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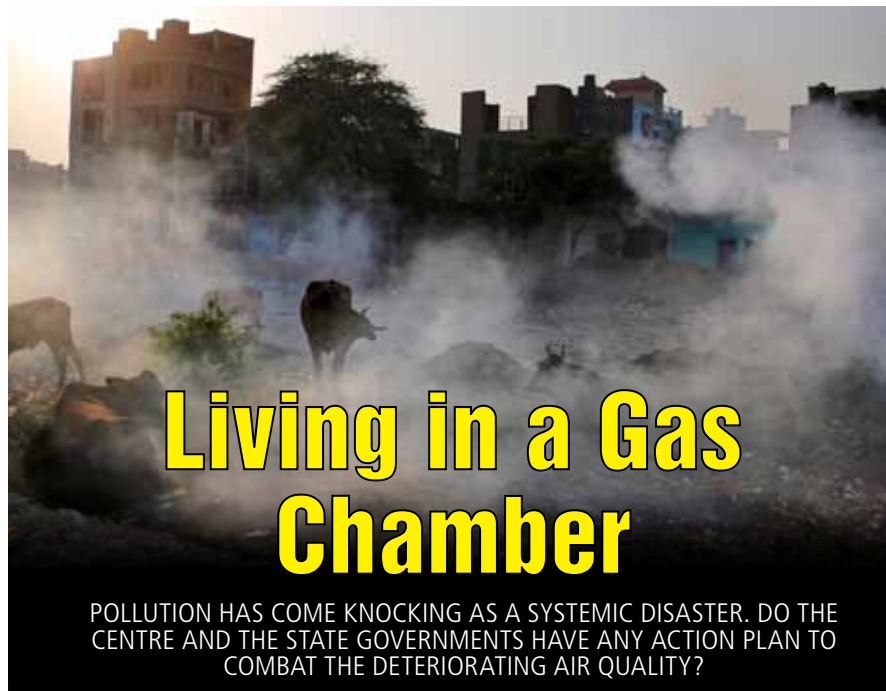
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# The Journey Goes on ...

**D**ear Readers,  
Thank you for your continuous support. With God's grace and your esteemed support, Double Helical has become a credible publication in the health domain. As the year 2015 from where we started our journey nears its end, we present to you a bouquet of informative and in-depth stories based on research and analysis in this year-end issue.

As part of our cover story 'Living in a Gas Chamber', we are highlighting increasing level of air pollution in the capital city Delhi. Pollution has come knocking as a systemic disaster. The story probes whether the Centre and the State Governments have any action plan to combat the deteriorating air quality. As per reports, the air quality in the National Capital Region is deteriorating day by day due to increasing pollution with the result that the incidence of respiratory and other chest ailments is on the rise. The situation has reached such an alarming dimension that many people are installing oxygen cylinders at home for emergency purposes, especially as a precautionary measure where elderly people are staying.

Medical practitioners feel that the problem needs the attention of not just some individuals, but of an entire system, to make the metro cities' air breathable again. Delhi is not alone, almost every busy city around the world is slipping into this inescapable state of ghettos of traffic fumes and industrial effluents. For example, Beijing's case has been scary in recent times, caught in a manufacturing race over time. No doubt, the economic inevitabilities, an unplanned development and a socio-economic life propelled by hysterically aspirational marketing are taking life around the world to a point of no return.

There is a total lack of awareness about when to apply the simple first aids called hot and cold therapies, widely practiced by the people everywhere, sometimes leading to harmful consequences. As pointed out in "Decreasing Discomfort" heat and cold are the two most common types of non-invasive and non-addictive therapy for muscle and joint pain but its use depends upon whether the pain is acute or chronic and the type of injury, if any.

Sex is an important part of life. The story "Sex without Shame" discusses how sex is still a taboo in India. Couples need to banish monotony in their relationships and work towards developing and maintaining a fulfilling sex life. At one level, sex is just another hormone-driven bodily function designed to perpetuate the species. Of course, this narrow view underestimates the complexity of the

human sexual response.

On World AIDS Day, Double Helical brings a very special story title "Chinks in the Strategy". The most poignant part of the AIDS scenario is that children are being forced to share the burden of the curse. India has entered the third, and perhaps the most perplexing decade of its fight against HIV-AIDS epidemic. Today, less than a tenth of those who need second-line HIV drugs have access to them. These patients run the risk of developing resistance to drugs and can become a bigger threat to their community. Although medicines have had a salutary effect on the epidemic so far, yet we could head for big trouble if patients don't adhere to treatment or fail to get it on time. Mumbai currently has over 30,000 people living with the disease. Disease is no longer a death sentence. But the Indian Government programme faces problems that the officials aren't ready to accept.

As a special feature we are focusing on current stage of prevalence of diabetes. As you know, the incidence of diabetes is spiraling in India while the US has been successful in controlling it. We need to intensify the awareness campaign to check its alarming rise. Diabetes takes a heavy toll by slowly damaging all vital organs and impairing the human physiology. The global burden of diabetes has become a huge cause of worry amongst health administrators the world over. Even though the actual causes are complex, there is good evidence that a large number of cases of diabetes and its complications can be prevented by a healthy diet, regular physical activity, maintaining a normal body weight, and avoiding tobacco.

Apart from above, there are a number of thought-provoking stories in the current issue. Wishing you a very Happy New Year 2016 and happy reading.

**Amresh K Tiwary**  
Editor-in-Chief



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# Natural Way to Conceive

The number of distressed childless couples is spiraling with the changing lifestyle that produces stress and other physical impairments thwarting the chances of conception. In Ayurveda, there are various ways to prevent the problem of infertility, right diet being one of them. An Ayurvedacharya takes a look

**BY DR PARTAP CHAUHAN**



**W**e come across a number of couples who have tried every kind of fertility treatment available, but have not been able to find the right solution to their fertility problems.

With pressures of modern life, mental and emotional stress, and lack of love in relations, infertility cases are on the rise. More and more couples are unable to produce

children. Moreover, one in four early pregnancies ends in miscarriage. Here Ayurveda's approach can be helpful in preempting any such eventualities.

The benefits of following Ayurvedic principles go far beyond just a trouble-free pregnancy. The traditional medical science does not help you to increase fertility with diet, behaviours, and herbal supplements. Ayurveda focuses on how to have a truly healthy child.

### Baby's health reflects health of parents

According to Ayurveda, preparing for conception can be easily compared to the process of farming. Just like the health of a crop depends on the quality of soil, seed, timing of sowing, and amount of watering it gets, the health of a baby depends on the health of its parents.

For a pregnancy to be healthy and successful, a couple needs to take care of the following four essential factors:

- Sperm/Ovum (Seeds)
- Uterus (Soil)
- Nourishment (Water)
- Time for conception (Timing of sowing)

Reproductive health, in both men and women, depends on the health of the reproductive tissue or shukra dhatu. In women, shukra creates the ovum as part of the monthly cycle, and in men the semen is formed due to sexual stimulation.

The shukra is created as part of a long chain of metabolic transformations. It starts with the digestion of food, then goes on to transformation of food to nutrient fluid, blood, muscle, fat, bone, bone marrow, and finally, to shukra tissue. Healthy shukra tissue, then, according to Ayurveda, depends on the health of all the other tissues in the body.

### Diet can boost fertility

- Fresh, organic fruits and vegetables
- Whole grains
- Dairy proteins, including milk, lassi (buttermilk), and panir (fresh cheese made of milk)
- Mung daal (split green beans)
- Soaked almonds or soaked walnuts (you can grind them and add them to your vegetables)
- Sweet, juicy fruits such as mangoes, peaches, plums, and pears
- Dried fruits such as dates, figs and raisins
- Asparagus
- Broccoli
- Date shake
- Mango shake
- Rice pudding
- Spices such as ajwain (bishop's weed) powder, cumin (which purifies the uterus in women and the genitourinary

The benefits of following Ayurvedic principles go far beyond just a trouble-free pregnancy. The traditional medical science does not help you to increase fertility with diet, behaviours, and herbal supplements. Ayurveda focuses on how to have a truly healthy child



tract in men), turmeric (to improve the interaction between hormones and targeted tissues), and black cumin.

- If your digestion is strong, eat urad daal (split black gram) cooked with equal parts of turmeric, cumin, coriander and fennel.
- A banana cooked in ghee, cinnamon and cardamom is a tasty and wholesome dessert for people with strong digestion.

### What not to take

- Foods containing preservatives and other chemicals, such as artificial sweeteners.
- Foods high in fat should also not be consumed.





- Diet soda should be avoided, as it contains aspartame.
- Caffeine should also be limited, especially if you're having trouble conceiving.
- Refined carbs, such as white bread, pasta and rice, should be limited.
- Drinking alcohol
- Eating a lot of meat is not recommended

### The right lifestyle

It is very important for couples who wish to conceive a child to have positive feelings. They should avoid tension or anger and keep their mind relaxed. They are advised to practise meditation, pranayama and yoga on a regular basis to keep their bodies and minds fit.

The following lifestyle factors can greatly reduce your ability to get pregnant:

### Smoking

Smoking presents a major risk to not only your overall health and well-being, but also to your reproductive health. Smoking decreases your ability of getting pregnant because it interferes with your body's ability to absorb vitamin C and zinc.



### Drugs

Drugs can also affect women's reproductive health. Both over-the-counter and illegal drugs affect the body's natural functions as well as impair nutrition.

Exposure to chemicals and pesticides

Women who are trying to conceive should limit their exposure to pesticides and chemicals as they can hinder your chances of getting pregnant.


### Stress

Stress can have a major impact on women's fertility. The importance of a positive attitude is essential when trying to get pregnant.

### Weight

Being both overweight and underweight can impair a woman's chances of getting pregnant. If you are underweight, your reproductive system will shut down because of the body's inability to maintain a pregnancy. On the other hand, being overweight or obese reduces a woman's chances of getting pregnant.

### Excessive exercise

Staying physically fit is essential when you're trying to get pregnant. However, it is important to note that excessive exercise is unhealthy and can impair your ability to get pregnant. 



(The author is Ayurvedacharya and Director, Jiva Ayurveda, New Delhi)



# Vulnerable to Impairment



Studies have revealed that women and girls are at a disadvantage with regard to availing ear care services as they are tied up in traditional environment facing stigma and discrimination

**BY DR SUNEELA GARG, DR RITESH SINGH & DEEKSHA KHURANA**

**G**ender acts as a barrier to access of ear care services with the result that women continue to disproportionately bear the burden of hearing morbidities across the globe. The prevalence of hearing loss as per WHO's global estimates is 360 million out of which a significant 145 million (44%) are females.

According to the Global Burden of

Disease study, hearing loss is responsible for 27.4 million years lived with disability (YLD). This accounts for 4.8% of the total YLD due to all causes in males and 4.3% in females. The study ranked hearing loss as the third leading cause of YLD among males and females.

Several studies conducted across countries have highlighted that prevalence of ear morbidities among females is high and they are at a

disadvantage with regard to availing ear care services.

An analysis of 42 studies on prevalence of hearing loss in 29 countries was published in 2011. The analysis defined hearing loss as hearing thresholds above 35 dB in the better hearing ear in adults and children. The overall prevalence of hearing loss (above 35 dB in the better hearing ear) was determined to be 12.2% in males as



**Dr Suneela Garg**

compared to 9.8% in females.

A US-based study established that the prevalence of hearing impairment differs according to gender. During the study, overall prevalence of hearing loss was found to be 10.5% for males and 6.8% for females. While males at all ages were more likely than females to be deaf or hard-of-hearing, the gap widens after the age of 18 years.

Another study was carried out in the Italian population in year 2003 to evaluate the prevalence of prelingual deafness. A prelingual deafness refers to congenital deafness or hearing loss occurring before the infant reaches one year when it begins to speak its first words. The study concluded that hearing impairment prevalence differs according to sex with overall prevalence being 0.78 per 1,000 for males and 0.69 per 1,000 for females.

A study in rural southern coastal India

Hearing impaired women are multiple-disadvantaged and experience exclusion on account of their gender and their disability. Disabled women, including hearing impaired, are particularly vulnerable to abuse



Hearing loss is measured by finding out the hearing threshold in decibels (dB) at which a signal is just barely heard. The pitches are graphed in audiogram.

<b>Mild hearing loss</b>	26-45 dB (Difficulty in hearing sound from a distance)
<b>Moderate hearing loss</b>	46-65 dB (Conversational hearing becomes difficult)
<b>Severe hearing loss</b>	66-85 dB (Hearing possible of voice at very high pitch and very close range only)
<b>Profound hearing loss</b>	Not hearing at all

**Data on the prevalence of hearing loss among males and females**

Severity of Hearing loss	Better ear hearing level (dB HL)	Prevalence in adult males (%)	Prevalence in adult females (%)
Mild	20-34	22.7	19
Moderate	35-49	8.4	6.8
Moderately Severe	50-64	2.6	2.0
Severe	65-79	0.8	0.6
Profound	80-94	0.5	0.4



among children of school-entry age revealed that hearing impairment was detected in 11.9% children. Prevalence of hearing impairment was slightly higher among girls (12.1%) as compared with 11.8% among boys. The prevalence was also higher among children belonging to low socio-economic strata and those who were born of consanguineous marriages.

