

## **Awakening to the occupational health problems**

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**M**aking working conditions safe and healthy is in the interest of workers, employers and Governments, as well as the public at large. Although it seems simple and obvious, this idea has not yet gained meaningful universal recognition. Hundreds of millions of people through out the world are employed today in conditions that breed ill health and/or are unsafe.

Industrialization is one of the important foundation stone for the development of a country. It has become a global phenomenon and has emerged as one of the major economic activities and a common indicator of development. For the sustainability and continued development of industrialization, it is essential to have enhanced productivity, which is not achievable without safe working environment. In most of the occupational establishment adequate attention is not paid to making the work and the workplace safe, which may lead to the progress of various work related diseases and accidents. In that respect it is essential to take proper measures to control the air borne contaminants, adverse level of noise in the work place; make necessary arrangements for adequate ventilation, light, guarding of machines and moving parts, safety signs and symbols and provide with adequate drinking water, rest and rest rooms etc. at work and the workplace.

The assessment of the global burden of occupational diseases and injuries is complex. Reliable information for most developing countries is scarce, mainly due to serious limitations in the diagnosis of occupational illnesses and in the reporting systems. WHO estimates that in Latin America, for example, only between 1 and 4 % of all occupational diseases are reported. Even in industrialized countries, the reporting systems are sometimes fragmented.

Hundreds of millions of workers in both developed and developing countries are at risk from exposure to physical, chemical, biological, psychosocial or ergonomic hazards in the workplace. For many of these people there is often the risk of combined exposures to different occupational hazards. It is estimated that around 30% of the workforce in developed and between 50% and 70% in developing countries may be exposed to heavy physical

workload or ergonomically poor working conditions that may lead to injuries and musculoskeletal disorders.

Physical hazards, which can adversely affect health, include noise, vibration, ionizing and non-ionizing radiation, heat and other unhealthy microclimatic conditions.

Exposure to biological agents – viruses, bacteria, parasites, fungi and moulds – occurs in many occupational environments from agriculture to hospitals. The Hepatitis B and C viruses, HIV/AIDS infection and tuberculosis (particularly among healthcare workers), and chronic parasitic diseases (particularly among agriculture and forest workers) are some of the most common occupational diseases resulting from such exposures.

Thousands of toxic chemicals pose serious health threats potentially causing cancer, respiratory and skin diseases as well as adverse effects on reproductive function. Workers can be and often are exposed to hazardous chemical agents such as solvents, pesticides and metal dusts.

Workers are also at risk of being exposed to various types of mineral and vegetable dusts. For example, silica, asbestos and coal dust cause irreversible lung diseases, including pneumoconiosis. Known since the time of Hippocrates, silicosis is still the most widespread occupational lung disease. Silicosis can predispose workers to tuberculosis and lung cancer; it is progressive and incurable but preventable. Vegetable dusts can cause a number of respiratory conditions (such as byssinosis) and allergic reactions as asthma.

The risk of cancer from workplace exposure is of particular concern. Around 350 chemical substances have been identified as occupational carcinogens. They include benzene, hexavalent chromium, nitrosamines, asbestos and aflatoxins. In addition, the risk of cancer also exists from exposure to physical hazards such as ultraviolet (UV) and ionizing radiations. The most common occupational cancers include lung, bladder, skin and bone cancer, leukaemia and sarcomas. Though it is very difficult

to achieve information about details concerning carcinogens in the industries in Nepal, there seems to be many of workers who are exposed to different carcinogens in a large number of industries. In a case control study done in Nepal, a high risk (OR 4.2 CI: 1.4, 12) for lung cancer was found among the workers, who have worked in the exposed occupations. (Joshi SK et al. Possible occupational lung cancer in Nepal. Journal of Nepal Medical Association, 2003; 42: 1-5)

Social conditions at work, which raise serious concerns about stress, include inequality and unfairness in the workplace; management style based on the exclusion of workers from the decision-making process; lack of communication and poor organization of work; strained interpersonal relationships between managers and employees. Stress at work has been associated with elevated risks of cardiovascular diseases, particularly hypertension and mental disorders.

Occupational health problems are found essentially in agriculture and other types of primary production. Introduction of new machineries, heavy physical work, often combined with heat stress, pesticide poisoning and organic dusts, is frequently aggravated by non-occupational factors such as chronic parasitic and infectious diseases. Poor hygiene and sanitation, nutritional problems, poverty and illiteracy heighten the risk of disease and/or occupational injury.

Accidents and physical and chemical agents are the main problems in manufacturing industries, while pesticides and organic dusts, heavy physical work, biological factors and accidents are the occupational burdens of agricultural workers. A number of studies show that in the worst conditions 50-100% of the workers in some hazardous industries may be exposed to levels of chemical, physical or biological factors that exceed the occupational exposure limits applied in the industrial countries (WHO 1995).

The concept of working conditions, occupational safety and health of the workers is quite a new concept even to the oldest industries of Nepal. Though there were some studies in relation to various aspects of the different industries but the specific study on working conditions, occupational safety and health so far has not conducted except in the jute industry of Nepal. Thus many industries, which are prone to health hazard, or many have problems of occupational safety and health is yet to be studied.

The causes of occupational diseases as well as accidents are varied but the major cause of most of the accidents has been noticed to be the negligence of the workers in the workplaces. The negligence of the workers is mainly due to continuously repetitive nature of the job or lack of awareness. Among the other causes, the violation of safety rules is the major one. The other major causes are lack of upgrading of knowledge, emotional status of the workers, lack of supervision, use of old or outmoded machine or equipment, poor layout, congested working places and unsuitable working conditions. Similarly, there is no indulgence of any kind for installing safety and health devices to replace worn out and unsafe machinery or to provide occupational health diagnosis and treatment facilities in the industries. So far the health and safety measures adopted by the industries to avoid occupational diseases or accidents are not up to date.

Developing occupational health and safety management and practice is a must for developing nation like Nepal. Rapid population growth with increasing urbanization and industrialization must be counterbalanced with proper strategic vision of developing occupational health and safety practices. The following developing tools are recommended for widespread of Occupational Health and Safety in Nepal:

- Strengthening of National policies for health at work and development of policy tools
- Development of healthy work practices and promotion of health at work
- Strengthening of Occupational Health Services
- Establishment of support services for occupational health
- Development of occupational health standards based on scientific risk assessment
- Development of human resources for occupational health
- Establishment of information systems
- Strengthening of research
- Development of collaboration of occupational health and with other activities