

Steps Forward to Improve Occupational Health — China

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On May 1, 2002, a law on the prevention and control of occupational diseases has been approved by the National People's Congress Standing Committee to protect worker's health in China. Since 2003, April 25 to May 1 of each year is dedicated to a week long campaign to publicize the law on prevention and control of occupational diseases. The "National Plan on Prevention and Control of Occupational Diseases (2016–2020)" and the "Healthy China 2030" plan clearly outlines indicators and roadmaps to protect worker's health. A series of national action plans provide comprehensive strategies and guidelines to improve occupational health, which will address present and future challenges.

INTRODUCTION

China has population of 1.39 billion people with 776 million workers, and the working population already accounts for 55% of the total population (1). Most people in China spend almost half their life in working, and with rapid socioeconomic development and the emergence of new technologies and new materials that have been extensively applied in industry, new and unidentified hazardous risks have threatened workers at their workplace. In 2015, the classification and catalogue of occupational hazards has been revised again by increasing the number of occupational hazards to 459 in 6 classifications (2). Data from the National Occupational Disease Reporting System reports a total of 23,476 new cases of occupational diseases in 2018 (3).

One occupational disease, occupational pneumoconiosis, is caused by exposure to dust in the workplace and accounted for more than 83% of total disease (Figure 1). Chemicals provide immense benefits to mankind, but many have significant negative health impacts, primarily due to their inherent chemistry and toxicity and can contribute to cancers, developmental malformations, and hereditary disease. With the rapid development of the industry, an estimated 100,000 new chemicals were produced annually around world. Although new cases of chemical poisoning reported in

2018 significantly declined to almost 50% when compared to the highest number of cases reported in 2009 (3), there is an urgent need to strengthen the capacities of monitoring, surveillance, and emergency response to chemical poisoning because of various levels of widespread exposure to chemicals, along with the occurrence of occupational and non-occupational hazards in the emergence of chemical poisonings.

In 2018, the World Health Organization (WHO) released new estimates on magnitude of disabling hearing loss, there are 466 million persons in the world with disabling hearing loss, and 91% (424 million) of these are adults (4). Occupational factors such as noise, chemical solvents, and lead contribute almost 50% of the cumulative risk assessment for hearing loss. The number of noise-induced deafness reported dramatically increased by 20% and 37% compared with data reported in 2016 and 2015, respectively, but there was a huge gap between cases of noise-induced deafness diagnosed and reported and the widespread of noise exposure at workplaces that endangered workers' health including disabling hearing loss and cardiovascular disease (3).

The International Labour Organization (ILO) estimates that 1,000 workers die every day from work accidents and 6,500 die a day from a wide range of work-related diseases in the world. Every year, 2.78 million workers die from work-related accidents and work-related diseases, and of these, 2.4 million workers die from work-related diseases and another 3.74 million workers suffer from non-fatal work-related diseases occur annually (5). Circulatory diseases (31%), occupational cancers (26%), and respiratory diseases (17%) accounted for almost 3 out of every 4 work-related deaths (Figure 2).

The patterns of work-related diseases and injury are changing around the world. The ILO published the first international list of occupational diseases in 1925 beginning with 3 diseases, and the revision of the international list of occupational diseases has been continuously revised with the most recent update in 2010 (6). This new revision of international list of occupational diseases contains 106 diseases including 9

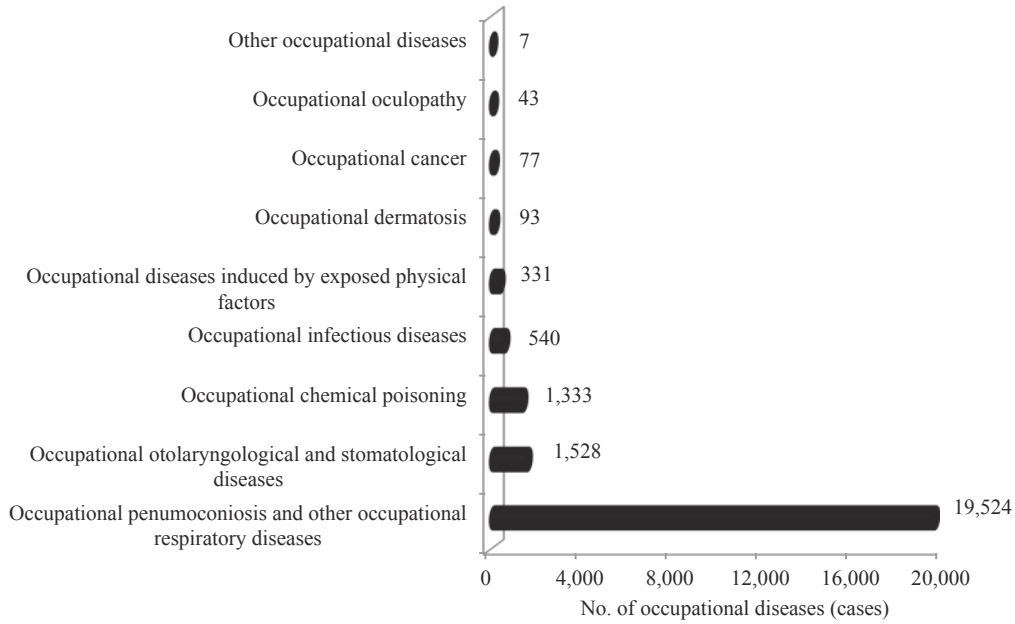


FIGURE 1. Incidence of 9 classification of occupational diseases reported in 2018, China.

