

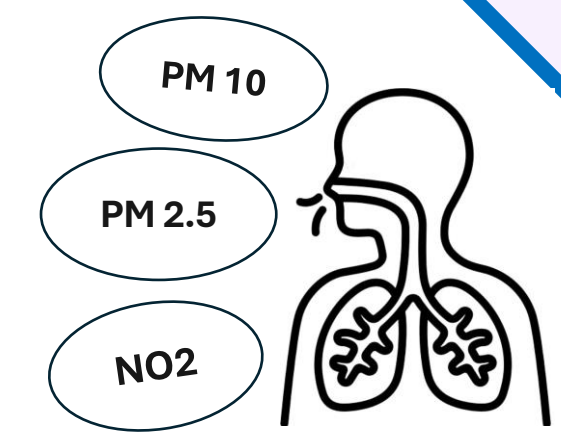
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Background:

- The impact of air pollutants, especially particulate matter (PM) and nitrogen dioxide (NO₂) has serious effects on human health.
- Currently, there are no licensed pharmacological treatments available to prevent or manage the effects of air pollution
- However, some medications that are approved for other health conditions have shown potential in mitigating or preventing the harmful effects of air pollution on the human body.



Aim:

To conduct a systematic review of the literature to explore the potential of pharmacological interventions in preventing, delaying, or treating the health effects of air pollution.

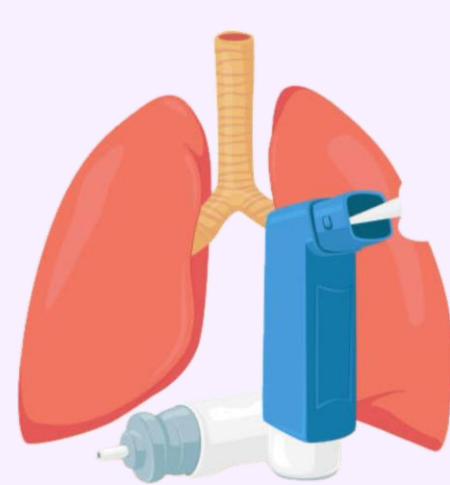
Methods:



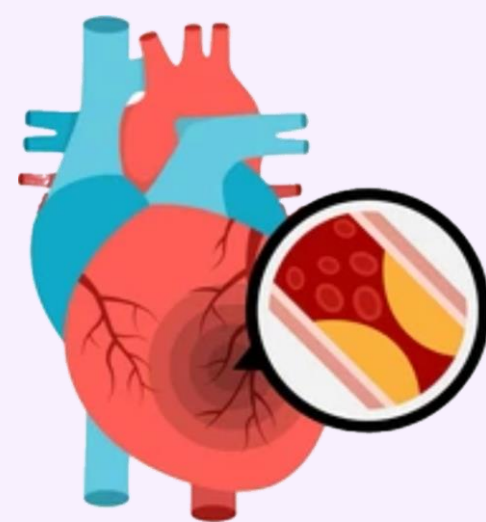
Results:

- 13 of 689 screened articles were included
- Five medication classes may prevent or treat particulate matter's harmful effects.

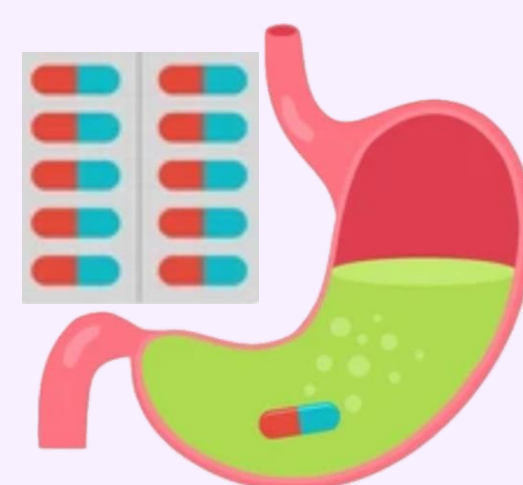
- Key point**
- ❑ Careful consideration of risks, side effects, and polypharmacy is essential when introducing new medications to address air pollution symptoms.
 - ❑ To manage co-morbidities, the use of medication helped reduce susceptibility to PM exposure.



