



WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiological Unit,

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Preventing Occupational Cancers

28 April is the World Day for Safety and Health at Work. Every year on this day, workers around the world pay tribute to the millions of colleagues who die, are injured or fall ill every year during their work.

Every year, at least 200,000 people die from cancer related to their workplaces, according to WHO. 28th April is World Day for Safety and Health at Work. Millions of workers run the risk of developing cancers such as lung cancer and mesothelioma (a malignant cancer of the internal lining of the chest cavity) from inhaling asbestos fibres and from tobacco smoke, or leukemia from exposure to benzene at their workplaces. Yet, the risks for occupational cancer are preventable.

Lung cancer, mesothelioma and bladder cancer are among the most common types of occupational cancers. Every tenth lung cancer death is closely related to risks in the workplace. Currently about 125 million people around the world are exposed to asbestos at work, and at least 90,000 people die each year from asbestos-related diseases. Thousands more die from leukemia caused by exposure to benzene, an organic solvent widely used by workers, including those in the chemical and diamond industries.

The rates of occupational cancer exposure are highest among workers whose workplaces do not meet the requirements for health and safety protection and do not have the necessary engineering measures to prevent the pollution of air with carcinogenic substances. For example, workers who are heavily exposed to second

hand tobacco smoke at their workplaces have double the risk of developing lung cancer compared to those working in a smoke-free environment.

According to the WHO, the tragedy of occupational cancer resulting from asbestos, benzene and other carcinogens is that it takes so long for science to be translated into protective action. In the interests of protecting the health of the people, an approach rooted in primary prevention that makes workplaces free from carcinogenic risks is being advocated.

Currently, most cancer deaths caused by occupational risk factors occur in the developed world. This is a result of the wide use of different carcinogenic substances such as blue asbestos, 2-naphthylamine and benzene 20-30 years ago. Today, there are much tighter controls on these known carcinogens in workplaces in developed countries. However, work processes involving the use of carcinogens such as chrysotile asbestos and pesticides, and those used in tyre production and dye manufacturing are moving to countries with less stringent enforcement of occupational health standards. If the current unregulated use of carcinogens in developing countries continues, a significant increase in occupational cancer can be expected in the coming decades.

"The control of carcinogens in the workplace should be a key component of every national cancer control programme," said Dr Andreas Ullrich, WHO Medical Officer for cancer control. "To achieve this, WHO supports countries in developing comprehensive national cancer

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prevention and control plans, which are essential to prevent millions of cancer deaths each year."

To protect workers from occupational cancer, WHO urges governments and industry to ensure that workplaces are equipped with adequate measures to meet health and safety standards and that they be free from dangerous pollutants. The most efficient way to prevent occupational cancer is to avoid exposure to carcinogens. Some of the simple interventions that can prevent hundreds of thousands of unnecessary

deaths and suffering from occupational cancer include:

- stopping the use of asbestos;
- introducing benzene-free organic solvents and technologies that convert the carcinogenic chromium into a non-carcinogenic form;
- banning tobacco use at the workplace; and
- providing protective clothes for people working in the sun.

HEALTH IMPACT OF NOISE

At birth the inner ear is fully developed and has its full complement of hair cells, supporting cells and nerve fibres. Unlike most other tissues in the body, mammalian hair cells and nerve fibres do not regenerate when damaged. The response of the human ear to sound depends both on the sound frequency (measured in Hertz, Hz) and the sound pressure, measured in decibels (dB). A normal ear in a healthy young person can detect sounds with frequencies from 20 Hz to 20 000 Hz. Speech frequency ranges from 100 to 6000 Hz.

The recognition of the noise as a serious health hazard as opposed to a nuisance is a recent development and the health effects of the hazardous noise exposure are now considered to be an increasingly important public health problem.

- Globally, some 120 million people are estimated to have disabling hearing difficulties.
- More than half the citizens of Europe live in noisy surroundings; a third experience levels of noise at night that disturb sleep.
- In the USA in 1990 about 30 million people were daily exposed to a daily occupational noise level above 85 dB, compared with more than nine million people in 1981; these people work mostly in the production and manufacturing industries.
- In Germany and other developed countries as many as 4 to 5 million, that is 12-15% of all employed people, are exposed to noise levels of 85 dB or more.
- Prolonged or excessive exposure to noise, whether in the community or at work, can cause permanent medical conditions, such as hypertension and ischaemic heart disease.
- Noise can adversely affect performance, for example in reading, attentiveness, problem solving and memory. Deficits in performance can lead to accidents.
- Noise above 80 dB may increase aggressive behaviour.
- A link between community noise and mental health problems is suggested by the demand for tranquillizers and sleeping pills, the incidence of psychiatric symptoms and the number of admissions to mental hospitals.

