

1761 TOTAL WORKER HEALTH

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As defined by the U.S. National Institute for Occupational Safety and Health, Total Worker Health[®] is defined as policies, programs, and practices that integrate protection from work-related safety and health hazards with promotion of injury and illness prevention efforts to advance worker well-being.

Traditional occupational safety and health protection programs have and continue to focus efforts on ensuring that work is safe and that workers are protected from work-related hazards and working conditions that arise from work itself. The Total Worker Health (TWH) approach seeks to improve worker well-being for the benefit of workers and employers by protecting safety and enhancing health and productivity. As evidenced in research, work-related hazards and unhealthy work environments can contribute to or aggravate health problems experienced by workers such as, sleep disorders, stress, depression, and cardiovascular conditions.

The TWH approach integrates workplace interventions that protect worker safety and health with activities that advance the overall well-being of workers through the establishment and implementation of policies, programs, and practice. This includes, for example, addressing hazard prevention and control, work organisation and environmental supports, effective leadership, changing work and worker communities, fair and supportive policies, and worker advocacy.

1760 CLIMATE VARIABILITY IMPACTS ON OCCUPATIONAL HEALTH – RESEARCH EVIDENCE AND FUTURE STEPS

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Introduction High-heat exposures at workplaces have particularly increasing adverse occupational health consequences across the globe, which will be an increasing problem as climate change progresses. Working people with moderate or heavy work intensity in hot environments are at particular risk especially in middle- and low-income tropical and subtropical regions, where protective workplace policies/optimal controls are not in place. This lecture presents evidence on occupational heat stress in the context of climate change, reviews the current global status, and reflects on the health implications, presents an overview of the outcomes and the very important next steps.

Methods Epidemiological evidence from author's seasonal studies with workers engaged in moderate to heavy labour in ~35 Indian workplaces collected over a 8 year period on occupational heat exposures (n=~3500), self-reported heat-related health symptoms/productivity losses and physiological data (n=~2000) were analysed to understand the level and extent of heat stress impacts.

Results A significant number of workers (~82%) had heat exposures higher than the recommended WBGT (Avg.WBGT of 28.7°C±3.1°C). Workers exposed to chronic high-heat had significant higher odds of adverse-health outcomes (OR=2.43,

95% CI: 1.88 to 3.13, p-value≤0.0001) and productivity losses (OR=1.79, 95% CI: 1.32 to 2.4, p-value=0.0002). Above normal sweat rates, urinary specific gravities, rise in Core Body Temperature and moderate dehydration were common, with compromised renal health prevalence high among exposed workers in certain occupations. Climate Projections show that future temperature rise to impose additional health and productivity risks for workers, especially in hot seasons.

Conclusion Current workplace exposure standards must be revisited and optimised for tropical settings and be consistent with the approach of protecting workers against adverse effects to health. In-depth research investigations on health implications of heat stress are an urgent need. Though reducing workplace heat stress by interventions has multiple benefits, adaptation and mitigation measures including policy changes are imperative to tackle heat stress at workplaces in the Climate Change future.

Semi – Plenary Sessions

1744 NOVEL DELIVERY MODELS FOR OCCUPATIONAL HEALTH: RESPONDING TO THE HEALTHCARE WORKER SHORTAGE

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As healthcare becomes a recognised human right across the globe, there is a commensurate demand for healthcare workers in all fields, including occupational health. However, current models of healthcare delivery are not scalable to meet the need, either in terms of funding or availability of healthcare workers. In this semi-plenary presentation, we will confront the problem and explore existing and potential solutions to meet that need, particularly the preventive services, surveillance, diagnostics, and treatment afforded to the working population in all countries and cultures.

843 EMERGING PSYCHOSOCIAL WORK HAZARDS AND EVOLVING POLICY ACTIONS: EXPERIENCES OF TAIWAN AND OTHER EAST ASIAN COUNTRIES

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Psychosocial work hazards including prolonged working hours, heavy workloads, irregular work shifts, workplace bullying and violence, precarious employment and income insecurity have been emerging occupational health concerns worldwide. These issues appear to be significant in the East Asian region, where long working hours are commonplace and extreme cases of stress-related events such as sudden deaths, cardiac attacks and severe mental disorders including depression and suicide have plagued the workplace. In the first part of the talk, I will briefly review the development of work stress as a major policy concern in this region, and summarize epidemiologic findings concerning the prevalence, social distribution and trends of major psychosocial work hazards as well as their safety and health consequences

for workers. Some culture-specific coping behaviors to combat work-related fatigue such as the use of betel nuts, alcoholic energy drinks and substances will be addressed. In the second part, I will describe policy-level intervention strategies which have been adopted in response to work stress in Taiwan and compare that with policy actions adopted in other East Asian countries. Unique features in terms of the nature of psychosocial work environment and social attitudes and reactions toward work stress from an international perspective will be explored.