Hearing impaired women are multiple-disadvantaged and experience exclusion on account of their gender and their disability. Disabled women, including hearing impaired, are particularly vulnerable to abuse.

A survey in Odisha, India, in 2004 observed that 100% of the disabled women and girls were beaten at home. Twenty-five percent of mentally challenged women had been raped while 6% of disabled women had been forcibly sterilized. Another study carried out in rural India also highlighted that disabled girls, unlike other girls, have less access to opportunities for education and are less likely to go to school. They are also less likely to seek medical help, less likely to receive treatment and services than disabled boys with similar impairments.

Ear care seeking is negligible among females in developing countries thereby accounting for increased number of ear morbidity cases. There is a general lack



**Deeksha Khurana**



**Dr Ritesh Singh**

of awareness, especially among females, about issues relating to deafness and hearing impairment across all parts of the society.


Time constraints and dependency syndrome have negative implication on the uptake of ear care services, particularly in the case of women. Women's workload at home and their care-giving roles to other family members are also significant factors in delaying decisions to seek treatment. In areas where there is limited mobility, they may also be unable to travel to health care facilities.

Moreover, delays and procedures in the provision of ear care services at the

Time constraints and dependency syndrome have negative implication on the uptake of ear care services, particularly in the case of women. Women's workload at home and their care-giving roles to other family members are also significant factors in delaying decisions to seek treatment

health care facility and the complex system of referral in cases of involvement of multiple departments dissuades women. There is also the stigma and discrimination faced by women who suffer from ear ailments.

In order to address the issues of hearing loss from gender perspective, gender equality should form part of the overall objectives, wherever possible, while formulating programmes and projects. The strategy should be such that both women and men are involved in designing and implementing those programmes as well, especially because hearing loss is a hidden ailment. Moreover, the gender strategy should also be practical.

In order to facilitate this strategy, consultation from social and gender analysis experts should be sought in the process of programme development. Adequate and relevant sex-disaggregated baseline information should be collected and gender sensitive indicators and monitoring processes should be used as a minimum standard for design, implementation, monitoring and evaluation of programmes and policies. 

(The writers belong to the Department of Community Medicine at Maulana Azad Medical College, New Delhi)

# Caring for the Elderly



Informal arrangements like familial support can go a long way in addressing the needs of the older persons vis-à-vis the Activities of Daily Living

**BY DR SUNEELA GARG & DR ARCHANA RAMALINGAM**

**M**any senior citizens are able to live a meaningful and independent life, but at the same time the fact remains that there are others who are unable to do so. The notion of functionality among elderly involves the ability to perform self-care, self-maintenance and physical activity. Under the International Classification of Functioning, Disability and Health (ICF), which has its theoretical underpinnings

in social models of disability, physical functioning and disability are considered outcomes of interactions between health conditions and contextual factors.

## The Activities of Daily Living

The Activities of Daily Living (ADL) is an umbrella term relating to self-care, comprising those activities that people undertake routinely in their everyday life. There are other types of activities which are domestic and community activities or Instrumental ADL (IADL).

The ADL and IADL have emerged as the most common approaches in empirical assessments of functionality among the elderly and are considered to be befitting the ICF framework.

The Activities of Daily Living or ADLs are the basic tasks of everyday life such as feeding, bathing, dressing, toileting, mobility (i.e., getting in and out of a bed or chair) and continence (controlling bladder and bowel movement). When people are unable to perform these activities, they need

assistance either from others or from mechanical devices or both. Apart from providing objective assessments of the ability of the elderly to execute basic daily activities and the level of difficulty in executing such tasks, ADLs have been found as an important predictor of home or institutional care, living arrangements, health expenses and mortality.

Functional disabilities in terms of ADLs, when assessed through household surveys also provide understanding of socio-economic and demographic disparities in such functional limitations; the extent of familial support to those unable to execute the ADL functions gives an idea about how such informal arrangements can be expected to address the care needs.

A survey conducted by UNFPA (United Nations Population Fund) found that around eight per cent of the elderly require assistance to perform one of the



**Dr Suneela Garg**

than the ADL-based functional disability measures; they require more skill, judgement and independence than the ADLs. Accordingly, it is believed that IADL disabilities – in one or more



**Dr Archana Ramalingam**

of functions under IADL. The eight domains, all of which were covered in the household survey, included the ability to telephone, go shopping, food preparation, housekeeping, doing laundry, travelling,



activities. The study also found that one per cent of the elderly requires assistance in all the ADL activities. Among activities, the highest percentage of the elderly faces some difficulty in bathing. The next in order is toileting, dressing and mobility. Invariably, women perform poorer than men in performing all the ADLs. The rural elderly appear to be facing more difficulty with ADL activities than the urban elderly.

### **Instrumental activities of daily living**

Apart from ADLs, the 'Instrumental Activities of Daily Living' (IADLs) constitute an important dimension of functional limitations or disability among the elderly. The IADLs are designed to involve a more complex set of functioning


dimensions – are more widely prevalent than ADL disabilities.

Lawton and Brody, geriatric researchers, had specified eight domains

A survey conducted by UNFPA (United Nations Population Fund) found that around eight per cent of the elderly require assistance to perform one of the activities. The study also found that one per cent of the elderly requires assistance in all the ADL activities

responsibility for own medication and ability to handle finances.

In a survey done by UNFPA it was found that nearly 5% of elderly could not perform any of the activities of IADL.

Any loss or abnormality of psychological, physiological or anatomical structure or function is impairment. Disability is any restriction or lack of ability to perform an activity in a manner or within the range considered normal for a human being. The single most important disability seen among 60% of the elderly is visual disability. 

(The writers are Director, Professor/ Senior Resident at Department of Community Medicine, Maulana Azad Medical College, New Delhi)

# Breast Reconstruction: New hope for cancer survivors



Mastectomy in cancer cases is psychologically and emotionally traumatic for a woman. It means a devastating feeling of loss of femininity and body identity. Here reconstruction gives the hope. It can be done alongside the surgery or even later. But an immediate reconstruction helps the patient cope with life ahead more easily. There is also less scarring and better utilization of original breast skin.

**BY DR SANDEEP MEHTA**

**W**hat can be more devastating than losing one's body part? In a woman if it entails loss of a breast which is the hallmark of her femininity, it would be even more mortifying. The diagnosis of breast cancer does not just bring in the fear of a dangerous disease but also the annihilation of so much of her body image.

What if all these women can believe that there is a way to get over this depredation by opting for immediate breast reconstruction after its removal (mastectomy) to treat cancer. This would not only give them the strength to bear the loss but would also make them feel "whole" again and realise that there is a normal life yet again.

Incidence of breast cancer in India is steadily increasing and according to the World Health Organisation (WHO) it has now become the most common form of cancer among urban women. The WHO had predicted approximately 1,55,000 new cases of breast cancer to be detected in the year 2015 with 50% of these in the age group of 25-45.

There is a major lack of awareness about breast reconstruction option in India. A survey done in Mumbai revealed that only 25% had any knowledge about it. This is the reason why only less than 1-2% go for reconstruction.

Breast reconstruction is a type of surgery for women who have had all or part of a breast removed. The surgery rebuilds the breast to match the size and shape of the other breast. The nipple and the darker area around it, the areola, can also be added at a later stage.

### Some misconceptions

The common misconception that a patient of breast cancer has, is that reconstruction would interfere with her treatment or make her predisposed to have a cancer again? Unlike in the West where it is advised as an integral part of treatment, most of the women in India are wrongly advised by their

family and spouses not to undergo breast reconstruction to avoid any extra burden on treatment. But almost all women who have to undergo removal of breast have an inherent desire to get the breast reconstructed.

Those who are not well informed about this also wonder about its possibility. The impression that these women are given by their near and dear ones is that the breasts are no longer required once the purpose of childbearing is over and it is alright to

Why do we deny a woman something which is possible today without any interference with her treatment or disease process? In the Western world it is taken for granted that every individual has a right to take autonomous decisions but in the context of India the decisions are generally taken by the spouse or the head of the family.



**Dr Sandeep Mehta**

be living without them. But in their own minds they feel the calamitous loss of self-image. So, why do we as a society, family member or a treating physician not help her? Why do we deny a woman something which is possible today without any interference with her treatment or disease process? In the Western world it is taken for granted that every individual has a right to take autonomous decisions but in the context of India the decisions are generally taken by the spouse or the head of the family.





Historically, reconstruction of breast was delayed and the patient was made to live with their deformity. It was thought there was a chance of recurrence of the disease. However, studies have now clearly indicated otherwise. The advantage of early breast reconstruction is that it is psychologically beneficial and significantly reduces postoperative emotional stress.

### When to have surgery?

One can have reconstruction at the same time as breast cancer surgery or sometime later as delayed reconstruction.

An immediate reconstruction gives a new breast straight away. Women find that immediate reconstruction helps them cope more easily with their feelings about the loss of a breast. There is no need for another operation for reconstruction at a later stage. There is less scarring and better utilization of original breast skin.

### Lumpectomy (partial mastectomy)

Nowadays more and more of early breast cancers are treated by breast conservation in which only the part of the breast that is involved with the disease is removed (Lumpectomy) and the remaining breast is reconstructed by oncological techniques (by modifying or adding to the normal

breast) to bring it back to its normal shape, contour and aesthetics. This is a choice given to all patients diagnosed with early breast cancer.

### Mastectomy and reconstruction

There are patients in whom the entire breast has to be removed to treat the cancer effectively. These patients can always undergo breast reconstruction at the same time when their breast is being removed.

The common methods of reconstructing the breast are either by using implants made of silicone which are placed under the muscle while removing the breast or by bringing in new tissues from other parts of the body to fill the void created by the removal of the breast. These are in the form of flaps.

The most common method which gives the benefit of using one's own body tissues to reconstruct the breast is by using the skin and fat from the lower belly. This may be done without


harming the muscle of abdomen by doing the free DIEP flap as it is commonly referred to in medical terms. The skin and fat from the lower abdomen, where usually there is excess of both, are removed and used to make the breast by attaching its blood vessels in the chest area under magnification with the help of a microscope.

There are other methods of reconstruction whereby flaps from the back, buttocks or even thigh can be used to make a breast depending upon the size and volume required to match the remaining breast.

Some patients of breast cancer, with certain genetic defects, might have to undergo removal of both the breasts to prevent occurrence of cancer in other breast. It has become more common knowledge after Hollywood actress Angelina Jolie underwent it and made it public to promote awareness. In the West, more than 80% of these patients undergo immediate bilateral breast reconstruction as compared to only 39% who opt for reconstruction after removal of only one breast.

### Conclusion

Studies have suggested that immediate breast reconstruction should be done in order to reduce psychological morbidity after mastectomy. It can be performed with acceptable rate of complications, high level of patient satisfaction and decreased distress about loss of breast.

Historically, reconstruction of breast was delayed and the patient was made to live with their deformity. It was thought there was a chance of recurrence of the disease. However, studies have now clearly indicated otherwise. The advantage of early breast reconstruction is that it is psychologically beneficial and significantly reduces postoperative emotional stress. 

(The writer is Additional Director, Surgical Oncology, BLK Super Speciality Hospital, New Delhi)



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# New weight loss solution for new age people

Why waste time and money taking weight loss tablets or going to gym. It won't reduce overweight. Obesity is mainly caused by lifestyle changes induced by multinationals and by our own imbalanced intake. The effective and permanent remedy is "hormonal balancing" with the help of only food and nutrition, and without any drugs.

**BY LOKENDRA TOMAR**

**O**verweight is an alarming health, cosmetic and fitness issue in today's world. Equally scary is the thought of losing weight because it seems tough. Look at the weight loss pictures on the internet: people running, sweating, tape on the mouth, large plate with a cherry on it and blah-blah... It's as if a lot of hunger, labour, pain and sweat is associated with a weight loss programme and we have to go through all these to reduce weight!



Surprisingly, now we don't need to depend upon these techniques any more. There is a better way to reduce weight more effectively and permanently which is based on "hormonal balancing" with the help of only food and nutrition, without using any drugs or spending a lot of money.

Most of us may not be aware that there are about 600 hormones in our body such as insulin, leptin, ghrelin, thyroid, estrogen, progesterone, prolactin and testosterone, out of which four hormones are mainly responsible for weight gain – insulin, thyroid, cortisol and estrogen. We can call them obesity quartet. Imbalance in any one of them may cause disharmony in our body and disharmony leads to diseases.

Imbalance of these hormones begins with the imbalance in our food and nutrition. The root cause for the imbalance of food and nutrition is misinformation or no information about food among the masses. Multinational companies have drastically changed the eating habits of people around the globe. This lifestyle change has led to many lifestyle diseases, including obesity.

If you can understand the correlation between food, nutrition and hormones, you can easily solve the riddle called permanent weight loss.

There are three ways to understand the hormone imbalance in our body:-

1. **Body shape**
2. **Clinical symptoms**
3. **Blood test**

Once we are able to find out which hormone is disturbed in our body, we can design our strategy to reduce

weight with the help of food and food supplements. Therefore, once you understand your body and get to know what kind of food suits your body, not only you can reduce weight but also maintain your weight easily for life.

### How it works

Every person is individually and biochemically unique. Therefore, food for every person is also unique. Once we understand our own unique biology, we get to know what kind of food suits our body and it becomes easy to follow the discipline.

