



WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health

231, de Saram Place, Colombo 01000, Sri Lanka
Tele: + 94 11 2695112, Fax: +94 11 2696583, E mail: epidunit@slt.net.lk
Epidemiologist: +94 11 2681548, E mail: chepid@slt.net.lk
Web: <http://www.epid.gov.lk>

Vol. 39 No.07

11th – 17th February 2012

Cancer – The risk factors

This article is published to mark the World Cancer Day, which fell on February 4th, 2012. Preventing cancer and raising quality of life for cancer patients are the recurring themes for the World Cancer Day.

Cancer is a leading cause of death worldwide which has accounted for 7.6 million deaths (around 13% of all deaths) in 2008. About 30% of cancer deaths are due to the five leading behavioral and dietary risks. More than 70% of all cancer deaths occur in low and middle-income countries, where resources available for prevention, diagnosis and treatment of cancer are limited or non-existent. But because of the available knowledge, all countries can, at some useful level, implement the four basic components of cancer control – prevention, early detection, diagnosis and treatment and palliative care – and thus avoid and cure many cancers, as well as alleviate the suffering.

Prevention of cancer, especially when integrated with the prevention of chronic disease and other related problems (e.g. reproductive health problems, immunization against Hepatitis B, prevention of HIV/AIDS, occupational and environmental health) offers the greatest public health potential and has proven to be the most cost effective long term cancer control method. Current knowledge is sufficient to prevent 40% of all cancers.

Low-income and disadvantaged groups are generally more exposed to avoidable cancer risk factors, such as environmental carcinogens, tobacco use, alcohol abuse and infectious agents. These groups have less political influence, less access to health services and lack education that can empower them to make decisions to protect and improve their own health.

Important cancer risk factors control should be planned and implemented in the context of other chronic disease prevention programmes (e.g. Cardiovascular diseases, Diabetes, Chronic respiratory diseases and alcohol dependence) as well as in the context of overall cancer control planning.

Common risk factors underlying all these conditions include:

- Tobacco use
- Alcohol use
- Dietary factors including low fruit and vegetable intake
- Physical inactivity
- Overweight and obesity

Other important cancer risk factors include exposure to:

- Physical carcinogens, such as ultraviolet (UV) and ionizing radiation
- Chemical carcinogens, such as benzo(a)pyrene, formaldehyde and aflatoxins (food contaminants) and fibres such as asbestos
- Biological carcinogens, such as infections by viruses, bacteria and parasites

Interventions aimed at reducing levels of the above risk factors in the population will not only reduce the incidence of cancer but also that of the other conditions that share these risks.

Most important modifiable risk factors for cancer

- Tobacco use
- Overweight, obesity and physical inactivity
- Harmful alcohol use
- Sexually transmitted human papilloma virus (HPV) infection
- Air pollution (outdoor and indoor)
- Occupational carcinogens .

Major risk factors have a huge impact on the global cancer burden.

Tobacco, through its various forms of exposure, constitutes the main cause of cancer related deaths worldwide among men and increasingly among women. Forms of exposure include active smoking, breathing secondhand tobacco smoke (passive or involuntary smoking) and smokeless tobacco. To-

WEEKLY EPIDEMIOLOGICAL REPORT SRI LANKA - 2012

Contents	Page
1. <i>Leading Article – Cancer - The Risk Factors</i>	1
2. <i>Surveillance of vaccine preventable diseases & AFP (04th – 10th February 2012)</i>	3
3. <i>Summary of newly introduced notifiable diseases (04th – 10th February 2012)</i>	3
4. <i>Summary of selected notifiable diseases reported (04th – 10th February 2012)</i>	4

tobacco causes a variety of cancer types such as lung, oesophageal, laryngeal, oral, bladder, kidney, stomach, cervical and colorectal. The total death toll in 2005 from tobacco use was estimated at 5.4 million people, including about 1.5 million cancer deaths. In 2030, the projected overall death toll due to tobacco will amount to 8.3 million. In low and middle-income countries, deaths attributable to tobacco have been projected to double between 2002 and 2030.