Noise can cause hearing impairment, interfere with communication, disturb sleep, cause cardiovascular and psychophysiological effects, reduce performance and provoke annoying responses and changes in social behaviour. The main social consequence of hearing impairment is the inability to understand speech in normal conditions, which is considered a severe social handicap.

Whereas in the developed world hearing impairment is mostly restricted to the work setting, in cities in the developing world the problems are worse, with increasing hearing impairment due to community noise.

Community noise

Non-industrial noise is referred to as community noise, also known as environmental, residential or domestic noise. The main indoor sources are ventilation systems, office machines, home appliances and neighbours. Other typical sources of neighbourhood noise include the catering trade (restaurants, cafeterias etc.), live or recorded music, sports, playgrounds and car parks.

For most people, life-time's continuous exposure to an environmental average noise level of 70 dB will not cause hearing impairment. An adult person's ear can tolerate an occasional noise level of up to 140 dB, but for the children such an exposure should never exceed 120 dB.

Occupational noise

The many and varied sources of noise in industrial machinery and processes include rotors, gears, turbulent fluid flow, impact processes, electrical machines, internal combustion engines, pneumatic equipment, drilling, crushing, blasting, pumps and compressors. Furthermore, the emitted sounds are reflected from floors, ceiling and equipment. Noise is a common occupational hazard in many workplaces.

Occupational exposure limits specify the maximum sound pressure levels and exposure times to which nearly all workers may be repeatedly exposed without adverse effect on their ability to hear and understand normal speech. An occupational exposure limit of 85 dB for 8 hours should protect most people against a permanent hearing impairment induced by noise after 40 years of occupational exposure.

For further information, please visit the website of the World Health Organization (www.who.int)

Table 1: Vaccine-preventable Diseases & AFP

7th - 13th April 2007 (15th Week)

Disease	No. of Cases by Province								Number of cases during current week in 2007	Number of cases during same week in 2006	Total number of cases to date in 2007	Total number of cases to date in 2006	Difference between the number of cases to date between 2007 & 2006
	W	C	S	NE	NW	NC	U	Sab					
Acute Flaccid Paralysis	00	00	00	00	00	00	00	00	00	00	26	42	-38.1%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00.0%
Measles	00	00	01 MT=1	00	00	00	01 BD=1	00	02	00	21	06	+250.0%
Tetanus	00	00	00	00	00	00	00	00	00	00	10	15	-33.3%
Whooping Cough	00	00	00	00	00	00	00	00	00	00	13	23	-43.5%
Tuberculosis	272	14	74	53	00	08	14	00	435	150	2985	3064	-2.6%

Table 2: Diseases under Special Surveillance

7th - 13th April 2007 (15th Week)

Disease	No. of Cases by Province								Number of cases during current week in 2007	Number of cases during same week in 2006	Total number of cases to date in 2007	Total number of cases to date in 2006	Difference between the number of cases to date between 2007 & 2006
	W	C	S	NE	NW	NC	U	Sab					
DF/DHF*	11	04	01	06	05	01	00	03	31	41	1575	3001	-47.5%
Encephalitis	00	00	01 HB=1	00	00	01 AP=1	00	00	02	02	71	38	+86.8%
Human Rabies	00	00	00	00	00	00	00	00	00	00	21	20	+05.0%

Table 3: Newly Introduced Notifiable Diseases

7th - 13th April 2007 (15th Week)

Disease	No. of Cases by Province								Number of cases during current week in 2007	Total number of cases to date in 2007
	W	C	S	NE	NW	NC	U	Sab		
Chickenpox	05	05	03	01	08	05	01	04	32	955
Meningitis	00	00	00	00	00	00	00	00	00	49
Mumps	02	00	01	00	03	02	01	00	09	309

*DF / DHF refers to Dengue Fever / Dengue Haemorrhagic Fever.

NA= Not Available.

Sources:**Weekly Return of Communicable Diseases:**

Diphtheria, Measles, Tetanus, Whooping Cough, Human Rabies, Dengue Haemorrhagic Fever, Japanese Encephalitis, Chickenpox, Meningitis, Mumps.

Special Surveillance:

Acute Flaccid Paralysis.

National Control Program for Tuberculosis and Chest Diseases: Tuberculosis.

Details by districts are given in Table 5.

