

International Conference on Occupational Heat Stress: “Implementation of Practices, Sharing of Experiences”

9-10 May 2023, Grand Hyatt Doha Hotel - Doha, Qatar

Conference conclusions and recommendations

The objective of the Conference

Prolonged exposure to high temperatures at work reduces productivity and increases the risk of injury, disease, and death. The risks of working in extreme heat, either environmental or work-related, have long been identified by the scientific community. As global temperatures rise around the world, the calls grow louder for more evidence-based policy making that meets the magnitude and urgency of the challenge.

The objective of this international conference was to exchange scientific knowledge on the impact of occupational heat stress, and to present prevention and mitigation policy responses, as well as relevant good practices. Governments, workers', and employers' organizations from around the Arab region shared their perspectives with a select group of practitioners, scientists, and policy makers from around the world. No region is spared from the climate crisis, and the experiences and lessons learned from the Americas, Africa, Asia, and Europe all resonated with what is being felt in the Arab region.

Summarizing the discussions

The presentations from all speakers are available in Arabic and English on the Conference website. Some of the main take-aways from the two days of technical sessions and plenary discussions can be summarised as follows:

- Heat stress can induce more than just heat injuries and performance degradation. It presents a major challenge for the physical and mental health of the working population. Heat exposure can lead to increased risk-taking and decreased concentration, leading to accidents beyond its direct impact.
- While the safety and health of workers must be the priority, there is an economic and productivity impact of heat stress. Heat stress or heat exposure reduces both labour supply (number of hours worked) and labour productivity (output during those working hours). Globally, heat stress will lead to an equivalent loss of 80m full-time jobs by 2030. And importantly, prevention and protection against heat stress does not reduce, but enhances productivity.
- While heat stress overwhelmingly affects outdoor workers in physically demanding jobs such as agriculture and construction, sight should not be lost of the impact on workers in indoor environments where the temperature is not regulated, e.g., the prevalence of

chronic kidney disease of unknown origin (CKDu) in solar greenhouses, and the particular risk that increasing temperatures pose to workers in the garment sector in Southeast Asia.

- Heat stress affects workers regardless of age, gender, and nationality. Specific groups of workers (for example, people with pre-existing or recently acquired medical conditions, or pregnant women) are even more vulnerable to the effects of heat exposure.
- The inclusion of tailor made, and effective social protection and health services need to be enhanced for those affected by heat stress. Especially regarding migrant workers, they are in many locations at particular risk of heat effects. In the context of the efforts for the creation of social protection systems for migrant and temporary workers, special attention must be given to the identification and mitigation of heat stress related diseases.
- Globally, around 70% of the identified policy responses related to heat stress were published during the last five years, reflecting how this is a new area for policy action. The impact of climate change on human health has received far less attention than the impact of climate change on the environment.
- Climate impacts on occupational health still has large gaps in the evidence. To make occupational health impact assessments more precise, additional data on health and productivity impacts in real work situations is sorely needed.
- Responses need to be context-specific, and solutions cannot be transferred completely from one context to another. Therefore, while we can and should learn from one another, we should remain acutely aware that solutions need to be tailored to particular labour markets and other circumstances.
- Policy design and implementation must be evidence-based. There are significant gaps in data collection efforts worldwide, and research efforts must be expanded and supported further. Research priorities include:
 - Achieving a better understanding of environmental changes, the long-term effects of exposure to extreme heat, specific impacts of heat exposure from the sun for outdoor workers, with specific focus on the impact on different vulnerable groups such as older workers, pregnant women, and people with acute or chronic health conditions.
 - Assessing the relative effectiveness of different heat mitigation strategies across jobs in major industries including construction, agriculture, fisheries, and energy, to ensure that the optimum measures are used in each case.
 - Studying the risks arising from adaptation and mitigation actions to climate change and heat stress (e.g., less use of air conditioning) and to ensure that the most effective but also most sustainable and environmentally neutral solutions, such as use of climate friendly building materials are adopted.
 - The gender-related aspects of heat exposure, including specific vulnerabilities, prevention and mitigation needs, and work arrangements.

- Important research gaps remain with respect to the use of AI as well as mobile technology and applications for supporting OSH and for protecting workers' health and productivity from climate change.
- Wearable technology can be harnessed to inform solutions or to prevent and mitigate workers' exposure to extreme heat. Nevertheless, while wearable technology can and should be tapped for solutions, effective low-cost and practical measures exist, and there is no need to 're-invent the wheel.' There is evidence of the efficacy of protocols such as WERS (water, electrolytes, rest, and shade), and the experience from Qatar and several other countries illustrate that awareness raising, training, implementation and enforcement can reduce the risk of heat stress on workers.
- The implementation of adaptation measures at the workplace level are key but will not be sustainable and effective in the long-term, unless there is also an investment in strengthening institutions and improving policies, regulations, and enforcement at the national level.
- The complexity of climate change impacts and the associated cross-sectoral effects call for a more systemic and collaborative approach to considering how OSH is affected by climate change and how OSH can be supported. Effective solutions require collective action among a wide range of stakeholders at different levels, including governments, employers, and workers. It is not the responsibility of one actor alone. The involvement of employers and workers in the design of interventions is crucial, because they are the best placed to implement preventive and mitigating measures and take appropriate action at the workplace. Involving employers and workers through a process of social dialogue facilitates ownership and promotes sustainability.
- It is essential to raise awareness and launch behavioural change campaigns among workers, employers and the general public on heat levels, risks associated to high temperatures and measures to be taken.
- Regional and international collaboration is essential for the exchange of knowledge and practices, as well as the coordination of the relevant research and policy design and implementation – noting that solutions need to be contextualized to local realities. A regularly updated compendium of heat preparedness and response strategies should be created to aid exchange, learning, and customized adoption. In the same context, the international organisations (ILO, WMO, WHO) should intensify their collaboration and information exchanges, e.g., in the framework of the Global Heat Health Information Network, to claim a more active role in managing a global workplace heat exposure database.