For example, if a person feels less hunger in the morning compared to evening, he may have a thyroid pattern. An ideal breakfast for a thyroid pattern person would be juices and salads.

On the other hand, if a person feels more hunger in the morning as compared to evening, he might have an adrenal body pattern. The ideal breakfast for this pattern would be cheese omelet with some salads. If they follow diet as per their body pattern, they would be able to lose weight easily and once they get the correct knowledge about their body pattern and what kind of food suits their body, not only they can maintain their body weight but also lead a disease-free life.

If you are a 30-year old female, you might have noticed that your grandmother got her menses at the age of 15; you got your menses at the age of 12 and your daughter might get her menses at the age of 10. This is because of the wrong food habits which led to estrogen hormone



Lokendra Tomar



There are about 600 hormones in our body such as insulin, leptin, ghrelin, thyroid, estrogen, progesterone, prolactin and testosterone, out of which four hormones are mainly responsible for weight gain – insulin, thyroid, cortisol and estrogen. We can call them obesity quartet. Imbalance in any one of them may cause disharmony in our body and disharmony lead to diseases.



At Royal way we have designed a systematic pattern of balancing the hormones with the help of food and nutrition, without any drugs. The first hormone which needs to be balanced is insulin because it gets influenced by food quickly.

and weight. Overall they don't lose weight at all and keep on spending money hugely.

### Weight loss with right food

At Royalway we have designed a systematic pattern of balancing the hormones with the help of food and nutrition, without any drugs. The first hormone which needs to be balanced is insulin because it gets influenced by food quickly.

Our body is made up of water (70%), fat (15%), protein (10%), vitamins, enzymes and minerals. Hence these ingredients should be the main components of our food. However, you will be surprised to know that 80-90% of our food contains only carbohydrates.

When we eat carbohydrate, it gets converted into sugar. This sugar goes into the blood and from there it is transported into the body cells for utilization. Sugar cannot be transported into the cell directly; rather it requires a carrier called insulin which takes it to the cells. Our body uses whatever amount of sugar it can use for energy and fuel and the excess amount of sugar is converted by our liver into fat. Insulin plays a major role in ordering liver to generate fat.

The first step is to balance insulin hormone; balancing insulin will trigger your body into fat burning machine without any heavy exercise, without hunger, without any caloric restriction. Once you start the process, fat burning starts in 48 hours. Not only this, it is applicable for all age group people and has shown result shortly. Overall we can say that losing weight is now a fun and as easy as having right food in your plate!!! 🍏



imbalance.

Obesity in children and teenagers is increasing day by day. Today young girls are having problems like irregular menses, prominent hip size, and dark skin patches behind the neck or dark underarms. All these are due to hormonal imbalance. Balancing these hormones with the help of food is easy and long-lasting.

We might have also seen girls and school-going kids gaining weight drastically due to wrong food habits or junk food. Moving further they try to reduce weight through dieting or eating very less, weight loss tablets and going to gym but still they find hardly any change in their body shape

(The author is a nutritionist, dietician and author of books on health and weight loss)

# Men Beware

There are some health issues that men can ignore only at their peril

**BY DR VINAY LABROO**



**G**eneral health is a topic that most men usually ignore. In today's fast paced life, they don't take time out for themselves and often become careless about their health. Mentioned below few signals that the body shows which no one should ignore.



important.

**Feeling tired and restless all the time:** Increased work pressure often, makes one feel tired. But, if this problem extends for long time even after having a good night sleep, it is an indication of some underline disease like heart disease, diabetes or depression.


**Persistent Constipation:** Constipation is a very common problem faced equally by both men and women everywhere. But if this problem doesn't get cleared after few days, consulting a doctor is very important. Continued constipation can be signal of Colon cancer if accompanied by dark colored urine or rectal bleeding.

**Pain while urinating:** Generally, this symptom is associated with urine infection but it can also be a sign of enlarged prostate or prostate cancer. Other symptoms highlighting the possibility of this problem are swollen prostate leading to frequent urge to urinate, trouble in urinating or emptying

your bladder or unusual smell from urine.

**Snoring:** Snoring isn't just a sign of lack of rest but also, of Sleep Apnea which is found more in men as compared to women. Those men who snore regularly should visit a specialist.

**Feeling out of breath while climbing stairs:** This is a classic signal of any cardiovascular (heart) disease. Heart diseases accounts for maximum number of deaths in men. So, if you feel breathless after doing any normal physical activity, make sure to get your blood pressure and cholesterol levels checked. Besides, few other symptoms like chest pain, light headedness, cold sweat are few other signals that no one especially men should never ignore.

**Indigestion or heartburn:** Irregular indigestion or the problem of acidity is normal. But if a man has the problem of chronic indigestion on a regular basis, it can lead to esophageal ulcers or esophageal cancer. 

(The author is Additional Director, Internal Medicine, Jaypee Hospital, Noida)

# Decreasing Discomfort

There is a total lack of awareness about when to apply the simple first aids called hot and cold therapies, widely practised by the people everywhere, sometimes leading to harmful consequences

**BY DR AMIT SARASWAT**

**H**eat and Cold are the two most common types of non-invasive and non-addictive therapy for muscle and joint pain but their use depends upon whether the pain is acute or chronic and the type of injury, if any.

## Cold therapy for injury

Inflammation has four signs: swelling, redness, pain and heat. When we apply ice to the injured part, it initially decreases the blood flow to the injury. Later the blood flow increases with decrease in inflammation and swelling. By this process it blocks the inflammatory process. On the contrary, inflammation due to injuries will worsen if heat is used. When we apply ice to the injured area vasoconstriction occurs first and then after 5 to 10 minutes the blood vessels will vasodilate.

Do not apply ice directly to the skin. Ice can be applied in towel as a pack or slightly wet towel dipped in an ice and water mixture or containing crushed ice for not more than 5-10 minutes at a time. Any cold treatment may be used for 24-72 hrs, from the time of injury. Cryo therapy is also useful after replacement operations like TKR (Total Knee Replacement) and THR (Total Hip Replacement) to reduce inflammation.

Ice pack will also serve as a local anaesthetic, numbing the pain and reducing muscular spasm, swelling and heat.

When there is an injury or discomfort a good rule to follow for first aid is the PRICE technique. It means: P for Protect the injury part, R for Rest the



injury, I for Ice the injury, C for Compress the injury and E for Elevate the injury above heart level.

## Hot therapy

Role of heat is to open up blood vessels, which increases blood flow i.e. vasodilatation and supplies oxygen and

nutrients to reduce pain in joints, relaxed sore muscles, ligament and tendon.

There are two types of heat application - dry heat and wet heat or moist heat.

Mostly we use moist heat i.e. heat that has moisture content. It may be applied as hot packs - towel soaked in

hot water and wringed. Moist heat improves the flexibility of the muscle and increases ROM (Range of Motion) because it penetrates better and goes deeper into the skin.

Dry heat does not penetrate through skin so you may get burns by that. Apply heat if you have joint stiffness or chronic pain.

**Some do's and don'ts**

Do not apply hot pack directly to the

skin. Use moist towel in between the skin and the hot pack. Do not keep hot pack for more than 10 minutes. Do not use heat if swelling is there, it can make inflammation worse. Do not use heat in diabetic neuropathy, circulatory or sensory problem. If possible ask your doctor or physiotherapist which heat source would be the best for you.

**Contrast Bath**

Immersion of a part of a limb in warm



**Dr Amit Saraswat**

water, immediately followed by immersion in cold water is beneficial. In contrast, bath warm water causes vasodilatation (widening of blood vessels) in the limb or body and cold water causes vasoconstriction (narrowing of blood vessel). The therapy increases local blood circulation.


**Benefits of Contrast Bath**

The therapy is useful in injuries that cause pain and swelling around soft tissues and joints of the body, basically used for distal joints like hands and feet to reduce swelling and edema.

**Method**

For Contrast Bath we take two buckets, one is filled with warm water and the other is filled with ice water. Immerse the area in warm water for 3 minutes and then switch immediately to the cold water and soak for one minute. Repeat 5 times. Always start with warm water and end with ice water.

**Contraindication**

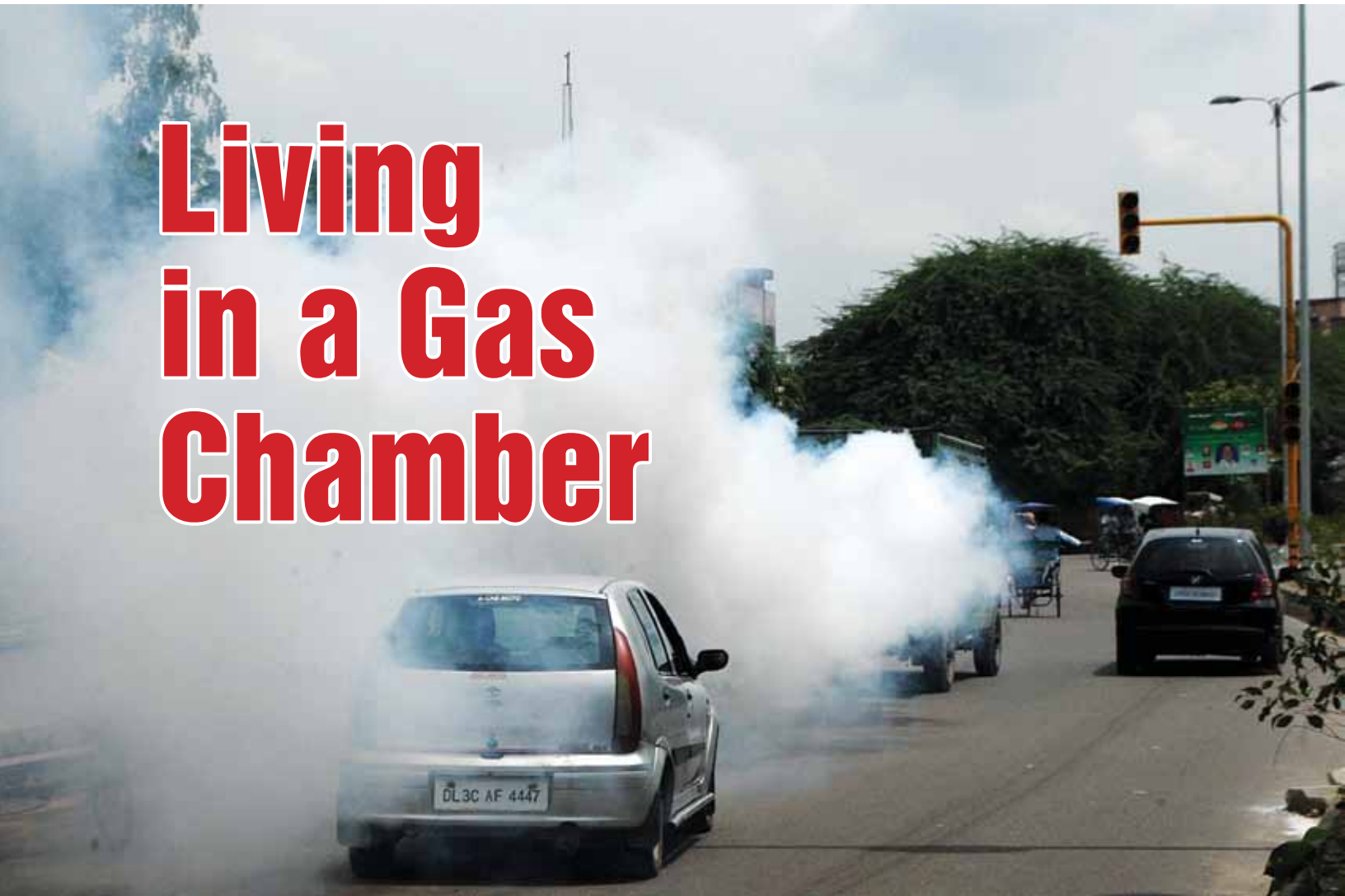
Do not use the method if you have high blood pressure, any circulatory problem, any broken or sore skin, reduction sensation in the affected area. Contrast Bath is also contraindicated in acute inflammation. Acute inflammation begins at the time of injury and lasts for approximately 72 hours. 

(The author is an expert in Physiotherapy and Founder of Physioveda India)



Do not apply hot pack directly to the skin. Use moist towel in between the skin and the hot pack. Do not keep hot pack for more than 10 minutes. Do not use heat if swelling is there, it can make inflammation worse. Do not use heat in diabetic neuropathy, circulatory or sensory problem

# Living in a Gas Chamber



Pollution has come knocking as a systemic disaster. Do the Centre and the State Governments have any action plan to combat the deteriorating air quality?

**BY AMRESH KUMAR TIWARY**

**T**he air quality in the National Capital Region is deteriorating day by day due to increasing pollution with the result that the incidence of respiratory and other chest ailments are on the rise. The situation has reached such an alarming dimension that many people are installing oxygen cylinders at home for emergency purposes, especially as a precautionary measure where elderly people are staying. Medical practitioners feel that the problem

needs the attention of not just some individuals, but of an entire system, to make the Capital city's air breathable again.

