

Conclusions: This systematic review highlights heat-related stress in outdoor workers as an important occupational risk. Mitigation and prevention strategies should be developed and implemented at a company, national, and supra-national level, to ensure the safety and wellbeing of outdoor workers worldwide.

Key messages:

- A systematic review was performed to assess risks related to climate change in outdoor workers. Heat-related symptoms were reported with a high prevalence, ranging from 64.0% to 90.3% of workers.
- Mitigation and prevention strategies should be developed and implemented at a company, national, and supra-national level, to ensure the safety and wellbeing of outdoor workers worldwide.

Abstract citation ID: ckae144.906

Heat-related risk in outdoor workers in the context of climate change: a systematic review

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Background: Climate change is one of the paramount challenges in the current global health setting. From an occupational health perspective, outdoor workers are amongst the most vulnerable populations to climate change and heat-related risk. A systematic review was performed, aiming to assess heat-related health outcomes in outdoor workers.

Methods: The research query was structured using the Population, Intervention, Comparison and Outcome (PICO) model, and including synonyms and Medical Subject Headings (MeSH) terms for the following keywords: “outdoor workers”, “climate change”, and “occupational risk”. The systematic review was performed following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statements, screening three databases (PubMed, Web of Science, and Scopus).

Results: After duplicate removal and title and abstract screening, the final screening by full-text resulted in 10 included studies. The included studies were performed mostly on construction (included in 5 studies, 50.0%) and agriculture (in 5 studies, 50.0%) workers. Eight studies (80.0%) had a majority of male workers, while one (10.0%) had a majority of female workers, and one study (10.0%) did not report on the gender ratio. Four of the included studies (40.0%) reported a high prevalence of heat-related symptoms, ranging from 64.0% to 90.3% of workers. Three studies (30.0%) showcased a prevalence of heat-related symptoms in less than 50% of workers (ranging from 11.6% to 47.5%). Three studies (30.0%) evaluated odds ratio, highlighting an increased odds ratio of heat-related symptoms in outdoor workers.