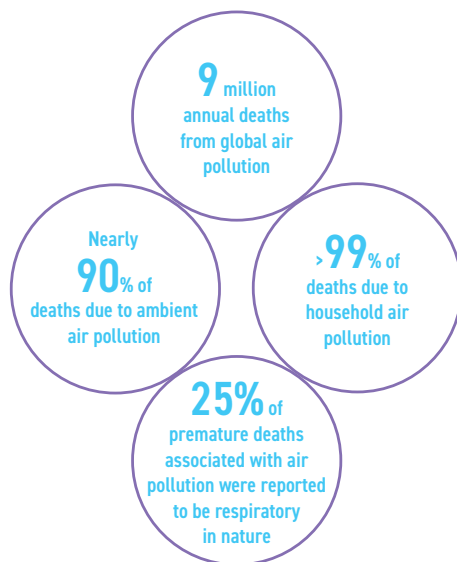


## WORLD HEALTH ORGANIZATION (WHO) RECOGNIZES AIR POLLUTION AND CLIMATE CHANGE AS THE TOP ENVIRONMENTAL GLOBAL THREATS TO HUMAN HEALTH

HELP VULNERABLE PATIENTS PROTECT  
THEMSELVES FROM THE EFFECTS OF  
AIR POLLUTION

An initiative funded by  
GSK Consumer Healthcare

## HEALTH BURDEN OF AIR POLLUTION



**There is a need to suggest impact-reducing strategies backed by scientific evidence**

## EVIDENCE-BASED RECOMMENDATIONS TO MINIMIZE PERSONAL EXPOSURE TO AMBIENT AIR POLLUTION



### USING FACEMASKS UNDER APPROPRIATE CIRCUMSTANCES

- Recommend close fitting N-95 masks when exposure to ambient air pollution exceeds recommended levels.
- People with chronic respiratory and cardiac conditions should use it only under strict supervision of a healthcare provider.
- Cloth masks remove only 15% of particles of size typical of diesel engine emissions.



### SHIFT FROM MOTORIZED TO ACTIVE TRANSPORT (CYCLING OR WALKING)

Emphasize on the benefits of active transport which includes:

- Reduction in traffic volume
- Reduction in air pollution emissions
- Overall health benefits in spite of minor reductions in lung function in some contexts



### CHOOSE TRAVEL ROUTES THAT MINIMIZE NEAR-ROAD AIR POLLUTION EXPOSURE

- Inform children and their parents on ways to minimize exposure to traffic-related air pollution (TRAP).
- Prioritize low air pollution routes, integrated with cycling and walking.



### OPTIMIZE DRIVING STYLE AND VEHICLE SETTINGS

- Optimize and maintain vehicle filtration/ventilation.
- Suggest driving with windows closed in conditions of high air pollution and keep the air on internal circulation.
- Recommend to avoid rapid accelerations and decelerations, restrict engine idling, and correctly maintain vehicles.



### MODERATE OUTDOOR PHYSICAL ACTIVITY WHEN AND WHERE AIR POLLUTION LEVELS ARE HIGH

- Counsel the high risk individuals (those susceptible to cardiopulmonary disease) to stay indoors on high pollution days.
- Advise to decrease or stop exercising if concerning symptoms such as coughing, chest tightness or wheezing are noticed.



### MONITOR AIR POLLUTION LEVELS

- Encourage patients especially those with underlying susceptibility, to be aware of air quality alerts.
- Learn to implement appropriate protective behavior on high air pollution days.