Delhi is not alone, almost every busy city around the world is slipping into this inescapable state of ghettos of traffic fumes and industrial effluents. For example, Beijing's case has been scary in recent times, caught in a manufacturing race over time. Visibility was nil this time, leading to emergency cleanup and an industrial shutdown yet with a permanent

solution eluding all. No doubt, the economic inevitabilities, an unplanned development and a socio-economic life propelled by hysterically aspirational marketing are taking life around the world to a point of no return.

A recent study by WHO showed that New Delhi's air is the world's worst polluted, and 13 of the 20 most polluted cities in the world are in India. A month ago, nothing was visible in Beijing with a thick haze of dust and fumes covering the city, and even





other regions in China. But data showed that New Delhi's air was worse in terms of quality. Between August 2014 and August 2015, Delhi's levels of air pollution by the more harmful PM2.5 ('fine' Particulate Matter in the air with an aerodynamic diameter of less than 2.5  $\mu\text{m}$ ), was far above the levels in Beijing.

### What is Particulate Matter (PM)

Particulate matter (PM) is the term for particles found in the air like dust, dirt, soot, smoke and liquid droplets. They are mostly created by automobiles and coal-fired power plants. Some are large or dark and can be seen as smoke. Others are so small and can be seen only by an electron microscope. Particles smaller than 10 micrometres in diameter (PM10) pose a health hazard. During inhalation they get deposited in the lungs. Particles smaller than 2.5 micrometres in diameter (PM2.5) are called "fine" particles. Approximately 1/30th the width of a human hair, these particles pose the greatest health risks. They get deeply lodged in the lungs. The 'fine' particles come mostly from combustion activities of motor vehicles, power plants, wood burning, industries and the like. Particles with diameters between 2.5 and 10 micrometres

Reducing the public health impacts of ambient air pollution requires addressing the main sources of the air pollution, including inefficient fossil fuel combustion by motor vehicles and in power generation and improving energy efficiency in homes, buildings and manufacturing.

called "coarse" come from crushing or grinding operations and dust from the roads.

There are agencies worldwide that establish ambient air quality standards for each of the criteria pollutants. The most harmful pollutants closely associated with excessive premature mortality are these 'fine' PM2.5 particles.

Although air quality in developed countries has been generally improved over the last decades, the adverse health effects of particulate air pollution, even at relatively low levels, remains a global public health concern.

Not only the Chinese Government

but also civil society organizations are now saying that Beijing's air quality is improving steadily due to aggressive anti-pollution policies. Average annual PM2.5 levels fell by about 25% from November 2014 to November 2015, after more modest reductions since 2012. But India's Capital is still too far from achieving its goal to minimize pollution levels.

Data collated by the Central Pollution Control Board shows Anand Vihar located in East Delhi has the worst air quality in the Capital, 30-40 per cent more polluted than localities such as Dwaraka and Punjabi Bagh. The WHO and other global bodies monitoring the air quality in Delhi go a step further and define the area as among the most polluted in Asia. Add to that hundreds of trucks carrying animals and processed meat to and from adjoining Ghazipur, which has Asia's largest livestock market and slaughter house, and you can imagine why Anand Vihar is the most alarming name in the pollution story.

Anand Vihar's Air Quality Index (AQI), a parameter measuring the chief pollutants, was as high as 455, 473 and 495, respectively, during the peak hours against a safe level of 50. At this 'severe' level, even healthy people can be affected, while those with existing

## What the doctors say



### Diesel emissions are a carcinogen

"Diesel emissions have also been defined by WHO's International Agency for Research on Cancer as a carcinogen. Building cities around rapid public transport systems, complemented by dedicated walking and cycling networks, will reduce pollution. Transport is directly responsible for anywhere from 15 to 70% of urban ambient air pollution in urban areas. A holistic approach involving energy, industry, and building sectors, together with the transport sector, is required to reduce the disease burden from ambient air pollution."

**Dr A K Agarwal**, Professor of Excellence and former Dean, Maulana Azad Medical College, New Delhi

### Disproportional disease burden



"Improving ambient air pollution is an inter-sectoral challenge. There is significant inequality in the exposure to air pollution and the related health risk: air pollution combines with other aspects of the social and physical environment, creating disproportional disease

burden in populations with limited incomes and with minimal local resources to take action."

**Dr K K Aggarwal**, Heart Specialist and Secretary General, Indian Medical Association, New Delhi

### Lack of awareness



"In parts of Europe where stricter standards and regulations for vehicles have been enforced, ambient air pollution levels are stable. There is often a lack of awareness about the health burden of ambient air pollution."

**Dr Vinay Aggarwal**, Founder-Chairman, Max Superpeciality Hospital, Vaishali, and former president, Indian Medical Association, New Delhi



"Around 50 percent of people, almost all in developing countries, rely on coal and biomass in the form of wood, dung and crop residues for domestic energy. These materials are typically burnt in simple stoves with incomplete combustion. Consequently, women and young children are exposed to high levels of indoor air pollution every day. There is consistent evidence that indoor air pollution increases the risk of chronic obstructive pulmonary disease and of acute respiratory infections in children and it is the biggest cause of death among children under 5 years of age in developing countries. Exposure to indoor air pollution may be responsible for nearly two million excess deaths in developing countries. Indoor air pollution is a major global public health threat requiring greatly increased efforts in the areas of research and policy-making."

**Dr Manisha Yadav**, Medical Practitioner



# Asthma care – Some tips

**T**here are a number of reasons for developing asthma, but increasing air pollution is being considered as one of the major causes. Asthma is characterized by an abnormal behaviour of the bronchial pipes triggered by an allergic reaction that makes breathing difficult. The problem increases in the winter.

## Here are some tips to alleviate your suffering

If you are experiencing severe symptoms of wheezing while breathing both in and out, coughing that won't stop, very rapid breathing, chest tightness or pressure, tightened neck and chest muscles called retractions, difficulty in talking, feeling of anxiety or panic, pale, sweaty face and blue lips or fingernails or worsening of symptoms despite taking medication, you might be having an attack of asthma.

Sometimes asthma symptoms include sighing, fatigue, and rapid breathing, not coughing or wheezing. You must take certain precautions like never forget your inhaler, stay calm, beware of indoor allergens, never breathe from your mouth.

For being extra safe this winter, pull a neck gaiter, scarf or turtleneck up over your mouth and nose to warm the air you are inhaling. Avoid exercising outdoors when it's very cold outside. It is also advised to change the filters of your heating system every year before winter season starts.

Asthma is a persistent disease of the bronchial pipes (air shaft) that makes breathing difficult. It is usually connected to allergic reaction or other forms of hypersensitivity.

According to Dr Pankaj Sayal, Senior Consultant, Pulmonology, PSRI Hospital,

New Delhi, asthma problems gradually increase in winter. Cold weather can cause asthma to flare up more than usual, not to mention the extra threat of colds and flu, which can badly affect the respiratory system. The attacks happen more often in the winters because of mainly two reasons: the patients usually spend more time indoors in the winters and there is cold outside. Hence the challenges in the winters increase for the asthma people.



**Dr Pankaj Sayal**

An asthma attack is characterized by an unexpected corroding symptom caused by the tightening of the muscles around your airways (bronchospasm). During an attack, the lining of the airways also becomes swollen or provoked and mucus more than normal is produced. All these factors create bronchospasm, inflammation, and mucus

production.

Says, Dr Swapnil Shikha, Director, Amrapali Healthcare, Noida, "There are many more reasons why winter is a problem for asthmatics. The cold air itself is a common trigger of breathlessness and the attacks, plus winter brings with it an increase in colds and respiratory infections like Swine flu etc. Being indoors can cause problems too as the air is often of poor quality during the winter because we prevent fresh air circulation by closing the doors and windows to keep out the chill."

Smog is another factor which can aggravate asthma for people living in and around Delhi. Much of this is unavoidable so it's important that you and those around you know about your asthma in case you do have an attack.

Dr Pankaj Sayal, says, To avoid getting infections or catching cold one should




**Dr Swapnil Shikha**

always wash one's hands properly with soap and water because infections aggravate the asthmatic condition. Alcohol-based sanitizers work best for this.

One should not sit by a fire place as the smoke of the burning woods is like burning tobacco and it triggers asthma. Exercise indoors. On days when it's bitterly cold outside and the wind chill makes it feel like it's below zero, go to the gym instead of exercising outside. The temperatures and the humidity in the gym are less likely to cause a problem. If you still want to exercise in the fresh (albeit cold) air, choose a time of the day when it might be warmer, such as the mid-afternoon.

Says, Dr Swapnil Shikha, Your home heating system may blow dust throughout your house, especially when you first start it up for the winter. It's important to clean and replace the filters before turning on your system so as not to release the debris and trigger an asthma attack. Clean and check the filters periodically throughout the heating season to avoid issues with winter asthma. Also, try to keep the temperature and humidity levels in your home consistent.

The Centre for Disease Control and Prevention (CDC) recommends that most people aged 6 months and older get an annual flu shot to help protection against the flu virus. Having asthma won't make you more susceptible, but if you do get the flu, the results could be more serious, even if you keep your asthma symptoms under control. It's important that people with asthma get the injectable form of the flu vaccine made with inactivated killed flu virus. People with asthma shouldn't get the nasal spray (FluMist) vaccine because it contains live virus. 



# Alarming Disclosure

**S**tudies conducted in low income countries have found that exposure to indoor air pollution resulting from the use of biomass fuel for cooking and second-hand tobacco smoke has adverse effects on maternal health and foetal growth resulting in preterm birth and Low Birth Weight (LBW).

Low Birth Weight (LBW) is defined as weight less than 2500g at birth. Further categories include Very Low Birth Weight (VLBW) which is less than 1500g and Extremely Low Birth Weight (ELBW) which is less than 1000g. Normal birth weight after completion of nine months of gestation is 2500–4200g. Birth weight is governed by two major processes: duration of gestation and

intrauterine growth rate.

The LBW is thus caused by either a short gestation period (Prematurity) or due to intrauterine growth retardation (IUGR) or a combination of both. Prematurity is usually defined as a gestational age of less than 37 weeks. LBW babies are at high risk because, 20% of neonatal mortality is due to LBW alone. LBW and prematurity are together associated with 35% neonatal mortality. The birth weight of babies is directly influenced by the health status of the mother during pregnancy.

According to **Dr Suneela Garg**, Director-Professor, Department of Community Medicine, Maulana Azad Medical College, New Delhi, the proportion of babies with a LBW is

an indicator of a multifaceted public health problem that includes long-term maternal malnutrition, ill health, hard work and poor health care in pregnancy. On an individual basis, LBW is an important predictor of new-born health and survival and is associated with higher risk of infant and childhood mortality.

LBW prevalence of a country is a good measure reflecting its public health problems and has been used as a very sensitive public health indicator for all the developing countries, including India. Globally the incidence of LBW is 15% or approximately 1 in every 7 child births and in India it is 28%. In developing countries, LBW is mostly attributed to IUGR; while in developed countries it is mainly due

to prematurity.

The main determinants of LBW brought out by various studies include – maternal pre-pregnancy weight, maternal weight gain during pregnancy, maternal height < 145cm, inadequate antenatal check-up (< 3 visits), maternal age < 20 years, anaemia (haemoglobin level < 11 g%), inadequate dietary intake during pregnancy, birth spacing, birth order, maternal education, economic status, heavy work during pregnancy, rest, smoking and alcohol consumption during pregnancy and other maternal health problems.

Indoor air pollution (IAP) is an important risk factor for morbidity and mortality; it accounts for about 4% of the global burden of disease. Nearly two million people die each year from causes related to IAP. More than 90% of these deaths occur in low and middle income countries, often in rural or semi-urban areas. IAP levels in these countries are typically many times higher than developed world standards for ambient air quality. Since women and young children often spend considerable time indoors, mostly associated with food preparation and cooking, they are at greatest risk for exposures to IAP.

Globally, three billion people, about half the world's population, rely on solid fuel including wood, charcoal, crop residues, dung and coal as the main source of household energy. In many low and middle income countries, solid fuel used for household activities such as cooking and heating is a major source of IAP. 4.8% of deaths in low income countries are attributed to IAP, whereas in high income countries outdoor air pollution is the major problem. Solid fuels are often burned over an open fire or in an inefficient stove. The incomplete combustion of solid fuels in simple stoves releases a complex mixture of toxic chemicals.

It has been observed in the studies conducted in low income developing




countries that indoor air pollution was associated with a significant increased risk of LBW when compared to mothers who used LPG fuel for cooking during pregnancy. Indoor air pollution due to incomplete combustion of biomass fuel in open stoves without chimneys can produce carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), sulphur dioxide (SO<sub>2</sub>), volatile organic compounds and particulate matter concentrations many times higher than those found in the worst outdoor settings. These are associated with significant adverse health effects on the pregnant mother as well as directly on the foetus leading to poor intrauterine growth.

Says **Dr Naveen Prabhu J**, Department of Community Medicine, Maulana Azad Medical College, New Delhi, “Not only consumption of tobacco during pregnancy but even exposure to second-hand tobacco smoke (SHTS) also increases the risk of prematurity and IUGR. The most likely mediators in tobacco smoke are carbon monoxide and nicotine. Carbon monoxide can interfere with oxygen delivery to the foetus and nicotine is believed to result in rapid increases in maternal catecholamines and consequent uterine vasoconstriction, both leading to uteroplacental insufficiency and IUGR.”