1587 PREVENTION OF SLEEP DISORDERS AMONG SHIFT WORKERS AND DRIVERS

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Introduction Sleep is a vital function regulated by a circadian rhythm. Its restriction results in daytime sleepiness, which disrupts social life and affects behaviours that have survival value, particularly for occupations requiring a high level of alertness, such as shift workers and drivers.

Methods Data from published reports and unpublished preliminary results will be used to illustrate the genetics of the sleep/wake cycle and the mechanisms underlying the health consequences of sleep loss.

Result Shift-work can alter the sleep/wake cycle and the circadian rhythm of biological functions, which results in daytime sleepiness and disruption of social life. About 10% shift workers complain daytime sleepiness or insomnia, impairment in their performance, and cardiovascular, digestive and neuropsychiatric symptoms. Polymorphisms in genes expressing the proteins that regulate the circadian functions result in different chronotypes with diverse capability of adapting to shift rotation schedules. Circadian genes also regulate the maintenance of energy balance; sleep loss is a contributor to the development of metabolic disorders, which in turn, are a major risk factor for obstructive sleep apnea syndrome (OSAS). Day time sleepiness is frequently consequent to OSAS, a major cause of deadly road accidents, and an occupational hazard for drivers of commercial and public transport vehicles and commuters to work, but also for the general public. Early detection of OSAS symptoms shall be part of health surveillance protocols of workers in commercial and public transport trades.

Discussion Several approaches are suggested to detect and monitor daytime sleepiness and OSAS among shift workers and long haul drivers, including specific questionnaires, and biomonitoring the salivary concentration of melatonin and cortisol level at a specific day time. A carefully designed biomonitoring protocol would help to reduce the health burden of sleep disorders and to save lives.

1588 EMERGENCY IN OCCUPATIONAL HEALTH: FROM PREPAREDNESS AND RESPONSE TO WELL-BEING?

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Many occupational practitioners have to face emergencies in occupational setting, from life-threatening emergencies to current urgent care. Actually, workplace emergencies have singularities that usual emergency teams are not aware of – like use of hazardous substances, dangerous working conditions. Furthermore, responders and emergency professionals have to face to major hazards requiring prevention.

In the context of a new scientific committee created in ICOH in 2015 about Emergency Preparedness and Response in Occupational Health (EPROH), we aimed to take different examples to illustrate the importance for workers and population health and well-being, including emergency responders. Perspectives and challenges for next decades will be discussed.

1592 WORK STRESS, CAPITALISM AND THE IDEA OF PSYCHOSOCIAL SAFETY CLIMATE PSYCHOSOCIAL SAFETY CLIMATE: CAUSES AND COSTS OF PSYCHOSOCIAL RISKS AT WORK

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Introduction The driving beat of most modern societal structures is economic rationalism under capitalism. Relentless demands for increased profits, performance and productivity coupled with reduced resources, predispose workers to poor quality work conditions. In turn, poor quality work conditions can lead to mental and physical ill-health, with significant costs to organisations such as high rates of sickness absence and reduced performance, and costs to society such as loss of potential labour supply and high rates of unemployment. Organisations characterised by a good psychosocial safety climate (PSC) offer a point of resistance to these pressures.

Psychosocial safety climate concerns the value and priority given to worker psychological health compared to productivity imperatives likely achieved through economic rationalist approaches such as downsizing and lean structures. Far from undermining productivity we expect that pro-social options embodied in high PSC organisations that value worker psychological health will lead to better quality work options, increased meaningfulness, increased possibility for creativity and innovation, and reduced productivity costs associated with sickness absence and presenteeism. This presentation responds to a public health priority and a call from the OECD to prevent and manage mental ill-health and promote health and well-being by drawing attention to the connexion between work and mental health.

Methods Multilevel evidence from around the globe will be presented to show that PSC precedes work quality (demands, resources) and the social-relational aspects of work (harassment and bullying, social support). Evidence supporting the expansion of work stress theories to include national (e.g., culture, legislation and regulation, corrupt values, welfare regimes, union representation), organisational (e.g., PSC) and team level factors will be explored. International research showing the impact of PSC on working conditions, health and productivity; cost estimates for improving PSC at work; PSC benchmarks for job strain and depression; and implications for work systems improvements will be discussed.