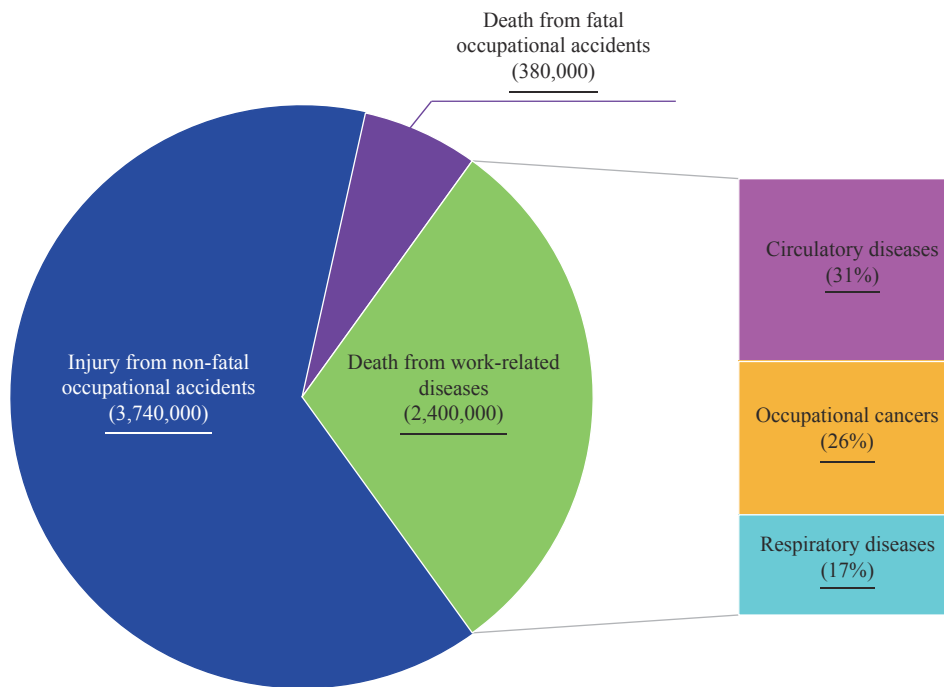


FIGURE 2. International Labour Organization (ILO) estimates of death and injury from work-related diseases and fatal and non-fatal occupational accidents in 2018.

open items in 4 classifications. The ILO international list of occupational diseases includes a range of occupational diseases recognized internationally from illnesses caused by chemical, physical, and biological agents to respiratory and skin diseases, musculoskeletal disorders, and occupational cancer, and mental and behavioral disorders have been included for first time

in the ILO international list. In China, the list of occupational diseases was first published in 1956 beginning with 14 occupational diseases recognized officially, and the latest revision of the list was in 2013 (7). The new list of occupational diseases in China contains a total 132 diseases in 10 classifications, and in the structure of the list, classification from 1 to 4 are

occupational diseases in target organs, 5 to 8 are occupational disease caused by exposed to hazards, 9 is occupational cancer, and 10 is other occupational diseases. The list of occupational diseases in China focused on the prevention and control of traditional occupational diseases such as pneumoconiosis and chemical poisoning. With industry revolution and behavioral change, some well-known occupational diseases such as pneumoconiosis and chemical poisoning are still widespread in China, but some new occupational diseases, such as work-related stress and musculoskeletal disorders (MSDs), are emerging as common threats worldwide.

PERSPECTIVES

Globalization and industrial revolution have led to incremental or revolutionary changes in occupational health. With widespread exposure of traditional hazards in the workplaces and remarkable changes in the nature of work, we are facing a double burden from “old” and relatively “new” occupational diseases in China. Widespread traditional hazards and the numbers of traditional occupational diseases are becoming more serious, but psychosocial risk factors, work-related stress, and non-communicable diseases are also a growing concern for workers across the world.

In 2019, China implemented a series of national action plans to prevent and control occupational diseases and protect worker's health. The Healthy China 2030 Planning Outline clearly states the importance of fortifying self-discipline, supervising management responsibilities among industries, promoting corporate responsibility, and further controlling the sources of occupational diseases to prevent and control the occurrence of occupational diseases (8). Occupational Health Protection Campaign is 1 of 15 special actions of Health China 2030 Planning, and it is a long-term comprehensive strategy to integrate considerable resources from governments, employers, workers, and other stakeholders to promote a healthy lifestyle and continuously improve healthy environments and conditions for workers.

The Action Plan for Prevention and Control of Pneumoconiosis is a short-term comprehensive plan to implement five specific and concrete tasks to control and reduce the dust in workplaces such as quartz sand processing, asbestos mining and asbestos-product

manufacturing, and ceramics and refractory-material production, to improve and enlarge the monitoring system of workers exposed to dust, and to implement follow-up and management of pneumoconiosis patients (9). The purpose is to control and reduce widespread exposure to dusts and high prevalence of occupational pneumoconiosis.

The WHO has been published a healthy workplace model in 2011 (10), and the 4 key elements of WHO healthy workplace model include (i) health and safety concerns in the physical environment; (ii) health, safety, and well-being concerns in the psychosocial work environment including organization of work and workplace culture; (iii) personal health resources in the workplace (support & encouragement of healthy lifestyles by the employer); and (iv) ways of participating in the community to improve the health of workers, their families, and members of the community. The “Healthy Enterprise Action Plan” in China references the WHO healthy workplace model and emphasizes performing relevant statutory liabilities and obligations in preventing and controlling occupational diseases, and it engages managers and workers to jointly build a healthy, safe, harmonious, and sustainable working environment and effectively safeguard employees' health and well-being (11). Healthy enterprise is a concrete practice in the field of occupational health by implementing the concept and strategy of healthy China.

The concerns of traditional occupational health focus on the identification and assessment of hazards in the workplace, the diagnosis and treatment of occupational diseases, and the introduction of new concepts of occupational health to shift provision of occupational health services to cover workers' lifecycles. New challenges will necessitate competence and capacity of occupational health.

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