Unfortunately, the households that use the poorest quality cooking fuels are often the most likely to allow indoor smoking, thus increasing the

exposure to poor quality indoor air. The condition is worsened by the fact that most of these households in the low income developing countries have poor ventilation and overcrowding, leading to trapping of noxious air indoors with more number of people breathing themselves to ill health. So, exposure to IAP has adverse effects on maternal health and foetal growth resulting in preterm birth and low birth weight. The detrimental effects of IAP further continue into infancy and childhood leading to significant childhood morbidity and mortality.

Emphasis should be on creating awareness among the rural and urban poor about the hazards of indoor air pollution and adoption of healthy lifestyle practices like avoiding use of solid biomass fuels and avoiding smoking indoors especially in proximity to children and women. Subsidies for construction of separate well ventilated kitchens with chimneys or exhaust for smoke and free provision of LPG fuel for the underprivileged people need to be taken up by the Government. Legislations on source reduction of harmful solid fuels should be implemented.

Also, at the community level, planting of trees and greeneries in the houses would help in purifying the polluted air. Further research are needed to determine how indoor air quality can be improved and monitored and the effect that such measures would have on improving maternal and child health outcomes. 

# Sharp rise in lung cancer cases in India



Lung cancer, one of the most deadly cancers, has reached almost epidemic proportions in India owing to the increased prevalence of air pollution. Increased vehicular traffic and industrial pollution seems to be adversely affecting the environment and causing serious concerns.

Lung cancer is one of the most deadly cancers of the present times. It is a tumour in the lungs characterized by uncontrolled growth of abnormal cells in the tissues of the lung that start off in one or both lungs, usually in the cells that line the air passages.

These tumours are of two types, benign tumours – the ones that remain in one place and do not spread - and malignant tumours – the ones that keep spreading into other parts of the body. With the increase in the number of tumours they keep on becoming larger in size, impeding the lung's ability to provide the blood stream with oxygen.

## The most common symptoms of lung cancer are:

- Cough: It stays and gets worse eventually and is accompanied by blood, sometimes
- Chest pain: Increases when laughing or coughing
- Breathing problems: Shortness of breath
- Weakness: Getting tired easily and becoming weak, resulting in weight loss and drop in appetite
- Frequent bronchitis & pneumonia: Either it doesn't go, or is recurring.

Non-small cell lung cancer can be treated with surgery, chemotherapy, radiotherapy or a combination of all, depending upon the stage of the cancer. However, small-cell lung cancer is mostly treated with chemotherapy, radiotherapy and other medications as

surgery is not suitable for this as it would have already spread by the time it was diagnosed.

Recent study by the Indian Council of Medical Research (ICMR) under its National Cancer Registry Programme claims deaths due to cancer saw a rise of 6 percentage points between 2012 and 2014. On an average, around 1300 people die due to cancer daily.

According to **Dr Amit Aggarwal**, Sr. Consultant in Medical Oncology Department, BLK Super Speciality Hospital, "When we blame smoking to be the cause of lung cancer, an astonishing fact comes across us. There has been a great rise in the number of lung cancer cases among women over the past 20 years. This might prove air pollution to be a bigger threat to the disease."

**Dr. Rajesh Jain**, Sr. Onco Surgeon, Action Cancer Hospital, New Delhi, says, "With a million new cases being reported every year, cancer seems to be tightening its grip on India. Ageing population, unhealthy lifestyle, use of tobacco and related products are few major reasons identified as precursors to the rise in mortality due to cancer."

Almost 90 percent of all lung cancer cases globally are associated with smoking, irrespective of the fact that the person is an active smoker or a passive one, as both are dangerous. Heavy exposure to metals like asbestos, radon, uranium or arsenic is another reason causing lung cancer. However, the disease may also run in family




**Dr Amit Aggarwal**



**Dr Rajesh Jain**

genes. A study reveals that people with the rare inherited T790M mutation of the epidermal growth factor receptor (EGFR) gene have higher chances of getting lung cancer. But environmental pollution has led to a steep rise in lung cancer among Indians in the 45 to 55 age group.

Air pollution kills about 7 million people worldwide every year, according to a research conducted by the World Health Organization (WHO). It occurs due to the interference of harmful gases, dust and smoke into the atmosphere deteriorating the quality of the air in the atmosphere, making it unsuitable for breathing. In fact, out of the 20 most polluted cities in the world, 13 are in India, with Delhi topping the chart.

While in 1990, one woman was diagnosed with the disease for every three men, the figure has doubled to two for every three male cases. According to research, lung cancer in women increased up to 94.1% in 2013 compared to 1990. In case of men the increase in percentage was 62 in 2013 compared to 1990. However, it is quite difficult to identify the early symptoms of lung cancer. 



**Dr Anup Mohta,**

respiratory ailments face serious threats. PM10, or respirable particulate matter with a size equal to or less than 10 micron, is the lead pollutant in the area. Prolonged exposure to PM10 in high concentrations can cause coughing, wheezing, asthma attacks and bronchitis. The level of the even more dangerous PM2.5 (tinier and more easily inhaled particulate matter) too was four or five times the safe standard of 60 micrograms per cubic metre.

Health interventions must be guided by both emission and exposure estimates. A policy that addresses multiple sources of pollution will be critical for prevention and dealing with existing health impacts of air pollution, which requires the representation and coordination of various ministries.

Alarmed at the current air pollution levels in the city, the Delhi High Court described the situation as similar to living “in a gas chamber” and demanded an immediate action plan from the Centre and the State Government to combat the deteriorating air quality. Identifying emissions by vehicles and construction related particulates as key pollutants in the Capital, the court recently ordered a clampdown on both, asking the Government agencies to take necessary steps thereby dismissing

WHO estimates that 12.7% of deaths could be averted by improving air quality worldwide. Lower levels of air pollution will reduce the burden of respiratory and cardiovascular disease-related illnesses, health-care costs, and lost worker productivity due to illness, as well as increasing life expectancy among local populations.

the plans filed by the Environment Ministry and the Delhi Government as non-comprehensive.

The High Court also took a serious view of the extreme air pollution being caused by unrestrained burning of trash and leaves in the city and the adjoining areas. It ordered the Delhi Government to ask all Sub-Divisional Magistrates to get cracking against the offenders.

#### **Health consequences**

Exposure to high levels of air pollution can cause a variety of adverse health outcomes. It increases the risk of

respiratory diseases like bronchitis, emphysema, childhood pneumonia and asthma, heart diseases, stroke and lung cancer. Children, the elderly, the poor and the sick are the most susceptible.

According to **Dr Anup Mohta**, Director, Chacha Nehru Bal Chikitsalaya, East Delhi, it is not simply those who spend a lot of time outdoors who are affected, even month-old babies are unable to breathe normally and suffer from blockage of the nostrils due to air pollutants. All that can be done in such cases is to open up the upper airway by administering saline drops.

Worldwide, 3.7 million premature deaths were attributed to ambient air pollution in 2012. About 88% of these deaths occurred in low and middle income countries.

The WHO maintains a worldwide, public database on urban outdoor air pollution in its Global Health Observatory. The database contains measured outdoor air pollution levels of PM2.5 and PM10 from 1100 cities in 92 countries for the years 2003-2010. These are used for estimating mean annual exposures of the urban population to fine particulate matter. In 2013, WHO began collaborating with major institutions and agencies worldwide in the development of a global air pollution platform that

## Consequences of Air Pollution



### Trigger for asthma

Asthma is a chronic, occasionally debilitating inflammatory disease of the airways that may be caused by air pollution from vehicles, factories or power plants. The experts state that the following air pollutants are common triggers of asthma:

ground level ozone, sulfur dioxide, fine particulate matter and nitrogen oxide. The Center for Disease Control and Prevention or CDC states that another important trigger for asthma attacks is environmental or secondhand tobacco smoke. The CDC suggests that parents, friends and relatives of children with asthma should attempt to quit smoking and should never smoke in proximity to a child or a person with asthma, as this could cause an asthma attack.



### Chronic Obstructive Airway Disease

Chronic obstructive pulmonary disorder is also a disease that can be caused by air pollution. Chronic Obstructive Pulmonary Disease (COPD) is also known as Chronic Obstructive Lung Disease (COLD) and Chronic Obstructive Airway Disease

(COAD). It is characterized by chronically poor airflow. Chronic bronchitis and emphysema are common chronic obstructive pulmonary disorders. With this, a person's airways and air sacs lose their shape and become distended or floppy and over-inflation of the alveoli causes shortness of breath.



### Risk of lung cancer

Urban air pollution boosts lung cancer risk, and motor vehicle emissions may be particularly problematic. Lung cancer is characterized by the uncontrolled growth of abnormal cells in one or both lungs. Over time, the abnormal cells can develop into

tumors and impair the lung function.

includes data on air pollution concentrations based on satellite monitoring, chemical transport models and ground measurements, inventories of pollution emissions from key sources, and models of air pollution drift – permitting estimates of air pollution exposures even in areas where there are no ground level monitoring stations.

WHO's main function is to identify and monitor air pollutants with the greatest impact on people's health. This helps the WHO member-States to focus their actions on the most effective way to prevent or reduce health risks. WHO also reviews and analyzes the accumulated scientific evidence, and uses expert advice to draw conclusions on how different types of air pollutants affect health as well as identify effective measures to reduce the air pollution burden.

The Governments can identify the main sources of ambient air pollution, and implement policies known to improve air quality, such as promotion of public transport, walking, and cycling, streamlining of power plants etc.

Essential accompanying steps must include increasing awareness about the high disease burden from ambient air pollution and its main sources, as well as highlighting the importance of taking action to implement country-specific interventions. In addition, the use of effective monitoring to evaluate and communicate the impact of interventions is also an important tool in raising awareness. It can help drive policy action that brings benefits for health, climate and the environment.

WHO estimates that 12.7% of deaths could be averted by improving air quality worldwide. Lower levels of air pollution will reduce the burden of respiratory and cardiovascular disease-related illnesses, health-care costs, and lost worker productivity due to illness, as well as increasing life expectancy among local populations. In addition, actions that reduce ambient air pollution will also cut emissions of short-lived climate





pollutants, particularly black carbon which is a major component of soot emissions from diesel vehicles, and other sources, as well as greenhouse gases (eg. CO<sub>2</sub>) contributing to long-term climate change impacts.

Climate change produces a number of adverse effects on health. This includes those from drought and extreme weather events (eg. windstorms, floods), such as water-borne and food-borne diseases. It also increases the prevalence of vector-borne diseases like dengue or malaria.

### Leading role for health sector

Public health recognizes air pollution as an important determinant of health. Today this is especially the case in developing countries where exposure to air pollution is now higher than in developed countries, where mitigation measures led to reductions in exposure. Air pollution combines with other aspects of the social and physical environment to create a


Exposure to air pollutants is largely beyond the control of individuals and requires action by public authorities at the national and regional levels. The health sector can play a central role in leading a multi-sectoral approach to prevent exposure to air pollution.

disproportional disease burden in less affluent parts of society.

Exposure to air pollutants is largely beyond the control of individuals and requires action by public authorities at the national and regional levels. The health sector can play a central role in leading a multi-sectoral approach to prevent exposure to air pollution. It can engage and support other relevant sectors (transport, housing, energy



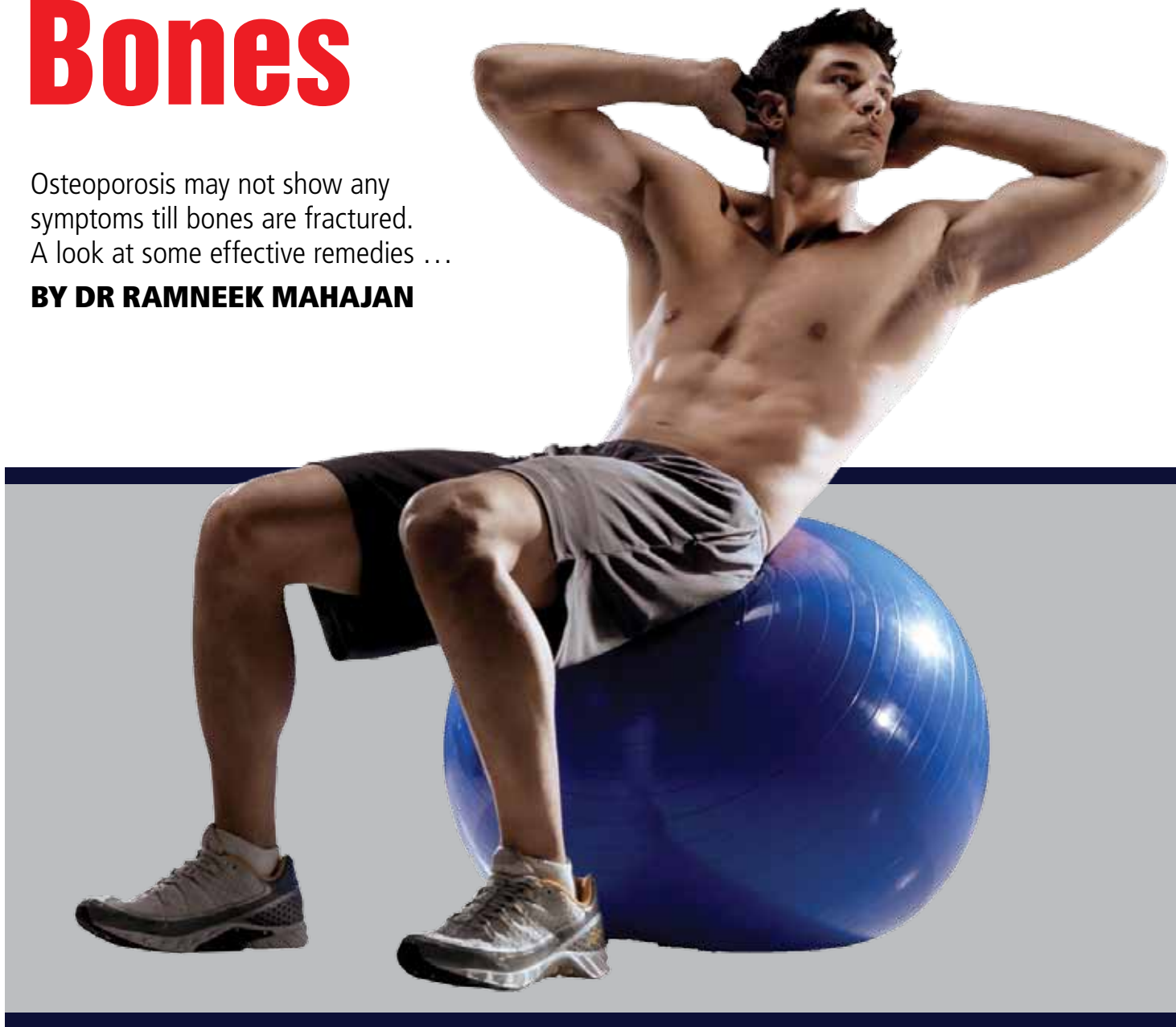
production and industry) in the development and implementation of long-term policies to reduce the risks of air pollution to health.

