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newsletter



Rajiv Gandhi Cancer Institute
and Research Centre



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EDITORIAL

How Clean is your Air?

According to WHO survey of 1600 world cities, the air quality in Delhi was found to be the worst of any major cities in the world. Two other cities in India have worse air quality than Delhi; Gwalior in MP and Raipur in Chhattisgarh. Air pollution in India is estimated to kill 1.5 million people every year; it is the fifth largest killer in India. India has the world's highest death rate from chronic respiratory diseases and asthma (WHO). Poor quality air damages irreversibly the lungs of 2.2 million or 50% of all children.

Air quality or ambient (outdoor) air pollution is represented by annual mean concentration of particulate matter PM10 (Particles smaller than 10 microns) and PM 2.5 (particles smaller than 2-5 micron, about 2.5 to 10 times thinner than human hair). The world's average PM10 levels for the period 2008 and 2013 was 71 $\mu\text{g}/\text{m}^3$ which in Delhi (2010) was 286. Safe levels for PM according to the WHO's air quality guidelines are 20 $\mu\text{g}/\text{m}^3$ (annual means). There are other dangerous pollutants in air also known as criteria pollutants which include ozone, sulphur dioxide, nitrogen dioxide, carbon monoxide and lead in addition to particulate matter.

It is estimated that 7 million premature deaths may be attributable to air pollution. Diesel Exhaust (DE) is a major contributor of combustion derived particulate matter in air pollution. DE has also been linked to acute vascular dysfunction and increased thrombus formation. Studies suggest that air pollution is not associated with hemorrhagic but with ischemic strokes.

Studies have also shown that living close to busy traffic appears to be associated with elevated risks of 3 outcomes – increase in lung cancer deaths, cardiovascular deaths and overall nonaccidental deaths. Children less than 5 yrs living in metros are the most vulnerable population in terms of total deaths attributable to air pollution. Data is accumulating that air pollutants also affect CNS and may play a role in neurodevelopmental & cognitive disorders.

Limited results are available for cancers other than the lung. For example stomach cancer is related to SO₂ particulates in air and occupational benzene exposure is a recognized cause of leukemia. All these ecological and case control studies provide unclear evidence. We need epidemiological studies in India and hard core data in our set up and in our environment.

Delhi welcomed New Year 2016 with Odd-even diesel car formula. Delhi Govt. also restricted registration of diesel cars for 3 months hoping to improve quality of outdoor air. However, the outcome of these measures is yet to be scientifically proven. Nevertheless there was huge relief from traffic congestion in the city.

Can something be done to clean our air in "Swachh Bharat"

- More and more Motor vehicles could be CNG or electricity driven or hybrid.
- Pollution under control Car certificate should be genuine, 3 monthly health card of your car.
- We should encourage use of public transport system and car pools "Swachh Bharat also includes Swachh Hawa, Swachh Pani".
- Use of clean power sources, wind power, hydropower and solar power.
- Titanium dioxide has been researched for its ability to reduce air pollution.
- The metro network needs to be further strengthened.
- People may use using air purifiers in cars, offices and homes.
- Electric power generation from burning fossil fuel can be replaced by power generation from nuclear sources and renewables.

To achieve the objective of reducing the emission, environmental quality objectives must be defined. Specifically designed epidemiologic studies are needed to address the quantitative aspects relating to cancer risk to different pollutants in different environments.

This environment does not belong to a country or a party or a group of people, it belongs to all of us; let us save our environment!!

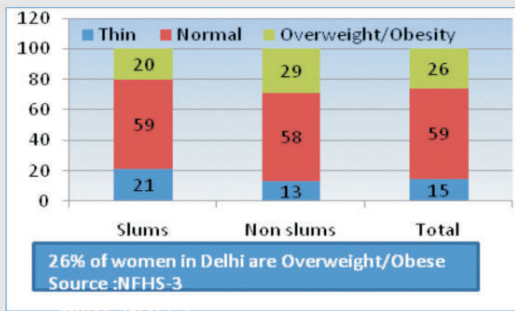
Dr. A. K. Dewan
Medical Director



ARE YOU OVERWEIGHT? YOU ARE AT RISK FOR CANCER!!