Physical Inactivity, Dietary Factors, Obesity and Over weight play an important role as causes of cancer. These factors are affected by gender norms. Because all these factors are intimately interconnected at the individual and contextual levels, estimating the specific contribution of each of these risk factors is difficult and might underestimate the cumulative potential risk. Overweight and obesity are causally associated with several common cancer types, including the oesophageal, colorectal, endometrial and kidney cancers and breast cancers in postmenopausal women. Physical inactivity is a major contributor to the rise in rates of overweight and obesity in many parts of the world and independently increases the risk of some cancers. Taken together, raised body mass index and physical inactivity account for an attributable fraction of 19% of breast cancer mortality and 26% of colorectal cancer mortality. Overweight and obesity alone account for 40% of endometrial cancer. Overweight, obesity and physical inactivity collectively account for an estimated 159 000 colon and rectal cancer deaths per year and 88 000 breast cancer deaths per year.

Alcohol use is a risk factor for many cancer types including cancer of the oral cavity, pharynx, larynx, oesophagus, liver, colorectal and breast. Risk of cancer increases with the quantity of alcohol consumed. The risk from heavy drinking for several cancer substantially increases if the person is also a heavy smoker. Attributable fractions vary between men and women for certain types of alcohol-related cancer, mainly because of differences in average levels of consumption. For example, 22% of mouth and oropharyngeal cancers in men are attributable to alcohol whereas in women the attributable burden drops to 9%. A similar sex difference exists for oesophageal and liver cancers.

Chronic Hepatitis B Virus (HBV) infection (chronic hepatitis) causes about 52% of the world's hepatocellular carcinomas, resulting in nearly 340 000 deaths per year. Another 20% of hepatocellular cancers (124 000 deaths) are caused by hepatitis C virus (HCV) infection. HBV infections interact with exposure to aflatoxin (through consumption of contaminated food) in increasing the risk of liver cancer. Both HBV infections and exposure to aflatoxin are particularly common in sub-Saharan Africa and some parts of South-East Asia, and are believed to be the cause of up to 80% of liver cancer cases that occur in these regions.

Human Papilloma Virus (HPV) is the world's most common sexually transmitted viral infection of the reproductive tract, infecting an estimated 660 million people per year. It is also estimated to cause almost all cases of cervical cancer, 90% of anal cancers and 40% of cancers of the external genitalia. HPV also causes cancer of the oral cavity and the oropharynx. Of the many HPV genotypes, types 16, 18 and more than 10 other types are causal for cervical cancer. The most common high-risk genotypes, types 16 and 18, account for about 70% of cervical cancer cases worldwide. There are, however, some regional variations, mainly resulting from differences in prevalence of HPV type 18.

Environmental pollution of air, water and soil with carcinogenic

chemicals accounts for 1–4% of all cancers. Exposure to carcinogenic chemicals in the environment can occur through drinking water or pollution of indoor and ambient air. In Bangladesh, 5–10% of all cancer deaths in an arsenic contaminated region were attributable to arsenic exposure. Exposure to carcinogens also occurs via the contamination of food by chemicals, such as aflatoxins or dioxins. Indoor air pollution from coal fires doubles the risk of lung cancer, particularly among non-smoking women. Worldwide, indoor air pollution from domestic coal fires is responsible for approximately 1.5% of all lung cancer deaths.

More than 40 agents, mixtures and exposure circumstances in the working environment are carcinogenic to humans and are classified as occupational carcinogens. Occupational carcinogens are causally related to cancer of the lung, bladder, larynx, skin, leukaemia and nasopharyngeal cancers. Mesothelioma is to a large extent caused by work-related exposure to asbestos. Occupational cancers are concentrated among specific groups of the working population, for whom the risk of developing a particular form of cancer may be much higher than for the general population. About 20–30% of the male and 5–20% of the female working-age population may have been exposed to lung carcinogens during their working lives, accounting for about 10% of lung cancers worldwide. About 2% of leukaemia cases worldwide are attributable to occupational exposures.