Reducing the public health impacts of ambient air pollution requires addressing the main sources of air pollution, including inefficient fossil fuel combustion by motor vehicles and in power generation and improving energy efficiency in homes, buildings and manufacturing. Action by public authorities at the national, regional and even international levels is called for. Individuals can also contribute to improving air quality by choosing cleaner options for transport or energy production. 

# Strengthening Bones

Osteoporosis may not show any symptoms till bones are fractured. A look at some effective remedies ...

**BY DR RAMNEEK MAHAJAN**



**T**ai chi and acupuncture are used for the management of osteoporosis – a condition in which the bones become brittle as well as fragile due to loss or damage of tissue, as a result of hormonal changes in the body, or

deficiency of calcium or vitamin D etc. Acupuncture is a therapeutic intervention characterized by the insertion of fine metallic needles into or through the skin at particular sites while tai chi is another Chinese practice consisting of gentle exercise.

Osteoporosis may not show any symptoms till bone gets fractured. And some osteoporotic fractures may even escape detection for years as they do not get noticed. The major symptom associated with osteoporotic fractures, like in others, is pain. The location of

the pain depends on the location of the fracture.

The symptoms of osteoporosis in men are similar to the symptoms of osteoporosis in women. It can happen to anyone.

### What causes osteoporosis

Most of the time it is lack of calcium, vitamin D, magnesium and potassium that gives birth to osteoporosis.

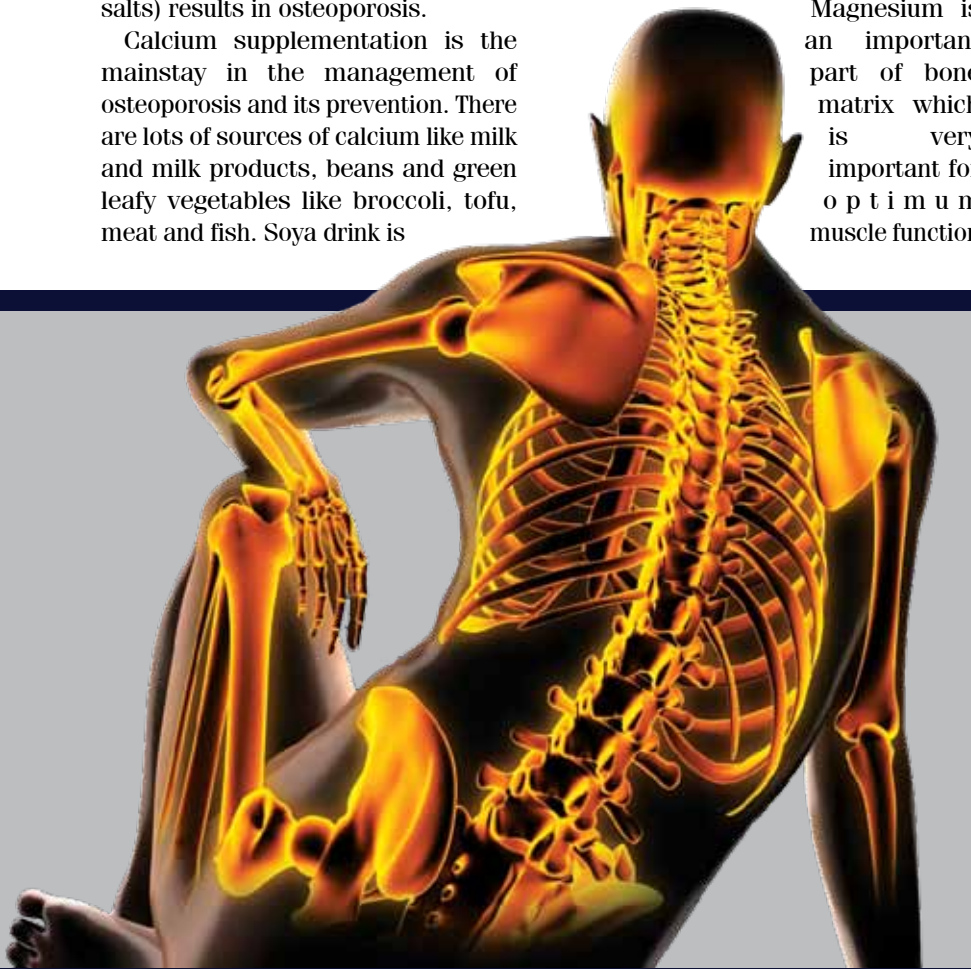
Calcium is not less than a boon for osteoporosis patients. It is the most important constituent of bones and any reduction of bone mass (calcium salts) results in osteoporosis.

Calcium supplementation is the mainstay in the management of osteoporosis and its prevention. There are lots of sources of calcium like milk and milk products, beans and green leafy vegetables like broccoli, tofu, meat and fish. Soya drink is

also an excellent source of calcium. Different kinds of herbs and supplements are also helpful in osteoporosis which includes spinach and dark green leafy foods, basil, savoury, sesame seeds, chia seeds and quinoa.

The role of vitamin D in the life of a patient with osteoporosis is very important as it acts as a regulator of calcium metabolism in our body and also helps in calcium absorption and prevents its loss through urine. Its deficiency quickens the osteoporotic process and makes bones softer.

Magnesium is an important part of bone matrix which is very important for optimum muscle function



Tai chi, originally a Chinese tradition, is today a stress-buster exercise said to be useful in various health conditions. With its gentle movements, it has come to be described as meditation in motion



**Dr Ramneek Mahajan**

and heart function. Its deficiency results in fatigue and decrease in stamina. It reduces the constipating effects of calcium, and so it is used in calcium supplements.

The need for potassium is higher in patients suffering from osteoporosis because recent studies show that apart from maintaining optimum muscle and heart function, potassium plays an important role in bone metabolism. It neutralizes excess acid in the body and prevents calcium loss.

Also consumption of foods which are rich in a class of substances called phytoestrogens could be beneficial for the patients of osteoporosis. Phytoestrogen is also known as dietary estrogens, which are plant-derived polyphenol that have estrogen-mimicking action. It is usually found in a large variety of foods like soybeans, coffee, linseed, barley, oats etc. It is very helpful in postmenopausal women. It also prevents osteoporosis and other harmful effects of menopause and also has lesser side-effects than synthetic estrogens.

### Light exercises as a preventive method

But there are some other natural ways available to deal with osteoporosis which may include gentle weight-bearing exercise which reduces bone loss, and helps in increasing bone density. Any exercise that improves blood circulation of a particular area is



acupuncture needles are inserted into various parts of the human body.

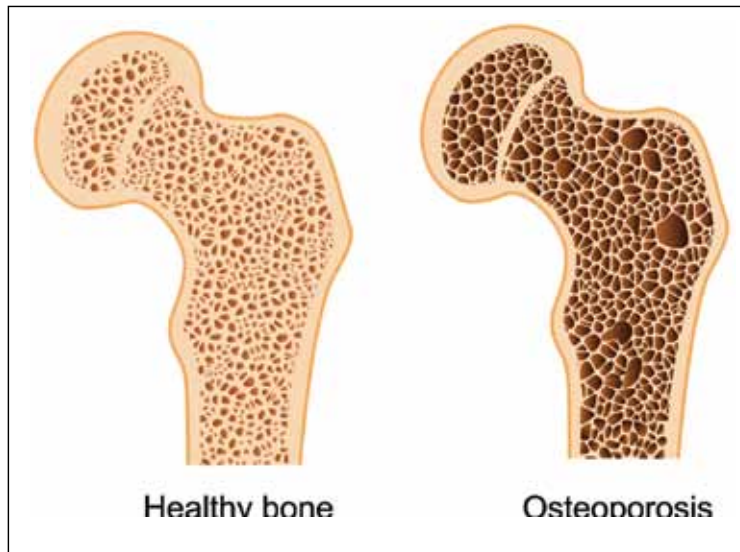
Earlier known as a self-defence practice, tai chi, originally a Chinese tradition, is today a stress-buster exercise said to be useful in various health conditions. With its gentle movements, it has come to be described as meditation in motion. It involves gentle exercise without break, stretching and deep breathing. It is different from Indian yoga which involves various physical postures.

helpful in the prevention as well as cure of osteoporosis.

These exercises result in stress on bone and muscles more than that involves everyday lifestyle. This includes brisk walk daily, 5-6 days in a week, lightweight dumb-bell exercises for upper extremity, leg press and thigh press, spine isometric flexion and extension exercises, yoga, tai chi, acupuncture, etc.

In an established osteoporosis case, bones are weak and fragile and oversteering can result in fracture and that is why not all the exercises are helpful, and someone performing these exercises aptly will be at a risk of more damage.

So, it is always advisable that a person should follow the exercise pattern suggested by orthopedics. Avoid over-exertion and fatigue, do



gentle lightweight exercises, instead of heavyweights.

### Benefits of tai chi and acupuncture

Acupuncture is usually used for pain relief but it has come to be of help in many other medical conditions. A part of Chinese medical system, in

Mostly, anybody can do tai chi anytime, anywhere.

Tai chi acts on the intrinsic energy of the body and improves its blood circulation. In case of osteoporotic treatment and prevention, it acts by improving the kidney function. Kidney plays an important role in the calcium metabolism of the body. There are proven data regarding its benefits in the management of osteoporosis. At many centres across the world

it is used as one of the treatment methods in osteoporosis.

It is reported that 45 minutes of tai chi five days a week for a year reduces bone loss by 3-4 folds.

(The author is Director, Orthopaedics & Joint Replacement, Saket City Hospital. New Delhi)

# Chinks in the Strategy



The most poignant part of the AIDS scenario is that children are being forced to share the burden of the curse

**BY ABHIGYAN**

**A**s AIDS Day is observed across the globe on December 1, India has entered the third, and perhaps the most perplexing decade of its fight against HIV-AIDS epidemic. Today, less than a tenth of those who need second-line HIV drugs have access to them. These patients run the risk of developing resistance to drugs and can become a bigger threat to their community.

Although medicines have had a salutary effect on the epidemic so far, yet we could head for big trouble if patients don't adhere to treatment or fail to get it on time.

Indeed, while year on year the incidence of new infection among the general population and pregnant women has

shown a significant decline that among the risk groups continues to be a cause for concern. As per the surveillance data of 2010-11, HIV among female sex workers in Mumbai, for example, was around 6%, way higher than the national prevalence of 2.7%.

However, the main sentiment on the eve of World AIDS Day was of positivity. The difference between HIV in 1985 and 2015 is that HIV positive people don't really frighten others anymore.

Mumbai currently has over 30,000 people living with the disease. A senior NGO member said the disease is no longer a death sentence. But a doctor said the government programme faces problems that the officials aren't ready to

accept.

Paediatric HIV is a major problem in the India with most of the children acquiring the deadly virus from their HIV-infected mothers during pregnancy, birth and breast-feeding. But such children remain the least focused group. The human immunodeficiency virus (HIV) that causes Acquired Immunodeficiency Syndrome (AIDS) continues to be a major global public health issue, having claimed more than 39 million lives so far. HIV has infected men, women and children in the developed as well as the developing countries.

The WHO reported 23% of children in need received treatment in 2013 as compared to 37% for adults, pointing to a larger gap between services for adults and children living with HIV.

According to the United Nations Programme on HIV and AIDS (UNAIDS), 1.2 million people died from HIV related causes globally in 2014. There were approximately 36.9 million individuals living with HIV at the end of 2014 with 2.1 million people newly infected. The total estimated number of children under the age of 15 years living with this virus globally was 2.6 million at the end of 2014 with 0.22 million children newly infected and 600 children being infected daily. In 2014, 0.15 million children died from HIV related causes globally.

