

Occupational risk factors as causes of deaths among economically active population in Nepal

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Awareness about potential direct and/or indirect health hazards of an occupation, job or workplace environment is an unrecognised issue in Nepal for a long but slowly getting attention. To highlight such a neglected public health issue, it needs the dissemination of adequate information about potential harms to individual as well as the society. Such information can be in the form of information regarding direct health effects associated to occupational health hazards. In order to achieve effective dissemination, the information should be well supported by evidence -- both facts and figures. However, precise evidence is only available through proper research or appropriate education which is hugely deficient for occupation health aspects.

Nepal's economy still relies heavily on traditional agrarian occupations; majority of such occupations have been driven by traditional knowledge and practices. However, gradual shifts have been observed in occupational and industrialisation in the current decades coinciding with the epidemiological transition. Pathogenic environment related illnesses and mortality is tremendously declined; which is, unfortunately, replaced by external causes-induced noncommunicable diseases and injuries. The Census of 2011 shows that youth comprise the biggest proportion of the population in Nepal. In the context of transformed Governance and Federalism, State Governments and Local Governments are also actively looking forward to

engaging the youth and economically active population into trades and industries. All these factors also put the population to risk of exposure to occupational risks which is not unusual, and it is the responsibility of the state to keep their working population safe.

In the absence of national representative data on occupation illnesses and mortality, we need to look into secondary sources of information. The Global Burden of Disease Study (IHME) provides information of important measures of health including death, years of life lived with disability (YLD), years of life lost (YLL) and disability adjusted life years (DALY), utilising these estimates we can gauge the magnitude of occupational health problems in Nepal. Meanwhile there are also opportunities to form research paradigms.

According to GBD Estimates, there has been a 17% increase in the number of deaths attributed to occupational risk (from 5,220 in 2000 to 6,100 in 2017) for all ages. Occupational risk factors comprise over 5% of total deaths occurred from all kinds of risk factors: Environmental, Behavioural and Metabolic. In the year 2017 alone, the occupational risks were attributed to 204,324 years lived with disability (YLD) and 418,830 disability adjusted life years (DALYs). As mentioned above the proportion of occupational risk to total deaths has increased by more than 40% in the past 18 years.

Almost a third (31%) of all occupational risk-related deaths occurred in the year 2017 were among the population aged 15-49 years. On the other hand, about 60% of DALYs attributed to these risks among the economically active age group of 15-49 years indicated the burden in the population. The direct consequences to health and productivity. In the country where institutional arrangements for workers' welfare are at infancy and people mostly pay for medical treatments out of pocket, this problem also has familial economic consequences pushing more people to poverty.

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This age group is considered to be the healthy and productive age group. Ideally, mortality and morbidity in this age group should be the lowest. However, the data tells a different story.

According to the GBD dataset, there are 37 causes of deaths and DALYs were responsible for a loss of 250,000 DALYs and 1,950 deaths, all attributable to occupational risks.

Top 10 causes for deaths comprise 91% of total deaths from all occupational risk related causes occurring to the population aged 15-49 years in Nepal, they are:

Causes	No of deaths
Pedestrian road injuries	441
Motorcyclist road injuries	326
Motor vehicle road injuries	262
Other transport injuries	149
Asthma	134
Falls	112
Drowning	112
Other unintentional injuries	86
Cyclist road injuries	78
Chronic obstructive pulmonary disease	69

Top 10 causes responsible for DALYs comprise half of the total DALYs attributed to all occupation risk related DALYs occurring to the population aged 15-49 years in Nepal, they are:

Causes	No of DALYs
Pedestrian road injuries	26,599
Motorcyclist road injuries	20,980
Motor vehicle road injuries	15,484
Other transport injuries	11,602
Asthma	9,557
Falls	11,070
Drowning	6,822
Other unintentional injuries	7,625
Cyclist road injuries	5,252
Chronic obstructive pulmonary disease	8,340

*DALYs= Disability Adjusted Life Years

Data shows that 23% of total deaths occurring to the population of age group 14-49 from the above 37 conditions were attributed to occupational risks. This proportion is even bigger (34%) for DALYs which implies that occupation risks seriously affecting the health of young and productive Nepali population.

Low back pain, transport injuries, hearing loss, falls, asthma and COPD contributed to make the biggest burden on the health of the population of 15-49 years.

Almost 85% of the DALYs attributed to occupational risk among 14-49 years age group are due to occupational injuries and occupational ergonomics. This shows the gap in the application and practice of health and safety measures at workplaces. On the other hand, 65% of the occupational-related deaths occurred to the population of 15-49-year age group were attributed to transportation. This indicates the lack of travel-related safety in Nepal.

These estimates provide a very useful reference to the epidemiology of occupation health problems, however, there is a great need for further research and quality data.

Reference

1. Global Burden of Disease Study 2017. Global Burden of Disease Study 2017 Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2017. Available from <https://vizhub.healthdata.org/gbd-compare/>