Radiation is energy emitted in the form of waves or rays. Ionizing radiation removes electrons from material (called ionization) when passing through cells and tissue, leading to cell or tissue injury. Medical X-rays and radiation emitted from natural sources, such as radon gas and radioactive materials, are examples of ionizing radiation. Ionizing radiation can cause almost any type of cancer, but particularly leukaemia, lung, thyroid and breast cancer. Exposure to natural radiation is largely a result of radon gas in homes, which increases the risk of lung cancer.

Non-ionizing radiation comprises electromagnetic fields like those emitted by mobile phones or power lines and ultraviolet radiation (mainly from the sun), the latter causing chromosomal damages. Ultraviolet radiation is a recognized cause of skin cancer including malignant melanomas. The longer women breastfeed the more they are protected against breast cancer. Gender plays a significant role in exposure to risks.

- Many effective interventions to reduce cancer risk are appropriate for resource-constrained settings.
- Activities those are immediately feasible and likely to have the greatest impact for the investment should be selected for implementation first.
- Monitoring trends in cancer risk factors in the population is important for predicting the future cancer burden and for rational decision making in terms of prioritizing scarce resources.
- A comprehensive surveillance and evaluation system should be an integral element of prevention policies and programmes.

Source

Knowledge into Action-Cancer Control (WHO), available from

www.who.int/cancer/modules/Prevention%20Module.pdf

Compiled by Dr. Madhava Gunasekera of the Epidemiology Unit

Table 1: Vaccine-preventable Diseases & AFP

04th – 10th February 2012 (06th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2012	Number of cases during same week in 2011	Total number of cases to date in 2012	Total number of cases to date in 2011	Difference between the number of cases to date in 2012 & 2011
	W	C	S	N	E	NW	NC	U	Sab					
Acute Flaccid Paralysis	00	00	00	00	00	00	00	00	00	00	02	09	12	- 25.0 %
Diphtheria	00	00	00	00	00	00	00	00	00	-	-	-	-	-
Measles	00	00	00	00	00	00	00	00	00	00	02	05	06	- 16.7 %
Tetanus	00	00	00	00	00	00	00	00	00	00	01	01	03	- 66.7 %
Whooping Cough	01	00	00	00	00	00	00	01	00	02	00	10	05	+ 100.0 %
Tuberculosis	18	27	17	02	06	00	15	11	14	110	225	1165	1057	+ 0.75 %

Table 2: Newly Introduced Notifiable Disease

04th – 10th February 2012 (06th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2012	Number of cases during same week in 2011	Total number of cases to date in 2012	Total number of cases to date in 2011	Difference between the number of cases to date in 2012 & 2011
	W	C	S	N	E	NW	NC	U	Sab					
Chickenpox	16	03	17	05	15	10	09	07	12	94	105	531	540	- 1.7 %
Meningitis	01 CB=1	00	05 GL=1 HB=3 MT=1	02 JF=1 VU=1	00	00	01 AP=1	00	03 RP=3	12	18	98	121	+ 19.0 %
Mumps	18	08	04	03	08	02	16	10	07	76	66	484	251	+ 92.8 %
Leishmaniasis	00	00	40 HB=37 MT=3	00	00	00	01 AP=1	00	03 RP=3	44	10	111	61	+ 81.9 %

Key to Table 1 & 2

Provinces: W: Western, C: Central, S: Southern, N: North, E: 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.

Data Sources:

Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps.

Special Surveillance: Acute Flaccid Paralysis.

Leishmaniasis is notifiable only after the General Circular No: 02/102/2008 issued on 23 September 2008. .

Dengue Prevention and Control Health Messages

To prevent dengue, remove mosquito breeding places in and around your home, workplace or school once a week.