Sub-Saharan Africa is the most affected region with 25.8 million people living with HIV in 2014. The Asia-Pacific region carries the second greatest burden of this disease with 5 million people living with HIV and 0.34 million people becoming newly infected in 2014. The estimated number of children living with HIV in the Asia-Pacific region is 0.2 million of which 21,000 children are newly infected.

### Cases in India

The estimated number of people living with HIV/AIDS in India was 2.1 million in 2014. Of these, women constituted 39% (0.75 million), while children comprised 7% (0.14 million). The adult (15-49 age groups) HIV prevalence at the national level has continued its steady decline from an estimated level of 0.41% in 2001 to 0.3% in 2014. Still India is estimated to have the third highest number of people living with HIV/AIDS, after South Africa and Nigeria, with around 0.11 million annual new HIV infections among adults and around 14,500 new HIV infections among children, as reported in 2011.

As per the 2012-13 estimates, four high prevalence States Andhra Pradesh, Karnataka, Maharashtra and Tamil Nadu account for 53% of all HIV infected population in the country. Prevalence of

As per the 2012-13 estimates, four high prevalence states - Andhra Pradesh, Karnataka, Maharashtra and Tamil Nadu - account for 53% of all HIV infected population in the country. Prevalence of paediatric HIV is also high in these States. A study reported prevalence of 11.2% among hospitalized children in 2002 in Mumbai while New Delhi reported 8.9% in 2006. Thus, paediatric HIV is a major problem in the Indian context

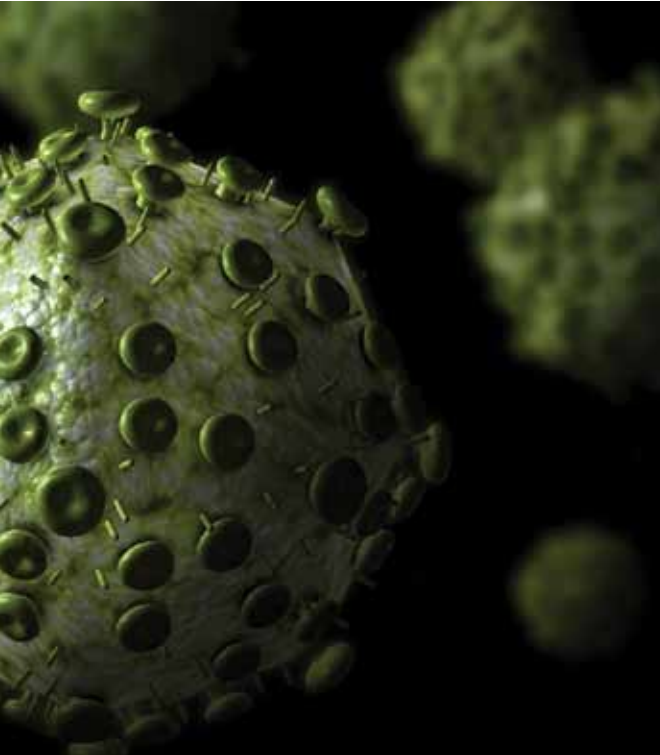


paediatric HIV is also high in these states. A study reported prevalence of 11.2% among hospitalized children in 2002 in Mumbai while New Delhi reported 8.9% in 2006. Thus, paediatric HIV is a major problem in the Indian context.

As a result of scaled-up HIV prevention services, the annual number of newly-infected children in 2014 was reduced to 0.26 million in low-and middle income countries, which was 35% lower than in 2009. In case of HIV positive children neither or both of their parents may be infected with HIV and are more likely to die; and thus render the children orphan.

### Transmission routes

The predominant mode of transmission of HIV in children is vertical, but there seems to be a variation in rates by demographic studies in such Mother-to-Child Transmissions (MTCT), with results ranging from 70-98%. Probable transmission through blood transfusion, and use of non-disinfected hairdressing implements such as clippers, shaving blades and scissors were also recorded. Use of unsterilized needles for injections is a common practice prevalent in rural, semi-rural, and urban slums where, majority of the population resides. Sexual abuse is another risk factor and



highly prevalent although often unreported.

Most significant shortcoming in the response to paediatric HIV remains the woefully inadequate prevention of mother-to-child-transmission (PMTCT), allowing a large number of children to be born with HIV in the first place, in spite of it being largely preventable.

Sexual transmission of HIV being the most common route of acquisition, children remain the least focused group and they share the burden of the epidemic at an early age. Children affected by HIV/AIDS have to face many problems in addition to their own illness, the parents of the child may not be able to provide proper nutrition and treatment to the child.

When children start developing clinical manifestations and need treatment, they have to travel long distances for accessing care and support at tertiary institutions. This places an extra burden on the patients, who are already struggling to cope with their illness. In many families, they are caregivers for sick parents who have AIDS. An increasing number of such households are headed by children.

UNICEF finds that infection can lead children to drop out of school; and infection of parents can lead children to

NICEF finds that infection can lead children to drop out of school; and infection of parents can lead children to engage in child labour in order to survive. Many children who are orphaned were highly exposed to abuse, exploitation and neglect because of loss of a parent(s) or guardian. They experience a great deal of social stigma as well as discrimination. This resulted in children being marginalized from essential services such as education and health

engage in child labour in order to survive. Many children who are orphaned were highly exposed to abuse, exploitation and neglect because of loss of a parent(s) or guardian. They experience a great deal of social stigma as well as discrimination. This resulted in children being marginalized from essential services such as education and health.

### **There are multiple barriers to ART adherence and follow-up, like**

- (i) Financial barriers - unemployment and economic dependency
- (ii) Social norm of attending family rituals and fulfilling social obligations (socio-cultural barriers)
- (iii) Patients' belief, attitude and behaviour towards medication and self-perceived stigma
- (iv) Long waiting periods, doctor-patient relationship and less time devoted in counselling at the centre.

In rural areas, a major issue is an all-pervasive stigma and the resultant discrimination at all levels, not only within the family and community, but also in school and even healthcare service facilities. The discriminatory attitude of service providers discourages both children and their parents to access the ART centres.

In many cases, this leads to non-



disclosure of the HIV positive status of the child, thus keeping the child away from available services and interventions. Some other factors are also associated with delayed entry such as being diagnosed at earlier calendar years but reporting late, being diagnosed after knowing that the mother was HIV positive, belonging to lower communities, age <18 months, female gender, and living >90 minutes from the ART centre.

Over-dosage (heavy pill burden), cost and access to transportation, lack of understanding of the benefit of taking the medication and lack of nutritional support are also the barriers to adherence to Highly Active Anti Retro-Viral Therapy (HAART).


### What we can do?

A focused effort is, therefore, needed to address issues like illiteracy, lack of awareness and limited access to information, education and communication (IEC). The gross lack of awareness about paediatric ART services in the rural areas and also the fact that these services are being provided free of charge by the Government needs to be addressed by a rural and child-focused IEC strategy. In addition, media planning to bridge the information and knowledge gaps on the availability of paediatric ART is crucial.

In order to avoid significant family expenses for travel, testing, and treatment of opportunistic infections (OI), innovative methods to bring ART to the doorsteps through creation of link ART centres (LAC) or making ART and testing

facilities available in community care centres (CCC) can be the alternative for dealing with this situation. Linkages with rehabilitative services and some income generation programme (IGP) activities especially designed for the rural population could be a big encouragement. Training of doctors, paramedics and counsellors in paediatric orientation

and counselling skills is, therefore, of paramount importance for providing meaningful ART.

In addition, policymakers could ensure programme integration related to HIV and AIDS. Private sector involvement including non-governmental organisations (NGOs) with health delivery systems where the State can act as regulator in the paediatric HIV programme is recommended for improving the coverage and delivery of goods and services involved in standardised treatment. The civil society can play a vital role in the prevention, care and support services. 







# The Silent Killer

In India the incidence of diabetes is spiraling while the US has been successful in controlling it. We need to intensify the awareness campaign to check its alarming rise. Diabetes takes a heavy toll by slowly damaging all vital organs and impairing the human physiology.

**BY ABHIGYAN**

**A**fter decades of relentless rise, the number of new cases of diabetes in the US has finally started declining. But in India it is still rising. According to researchers

at the American Centers for Disease Control and Prevention (CDC), the rate fell by about a fifth from 2008 to 2014, the first sustained decline since the disease started to explode in the US about 25 years ago.

The recently released data for 2014 serves as a robust confirmation that the decline is real, officials said. There were 1.4 million new cases of diabetes in 2014, down from 1.7 million in 2008.



Experts say they do not know whether efforts to prevent diabetes have finally borne fruit, or if the disease has simply peaked in the population. Educated Americans have seen improvements, while the rates for the less educated have flattened but not declined. The number of new cases is dropping for whites, the 2014 data shows, but the change has not been statistically significant for blacks or Hispanics, though both show a downward trend.

Only China, with 98.4 million cases, has more diabetes patients than India globally. In India, diabetes is now highly visible across all sections of society. There is need for urgent medical intervention to mitigate the potentially catastrophic increase in diabetes in the country's population in future. To reduce the disease burden that diabetes creates in India, appropriate Government interventions and combined efforts from all the stakeholders of the society are required.

There are more than 62 million diabetics in India, which is more than 7.1% of India's adult population. An estimate shows that nearly one million

The global burden of diabetes has become a huge cause of worry amongst health administrators the world over. Even though the actual causes are complex, there is good evidence that a large number of cases of diabetes and its complications can be prevented by a healthy diet, regular physical activity, maintaining a normal body weight, and avoiding tobacco.

Indians die due to diabetes every year. The average age on onset is 42.5 years. The high incidence is attributed to a combination of genetic susceptibility plus adoption of a high-calorie, low-activity lifestyle by India's growing middle class. A report says that if not controlled, India will see the greatest increase in people diagnosed

with diabetes (102 million) by 2035.

There are an estimated 77.2 million people in India who are suffering from pre-diabetes. Pre-diabetes is a condition in which the patients have high blood glucose level but were not in the diabetes range. These people are at high risk of getting diabetes. The Indian Council of Medical Research (ICMR) estimated that the country already has around 65.1 million diabetes patients.

The latest global figures on diabetes, released by the International Diabetes Federation (IDF), have raised a serious alarm for India by saying that nearly 52% of Indians aren't aware that they are suffering from high blood sugar.

The World Health Organization (WHO) estimates that nearly 200 million people all over the world suffer from diabetes and this number is likely to double by 2030. Even as nations mark World Diabetes Day on November 14 every year, WHO says about 80% of the diabetes deaths occur in middle-income countries.

### Causes of diabetes

Diabetes is one of the diseases that affect the endocrine system. The



pancreas produces the hormone insulin. In Type 1 diabetes, the insulin producing cells in the pancreas are destroyed. In Type 2 diabetes, insulin is still produced but the body becomes resistant to it. Diabetes may damage almost every tissue and organ of the body, the kidney being one of them.

If neglected, a person could go into diabetic nephropathy. Albumin in the urine, blood urea and creatinine levels should be checked once a month. Diabetics should avoid painkillers. They should watch out for swelling of the feet, extreme fatigue, weakness and breathlessness. Obese children should also be screened for diabetes.

There are many causes for diabetes. One of the largest causes is lifestyle. Being overweight and lacking exercise can lead to diabetes, particularly in adults. Children who are obese when young have a much higher chance of getting type 2 diabetes than children who are not obese at a young age. Another cause of diabetes is high blood pressure and heart disease, which are also often caused by poor diet and lifestyle.

Obesity is one of the major risk factors for diabetes, yet there has

been little research focusing on this risk factor across India. Despite having lower overweight and obesity rates, India has a higher prevalence of diabetes compared to Western countries suggesting that diabetes may occur at a much lower body mass index (BMI) in Indians compared with Europeans. Therefore, relatively lean Indian adults with a lower BMI may be at equal risk as those who are obese.

### The symptoms

Nearly 44 lakh Indians in their most productive years like age 20 to 79 years - aren't aware that they are diabetic, a disease that exposes them to heart attack, stroke, amputations, nerve damage, blindness and kidney disease.

As the incidence of diabetes is on the rise, doctors say, there is a proportionate rise in the complications that are associated with diabetes. They point out that it is a very crucial stage and awareness on the part of people and administration about diabetes is very essential, adding that people should be made aware and educated about their health and fitness level to reduce the number of patients

in India.

The doctors believe when diabetes is not well controlled there is damage to the organs and the immune system is impaired. Foot problems occur in people with diabetes and can get serious very fast. Recent statistics show that approximately a quarter of all people with diabetes worldwide at some point during their lifetime will develop sores or breaks (ulcers) in the skin of their feet.

The symptom that you could easily miss is the unexplained loss of weight, all of a sudden feeling of fatigue, and problems with your vision, without the need for corrective lenses. The patient may go through bouts of extreme hunger as the body calls for more food to generate energy. They could also experience unexplained tingling in their feet and hands, including dry skin. If any of these symptoms of diabetes show themselves, it may be time to consult your doctor for evaluation and possible treatment.