Provinces: W=Western, C=Central, S=Southern, NE=North & East, NC=North Central, NW=North Western, U=Uva, Sab=Sabaragamuwa.**DPDHS Divisions:** CB=Colombo, GM=Gampaha, KL=Kalutara, KD=Kandy, ML=Matale, NE=Nuwara Eliya, GL=Galle, HB=Hambantota, MT=Matara, JF=Jaffna, KN=Killinochchi, MN=Mannar, VA=Vavuniya, MU=Mullaitivu, BT=Batticaloa, AM=Ampara, TR=Trincomalee, KM=Kalmunai, KR=Kurunegala, PU=Puttalam, AP=Anuradhapura, PO=Polonnaruwa, BD=Badulla, MO=Moneragala, RP=Ratnapura, KG=Kegalle.

Table 4: Laboratory Surveillance of Dengue Fever

7th - 13th April 2007 (15th Week)

Samples	Number tested	Number positive *	Serotypes				
			D ₁	D ₂	D ₃	D ₄	Negative
Number for current week	06	01	00	01	00	00	00
Total number to date in 2007	240	12	00	04	02	00	05

Source: Genetech Molecular Diagnostics & School of Gene Technology, Colombo.

* Not all positives are subjected to serotyping.

Table 5: Selected notifiable diseases reported by Medical Officers of Health
7th - 13th April 2007 (15th Week)

DPDHS Division	Dengue Fever / DHF*		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Returns Received Timely**
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	
Colombo	07	446	02	69	00	03	00	27	00	42	01	40	00	01	00	12	54
Gampaha	03	173	02	66	00	09	01	24	00	27	06	98	00	06	00	34	50
Kalutara	01	116	06	79	00	01	02	18	00	11	00	42	00	01	00	29	55
Kandy	03	195	14	60	00	03	00	23	00	05	00	33	02	29	04	99	64
Matale	01	51	00	66	00	03	00	05	00	03	00	13	00	03	00	64	42
Nuwara Eliya	00	18	03	55	00	00	00	25	00	366	00	06	00	19	00	78	43
Galle	00	44	01	40	00	05	00	04	00	03	00	20	00	16	00	08	50
Hambantota	00	21	00	22	01	03	01	09	00	07	01	16	00	17	00	07	73
Matara	01	56	02	72	00	02	01	18	00	04	05	61	00	98	00	11	100
Jaffna	00	07	00	32	00	02	00	229	00	00	00	00	00	76	00	07	00
Kilinochchi	00	00	00	00	00	00	00	02	00	00	00	00	00	02	00	02	00
Mannar	00	07	00	11	00	00	00	35	00	00	00	00	00	00	00	04	75
Vavuniya	00	10	00	17	00	02	00	08	00	06	00	02	00	00	00	03	75
Mullaitivu	00	00	00	05	00	04	00	10	00	00	00	00	00	00	00	00	40
Batticaloa	05	14	02	71	00	04	00	12	00	02	00	00	00	00	06	137	45
Ampara	00	01	00	31	00	00	00	03	00	00	00	00	00	00	00	08	00
Trincomalee	01	32	02	39	00	01	01	11	00	18	00	01	00	02	01	23	78
Kurunegala	05	131	02	74	00	00	01	24	00	04	00	10	00	23	00	11	50
Puttalam	00	61	01	26	00	09	01	24	00	00	00	07	00	00	00	46	67
Anuradhapura	01	21	02	28	01	08	00	15	00	03	00	10	02	14	00	19	47
Polonnaruwa	00	21	01	42	00	02	00	03	00	01	00	14	00	00	00	03	43
Badulla	00	14	10	132	00	00	02	29	00	08	01	18	00	40	01	79	73
Monaragala	00	06	04	67	00	00	01	16	00	00	01	19	00	20	02	09	50
Ratnapura	03	64	06	207	00	07	01	26	01	07	01	21	00	05	01	29	44
Kegalle	00	64	01	55	00	03	00	19	00	03	00	35	00	10	00	19	27
Kalmunai	00	02	00	31	00	00	00	05	00	00	00	00	00	02	00	66	46
SRI LANKA	31	1575	61	1397	02	71	12	624	01	520	16	466	04	384	15	807	53

Source: Weekly Returns of Communicable Diseases (WRCD).

*Dengue Fever / DHF refers to Dengue Fever / Dengue Haemorrhagic Fever.

**Timely refers to returns received on or before 21 Apr. 2007. Total number of reporting units = 290. Number of reporting units data provided for the current week: 154.

A = Cases reported during the current week. B = Cumulative cases for the year.

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