In India obesity is emerging as an important health problem particularly in urban areas, paradoxically co-existing with under-nutrition. In the past ten years number of obese people has doubled in the country according to the National Family Health Survey (NFHS-4).

What is Obesity? According to WHO a BMI of over 25 Kg/m² is considered overweight (Western population). Due to genetic tendency of Indians/Asians towards abdominal obesity and its associated risks, Ministry of Health and Family Welfare along with ICMR released updated guidelines according to which, for Indians–



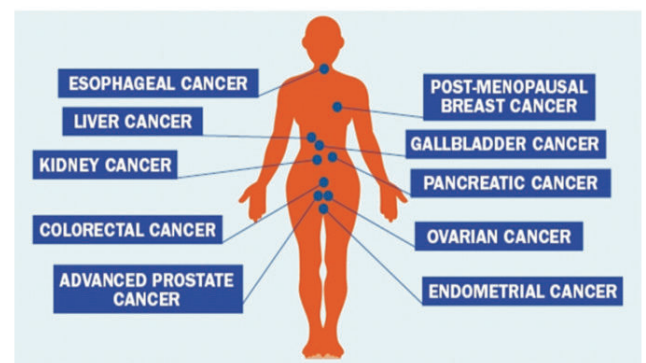
Normal BMI- 18.0-22.9 Kg/m², Over-weight-BMI 23-24.9 kg/m², Obesity- BMI > or= 25kg/m². Abdominal obesity is when waist circumference (WC) is > or = 90 cm. in males &> or = 80 cm. in females.

The problem is more acute among women than men. In urban India more than 23% of women are either overweight or obese, which is higher than the prevalence among men (20%). Despite a high prevalence of obesity most Indians don't consider themselves as obese. Acceptance of obesity is like saying OK to smoking.

OVER-WEIGHT & OBESITY ARE RISK FACTORS NOT ONLY FOR DIABETES & CARDIOVASCULAR DISEASES BUT ALSO FOR CANCER.

According to the most recent 2014 Cancer Progress Report from the American Association for Cancer Research (AACR), overweight/obesity is responsible for nearly 25% of the relative contribution to cancer incidence, which ranks second only to tobacco use. Obesity is strongly tied to many of the most common types of cancer, including post-menopausal breast cancer, colorectal cancer, oesophageal cancer and cancers of the endometrium, kidney, thyroid and gallbladder. There is also evidence to suggest a link to cancers of the liver, multiple myeloma and Non-Hodgkin's lymphoma.

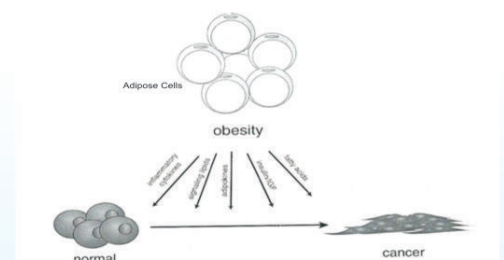
OVERWEIGHT AND OBESITY INCREASED RISK FOR



MECHANISMS LINKING OBESITY TO CANCER

Several possible mechanisms have been suggested to explain the association of obesity with increased risk of certain cancers:

- Fat tissue produces excess amounts of estrogen, high levels of which have been associated with the risk of breast, endometrial, and some other cancers.
- Increased levels of insulin and insulin growth factor-1 (IGF-1), which may help some cancers develop
- Fat cells produce hormones, called adipokines, which may stimulate or inhibit cell growth. For example, leptin, which is more abundant in obese people, seems to promote cell proliferation, whereas adiponectin, which is less abundant in obese people, may have antiproliferative effects.
- Fat cells may also have direct and indirect effects on other tumor growth regulators, including mammalian target of rapamycin (mTOR) and AMP-activated protein kinase.
- People with obesity often have chronic low-level inflammation, which has been associated with increased cancer rise.



