

EGU22-4219

<https://doi.org/10.5194/egusphere-egu22-4219>

EGU General Assembly 2022

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Perceptions of heat-health impacts and the effects of knowledge and preventive actions by outdoor workers in Hanoi, Vietnam

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Extreme heat is an increasing climate threat, most pronounced in urban areas where poor populations are at particular risk. We analyzed heat impacts and vulnerabilities of 1027 outdoor workers who participated in a KAP survey in Hanoi, Vietnam in 2018, and the influence of their mitigation actions, their knowledge of heat-risks, and access to early warnings.

We grouped respondents by their main income (vendors, builders, shippers, others, multiple jobs, and nonworking) and analyzed their reported heat-health impacts, taking into consideration socioeconomics, knowledge of heat impacts and preventive measures, actions taken, access to air-conditioning, drinking amounts and use of weather forecasts. We applied linear and logistic regression analyses using R.

Construction workers were younger and had less knowledge of heat-health impacts, but also reported fewer symptoms. Older females were more likely to report symptoms and visit a doctor. Access to air-conditioning in the bedroom depended on age and house ownership, but did not influence heat impacts as cooling was too expensive. Respondents who knew more heat exhaustion symptoms were more likely to report impacts ($p < 0.01$) or consult a doctor ($p < 0.05$). Similarly, those who checked weather updates were more likely to report heat impacts ($p < 0.01$) and experienced about 0.6 more symptoms ($p < 0.01$). Even though occupation type did not explain heat illness, builders knew considerably less (40%; $p < 0.05$) about heat than other groups but were twice as likely to consult a doctor than street vendors ($p < 0.01$). Knowledge of preventive actions and taking these actions both correlated positively with reporting of heat-health symptoms, while drinking water did not reduce these symptoms ($p < 0.01$). Child carers and homeowners experienced income losses in heatwaves ($p < 0.01$). The differences support directed actions, such as dissemination of educational materials and weather forecasts for construction workers. The Red Cross assisted all groups with cooling tents, provision of drinks and health advice.