

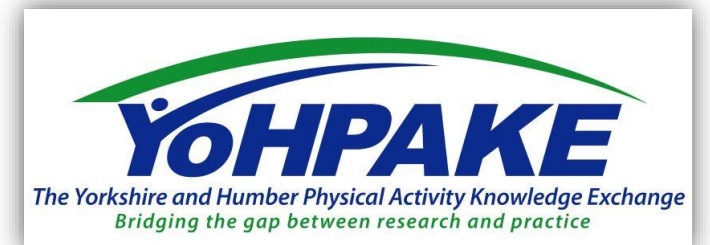


Office for Health
Improvement
& Disparities

Physical activity and air quality, incorporating climate change; *a look at the research*

Yorkshire and the Humber

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What did we look at?

Links and association between physical activity and air quality or air pollution

What did we do?

Literature review of available research

What did we find?

4 useful systematic reviews (2 including meta-analysis)

1 additional systematic review on climate change

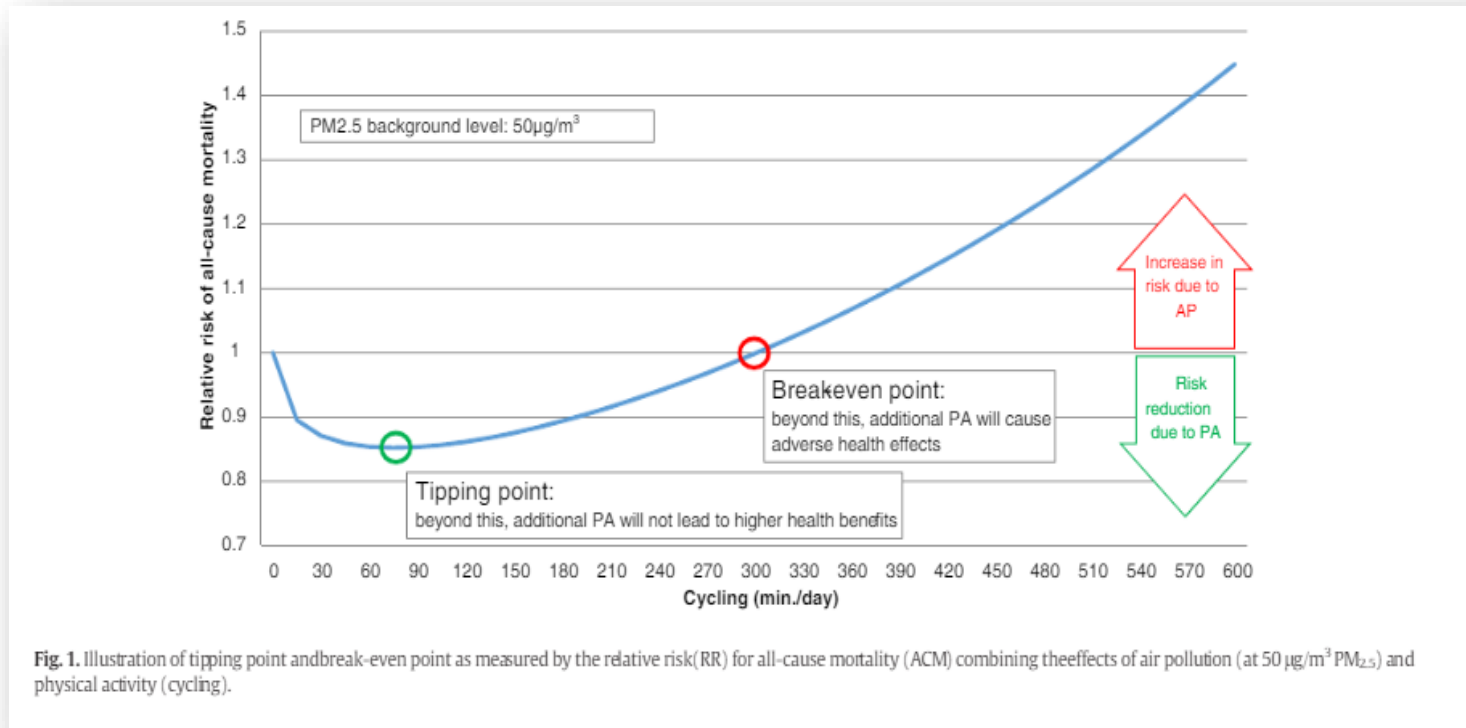
Various smaller pieces of research

Air quality

- A decline in air quality and an increase in PM2.5 (particulate matter) is associated with lower physical activity (An R et al 2019)
- Air pollution discourages physical activity, particularly those with respiratory disease (An R et al 2018)
- High air pollution and exercise was found to be associated with the increased risk of potential health problems (Qin F et al 2019) particularly sensitive subgroups (Madureira J et al 2019)

Air quality - Other

- The benefits of active travel outweigh the harm caused by air pollution in all but the most extreme levels (Tainio M etal 2016, Tainio M etal 2021 and Guo C etal 2021)



- Indoors – Inhalation of pollutants is increased during heavy exercise (Ramos CA etal 2015)

Climate change

- Air pollution, extreme temperatures and natural disasters all have a negative impact on physical activity levels (Bernard P etal 2021)
- Sport and physical activity can play a mitigating role in post-natural disasters (Bernard P etal 2021)
- Physical activity can play both a mitigating role and an amplification role in climate change (Bernard P etal 2021)



Potential considerations

Reducing air pollution may lead to an increase in activity levels

Benefits of active travel generally outweigh the harm of air pollution*

Additional support should be provided to people with long term health conditions to keep active during periods of poor air quality

Consideration should be made into maintaining high levels of good indoor air quality.

Sport and physical activity can play a role in recovery from the COVID pandemic and in work on mitigating climate change (ensure sustainably)

More information

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