WEIGHT MANAGEMENT TIPS

To control weight gain, be aware of what you eat and how much you exercise. You should also make healthy choices

about what you eat and drink.

- Eat more vegetables, fruits, lean protein, and whole grains.
- Avoid junk food, limit foods and beverages that are high in sugar, such as juice and soda.
- Aim for 30 to 60 minutes per day of moderate to intense physical activity on most days.
- If you are currently overweight or obese, after ruling out medical conditions, it is best to start by taking steps to lose weight through nutrition and exercise.
- **Medications :** Weight loss drugs are usually only recommended when a combination of diet, exercise, and behavior change support have not worked. Or, if you have other serious health conditions from being obese.
- **Surgery :** Weight loss or Bariatric surgery is an option for people with a BMI of 40 or higher or for those with a BMI of 35 or higher who have another serious health condition related to obesity.

Though the underlying mechanisms for the increased cancer risk as a result of obesity are unclear and vary by the cancer site, sufficient evidence exists to support the view that about 30% of cancers can be prevented by maintaining a healthy weight, by being physically active and by taking a well-balanced diet.

Dr. J G Sharma / Dr. Indu Aggarwal
Preventive Oncology Department

LYMPHOMA UPDATE 2016 – ESSENTIALS & BEYOND



RGCIRC hosted an International Conference “Lymphoma Update 2016 – Essentials & Beyond” on 14th and 15th of March 2016. The conference aimed at bringing lymphoma pathologists of the country up to date with latest research on the subject.

World renowned experts on lymphoma – Dr Elaine Jaffe from National Institute of Health (Bethesda), Dr Elias Campo from Barcelona, Dr Wing-Chung Chan and Dr Bharat Nathwani from National Medical Centre (California), Dr Pratistadevi from NHLS (Durban), Dr Deepshikha Arora, Dr Jay Mehta, Dr Anita Borges, Dr Anil Handoo, Dr D K Mishra, Dr Neelam Sood, Dr Ajay Yadav, Dr Rekha Nair, Dr Sumeet Gujral and our own Dr Anurag Mehta – constituted the body of eminent faculty.



The scientific programme featured two days of intense academic activities, including didactic lectures, participative sessions and case & poster presentations. The educational programme focused on catering to the need of practicing pathologists and students of pathology.

The conference was attended by over 300



pathologists from India, Nepal, Britain, USA, South Africa, New Zealand and Myanmar.



31ST ANNUAL CONFERENCE - IMA, DELHI NORTH ZONE



RGCIRC participated in 31st Annual Conference organized by IMA, Delhi North Zone on Sunday, 28th February 2016 at Tivoli Garden Resort Hotel, Delhi. Dr. L. M. Darlong, Head & Consultant – Thoracic Surgical Oncology delivered a lecture on “Thoracic Oncology – Lung and Esophagus Indian Scenario”. The talks were attended by more than 80 doctors from IMA Delhi North Zone.



THIRD CHEMOPORT TRAINING COURSE



The Department of Surgical and Pediatric Surgical Oncology, RGCIRC successfully organized the 3rd Training Course in Chemoport Insertion on 11th and 12th March 2016. This two days course was held for doctors from various Oncology centres who desired to learn this technique. It entailed interactive sessions by the faculty of RGCIRC as well as hands on experience in the operating rooms. The topics covered were Chemoport insertion, Hickman's Catheter insertion, Pediatric Port, Arm port and Peritoneal port insertion. Eight delegates from Delhi and surrounding states enthusiastically completed the course. The course was highly gratifying and we received an excellent feedback. The Future training courses in chemoport insertion will be held once in 3 months at RGCIRC.



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Architect's Impression of RGCIRC (post expansion)

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