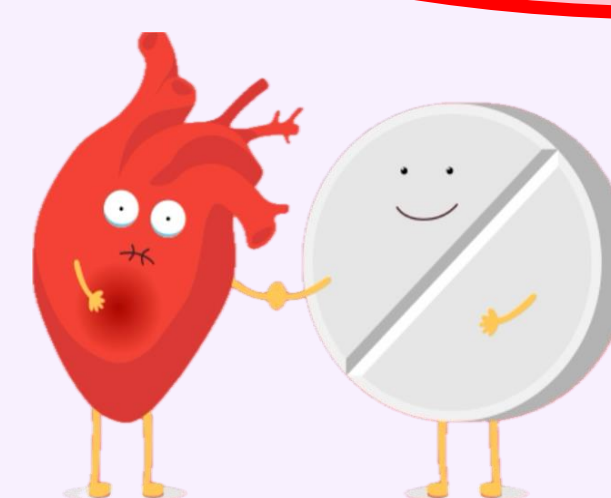
Inhalers



Statins



NSAIDs



Beta Blockers

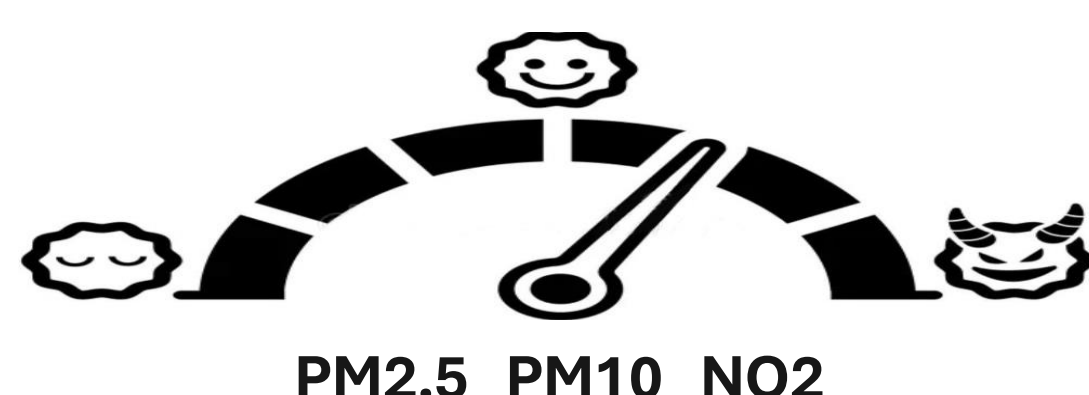


Oral Antidiabetic

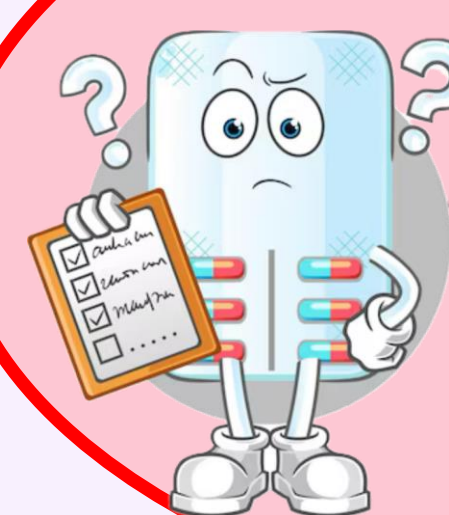
- Medications showed anti-inflammatory, vascular, and bronchodilation effects but weren't used solely for air pollution treatment.
- Statins, NSAIDs, and corticosteroids reduced inflammation and asthma symptoms, though NSAIDs pose risks, particularly for vulnerable populations.

Conclusion:

- Some medications show promise in preventing or treating air pollution effects, but study results were inconsistent.
- Optimising dosages and carefully assessing risks and side effects are key to ensuring they do not exacerbate existing health conditions.



Future work and implication on practice



- ❑ Limited research exists on the pharmacological management of air pollution, mostly focusing on short-term exposure.
- ❑ Broader studies across populations are needed to validate findings and improve long-term treatment strategies.