Table 4: Selected notifiable diseases reported by Medical Officers of Health
04th – 10th February 2012 (06th Week)

DPDHS Division	Dengue Fever / DHF*		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Returns Received
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	%
Colombo	171	1446	3	16	0	4	5	33	1	4	0	9	0	0	1	10	0	1	92
Gampaha	104	1164	0	14	0	0	3	12	0	0	1	23	1	2	3	42	0	1	80
Kalutara	35	295	0	15	1	1	0	9	0	3	1	22	1	1	0	4	0	0	69
Kandy	40	367	0	14	0	0	2	5	0	4	1	15	1	20	0	2	0	0	96
Matale	9	64	2	17	1	2	1	5	0	1	0	8	0	1	0	2	0	0	92
Nuwara	2	33	1	11	0	1	1	5	0	0	1	4	1	11	1	5	0	0	77
Galle	31	160	2	17	0	1	0	5	3	1	3	14	1	6	0	1	0	0	84
Hambantota	10	83	1	8	0	0	0	0	0	4	0	13	2	14	0	3	0	0	83
Matara	31	259	1	11	1	2	1	7	0	4	2	17	3	15	11	29	0	0	100
Jaffna	13	114	2	28	2	3	13	96	0	8	0	2	10	180	0	2	0	0	92
Kilinochchi	1	9	0	5	0	0	1	7	0	39	1	2	0	13	0	0	0	1	50
Mannar	0	48	0	4	0	1	0	4	0	8	0	6	4	14	0	1	0	0	100
Vavuniya	1	16	0	1	0	11	0	2	0	2	1	9	0	0	0	1	0	0	100
Mullaitivu	0	2	0	3	0	1	0	2	0	1	0	2	2	3	0	0	0	0	75
Batticaloa	31	329	3	22	0	0	0	5	0	5	0	2	0	0	0	3	0	0	86
Ampara	1	21	0	17	0	0	0	0	0	0	1	8	0	0	0	0	0	0	43
Trincomalee	2	32	4	24	0	1	1	6	0	1	0	7	0	0	1	1	0	0	83
Kurunegala	24	227	2	19	0	4	1	18	2	6	1	25	0	12	0	11	1	1	87
Puttalam	19	171	1	14	0	2	0	1	0	0	1	8	0	5	0	0	0	0	50
Anuradhapu	5	61	2	15	0	0	0	1	0	1	1	26	2	6	0	11	0	0	89
Polonnaruw	7	39	3	10	0	0	0	0	0	0	0	7	0	1	0	2	0	1	71
Badulla	4	52	5	14	0	2	0	6	0	0	1	5	1	4	0	8	0	0	76
Monaragala	6	28	0	10	0	1	0	6	0	0	0	19	1	9	0	8	0	0	82
Ratnapura	27	172	7	40	0	9	2	9	0	2	5	63	1	4	2	19	0	0	89
Kegalle	21	233	6	13	0	1	0	8	0	5	0	17	4	7	7	72	0	0	73
Kalmune	16	68	1	31	0	0	1	3	1	1	0	1	0	0	0	0	0	1	85
SRI LANKA	611	5502	46	393	05	47	32	255	07	100	21	334	35	328	26	237	01	06	83

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 10th February, 2012 Total number of reporting units 329. Number of reporting units data provided for the current week: 274

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

PRINTING OF THIS PUBLICATION IS FUNDED BY THE WORLD HEALTH ORGANIZATION (WHO).

Comments and contributions for publication in the WER Sri Lanka are welcome. However, the editor reserves the right to accept or reject items for publication. All correspondence should be mailed to The Editor, WER Sri Lanka, Epidemiological Unit, P.O. Box 1567, Colombo or sent by E-mail to chepid@slt.net.lk.

ON STATE SERVICE

Dr. P. PALIHAWADANA
CHIEF EPIDEMIOLOGIST
EPIDEMIOLOGY UNIT
231, DE SARAM PLACE
COLOMBO 10