According to **Dr Vipin Mishra**, Senior Consultant and Department of Diabetes and Endocrinology, Jaypee Hospital, Noida, Ghaziabad, "If you have diabetes, no matter what type, it

## Daily routine for a diabetic

**Wake up time:** Wake up by 6 am in the morning, as you also need ample time to exercise. Have a glass of lukewarm water mixed with two teaspoonful of fresh lemon juice every day.

**Exercise:** Exercise forms an important part of treatment for diabetic patients. A morning walk is the best form of exercise. Yoga and meditation can also be beneficial, especially to relieve stress and bring clarity to the mind. If your health permits, opt for exercises such as jogging, swimming, cycling, etc.

**Breakfast:** In the morning, take two slices of whole meal bread with butter and fresh milk (boiled and taken warm). Seasonal fresh fruits can be taken occasionally, with or without milk.

**At work:** If you are an office-goer, make sure you carry filling snacks with you all the time, as diabetics are advised not to keep their stomachs empty. Instead of snacking on cheese, chips or crackers, enjoy a handful of nuts or seeds. Go for variety with sunflower, pumpkin seeds, almonds, cashews, and walnuts.

**Lunch:** For lunch, opt for steamed or lightly cooked green vegetables such as cauliflower, cabbage, tomatoes, spinach, turnip, asparagus and mushrooms. Vegetable soup or boiled vegetables can also be taken. In addition, two or three whole wheat bread (chappatis), sprouts, salad, boiled rice, lentils (daal) etc. can be taken according to appetite. A glass of butter milk (salty lassi) is a nice drink to end the lunch. Roasted cumin seeds, black salt, grated ginger and green coriander leaves can be added to the butter milk.

**Daytime sleep:** If you are a non-working diabetic, always remember not to sleep during the daytime, as it increases Kledaka Kapha. A sub-dosha of Kapha, Kledaka Kapha governs the protective mucous lining of the digestive system, thereby facilitating proper digestion. In an increased state, it can lead to impairment of digestion, which can cause additional problems in diabetes patients.

**Evening snacks:** Have a glass of fresh fruit or vegetable juice. You can also take Ayurvedic tea with roasted chickpeas.

**Dinner:** Always remember that your dinner should be light and not have too many items. Boiled vegetables, sprouts, cottage cheese (paneer) or a bowl of salad made from fresh raw vegetables of the season. Also, make it a point to eat at least two hours before you go to bed.

**Bedtime:** Go to sleep before 10 pm. Have a glass of fresh boiled warm milk before going off to bed.



means you have too much glucose in your blood, although the causes may differ. Too much glucose can lead to serious health problems. Hypothetically diabetes mellitus refers to a group of diseases that affect how your body uses blood sugar (glucose). Glucose is vital to your health because it's an important source of energy for the cells that make up your muscles and tissues. It's also your brain's main source of fuel".

**Dr Shalini Jaggi, Senior Diabetologist, Balaji Action Hospital, New Delhi,** says, "These days diabetes is now found in persons as young as 15 years. Among the main reasons is sedentary lifestyle which has become ubiquitous now. About 17 million people suffer from kidney problems arising out of diabetes, but only a few could afford the costs of treatment. As such, the focus must be on enacting preventive measures such as promoting physical activity".

Knowing the causes of diabetes can help a person understand how best to treat his symptoms. While many causes of diabetes can be prevented, some causes are just the way the body is made, and the sooner a diabetes type can be diagnosed, the sooner a person can get back to normal health and take the measures needed to take care of oneself successfully.

**Dr Anup Mohta, Director, Chacha Nehru Bal Hospital, East Delhi,** says, "Another cause of diabetes is genetics. If a child's parent has diabetes or if diabetes is common among other family members, a person's chance of also having diabetes as they age is greatly increased. Mainly type 2 diabetes is inherited, and this type of diabetes is easier to treat, unlike type 1 diabetes. However, even if diabetes is an inherited disease, there is no guarantee that a person will get it."

### Stages of diabetes

There are two stages to this disease, otherwise known as type 1 diabetes and type 2 diabetes, and they are caused when the pancreas does not



produce enough insulin. Type 1 diabetes is more commonly found in younger adults and will require the use of insulin injections and a major adjustment in their diet. Type 2 diabetes is probably more common in adults; however, it is hardly ever diagnosed until the patient is required to do a blood test for some other medical problem. A type 2 diabetic is usually a patient who is constantly fighting with weight problem.

The chronic diabetes conditions include type 1 diabetes and type 2 diabetes. Potentially reversible diabetes conditions include prediabetes when blood sugar levels are higher than normal, but not high enough to be classified as diabetes and gestational diabetes, which occurs during pregnancy but may resolve after the baby is delivered.

**Dr Shishir Narayan of Shroff Eye Hospital, New Delhi,** says, "The eyes of a diabetic also need special



attention and care. Regular eye check-ups are a must, the retina could get affected, and blood vessels in the eye could leak blood. Diabetes also produces early cataract. In extreme cases, the patient can lose eyesight."

Those with long standing diabetes are at the risk of developing diabetic neuropathy and complications of diabetic foot. Round-the-year foot care can ensure that the chances of complications are minimized.

According to Ayurveda, sugar levels can be kept under control with the help of proper medication and a strict diet-lifestyle plan. Because diabetes is a chronic metabolic disorder that arises when the pancreas does not produce enough insulin, or when the body cannot effectively use the insulin it produces, it can only be treated if the body is rejuvenated in its entirety.

Diabetics, who were warned for years that their illness could cause blindness, are in for more bad news, as doctors have claimed that the patients are more likely to lose their hearing, too. Japanese research has found that

hearing problems are far more common in diabetics than their healthy counterparts, even when other factors such as ageing and a noisy environment are taken into account.

The association of hearing impairment with diabetes is debatable, but it is believed that over time, high blood glucose levels can damage vessels (causing hearing loss). It's thought that glucose damages the nerves and tissues in the ear, diminishing the ability to hear. Diabetic patients should be screened for hearing impairment from earlier age compared with non-diabetics, from the viewpoint of prevention of several health problems such as depression and dementia caused by hearing impairment.

The global burden of diabetes has become a huge cause of worry amongst health administrators the world over. Even though the actual causes are complex, there is good



evidence that a large number of cases of diabetes and its complications can be prevented by a healthy diet, regular physical activity, maintaining a normal body weight, and avoiding tobacco.

Ironically, the unfortunate reality is not many diabetics actually know this simple fact! In most countries, especially the developing ones, diabetes patients are accustomed to believing that insulin injections and regular medicines are their only reprieves - things that will keep them going for a lifetime. And, this is far from the truth!

### Decipher the warning signs

Education is of utmost importance in the prevention of diabetes. Here's a list of symptoms that you should look out for in your body to make sure you are not suffering from any diabetes-related complications like frequent urination, excessive thirst, increased hunger, weight loss, tiredness, lack of interest and concentration and a tingling sensation or numbness in the hands or feet.

Other signs include blurred vision, frequent infections and slow-healing wounds. Don't ignore basic warning signs as they could be indicative of graver problems. In case you are

unsure, consult your doctor immediately.

### Remember, you are at the risk of diabetes if you:

- Are obese or overweight
- Are physically inactive
- Have been previously diagnosed with glucose intolerance
- Have unhealthy dietary habits and meal times
- Are above the age of 40
- Are a patient of high blood pressure and high cholesterol
- Have a family history of diabetes
- Have a history of gestational diabetes
- Are from a particular ethnicity (higher rates of diabetes have been reported in Asians, Hispanics and African Americans)


### The Ayurvedic view

In Ayurveda, diabetes is known as Madhumeha (Madhu means 'honey' and Meha means 'urine'). Madhumeha is categorized as Vataj Meha (a problem caused by aggravation of Vata). Vata symbolizes wind and dryness. Deterioration of the body is a characteristic that indicates impairment of Vata. Maximum deterioration of dhatus (body tissues) occurs in this type

of disease and this is the reason why all vital organs are affected by diabetes.

The other prime cause of diabetes is impaired digestion. Impaired digestion leads to accumulation of specific digestive impurities (known as ama) which accumulate in the pancreatic cells and impair the production of insulin.

According to Ayurveda, sugar levels can be kept under control with the help of proper medication and a strict diet-lifestyle plan. Because diabetes is a chronic metabolic disorder that arises when the pancreas does not produce enough insulin, or when the body cannot effectively use the insulin it produces, it can only be treated if the body is rejuvenated in its entirety.

Therefore, the treatment of diabetes recommended in Ayurveda - as against modern medicine - is aimed at rejuvenating the body to not only balance sugar levels, but also foster a positive change in the patient's life. Ayurvedic medicines work on the root cause of the disease, strengthening the patient's immunity, enhancing digestion and helping him lead an overall healthy life. Along with medication, dietary and lifestyle changes are also recommended to rejuvenate the body's cells and tissues, allowing them to produce insulin properly. 



# Sex without Shame

Discussing sex is still a taboo in India. Couples need to banish monotony in their relationships and work towards developing and maintaining a fulfilling sex life

**BY TEAM DOUBLE HELICAL**



**T**he word ‘sex’ evokes a kaleidoscope of emotions spontaneously. From love, excitement and tenderness to longing, anxiety and disappointment, the reactions are as varied as sexual experiences themselves. What’s more, many people will encounter all these emotions and many more in the course of a sex life spanning several decades.

On one level, sex is just another hormone-driven bodily function designed to perpetuate the species. Of course, that narrow view underestimates the complexity of the human sexual response. In addition to the biochemical forces at work, your experiences and expectations help shape your sexuality. Your understanding of yourself as a sexual being, your thoughts about what constitutes a satisfying sexual connection and your relationship with your partner are key factors in your ability to develop and maintain a fulfilling sex life.

Many couples find it difficult to talk about sex even under the best of

Many couples find it difficult to talk about sex even under the best of circumstances. When sexual problems occur, feelings of hurt, shame, guilt and resentment can halt conversation altogether. Because good communication is a cornerstone of a healthy relationship, establishing a dialogue is the first step not only to a better sex life, but also to a closer emotional bond

circumstances. When sexual problems occur, feelings of hurt, shame, guilt, and resentment can halt conversation altogether. Because good communication is a cornerstone of a healthy relationship, establishing a dialogue is the first step not only to a

better sex life, but also to a closer emotional bond. Here are some tips for tackling this sensitive subject.

### Sexual dialogues

There are two types of sexual conversations: the ones you have in the bedroom and the ones you have elsewhere. It’s perfectly appropriate to tell your partner what feels good in the middle of lovemaking, but it’s best to wait until you’re in a more neutral setting to discuss larger issues, such as mismatched sexual desire or orgasm troubles.

Couch suggestions in positive terms, such as, “I really love it when you touch my hair lightly that way,” rather than focusing on the negatives. Approach a sexual issue as a problem to be solved together rather than an exercise in assigning blame.

If hot flashes are keeping you up at night or menopause has made your vagina dry, talk to your partner about these things. It’s much better that he knows what’s really going on rather than interpret these physical changes as lack of interest. Likewise, if you’re a man and you no longer get an erection just from the thought of sex, show your partner how to stimulate you rather than let her believe she isn’t attractive enough to arouse you anymore.

You may think you’re protecting your partner’s feelings by faking an orgasm, but in reality you’re starting down a slippery slope. As challenging as it is to talk about any sexual problem, the difficulty level skyrockets once the issue is buried under years of lies, hurt, and resentment.

This can help you explore possible activities you think might be a turn-on for you or your partner. Try thinking of an experience or a movie that aroused you and then share your memory with your partner. This is especially helpful for people with low desire.

### Some biological issues

Both men and women can improve their sexual fitness by exercising their pelvic floor muscles. To do these





Your sexual well-being goes hand in hand with your overall mental, physical and emotional health. Therefore, the same healthy habits you rely on to keep your body in shape can also shape up your sex life

exercises, tighten the muscle you would use if you were trying to stop urine in midstream. Hold the contraction for two or three seconds, then release. Repeat 10 times. Try to do five sets a day. These exercises can be done anywhere—while driving, sitting at your desk, or standing in a checkout line. At home, women may use vaginal weights to add muscle

resistance. Talk to your doctor or a sex therapist about where to get these and how to use them.

Your sexual well-being goes hand in hand with your overall mental, physical and emotional health. Therefore, the same healthy habits you rely on to keep your body in shape can also shape up your sex life.

Smoking contributes to peripheral

vascular disease, which affects blood flow to the penis, clitoris, and vaginal tissues. In addition, women who smoke tend to go through menopause two years earlier than their non-smoking counterparts. If you need help quitting, try nicotine gum or patches or ask your doctor about the drugs bupropion (Zyban) or varenicline (Chantix).

Some men with erectile dysfunction find that having one drink can help them relax, but heavy use of alcohol can make matters worse. Alcohol can inhibit sexual reflexes by dulling the central nervous system. Drinking large amounts over a long period can



damage the liver, leading to an increase in estrogen production in men. In women, alcohol can trigger hot flashes and disrupt sleep, compounding problems already present in menopause.

When estrogen drops at menopause, the vaginal walls lose some of their elasticity. You can slow this process or even reverse it through sexual activity. If intercourse isn't an option, masturbation is just as effective, although for women this is most effective if you use a vibrator or dildo (an object resembling a penis) to help stretch the vagina. For men, long periods without an erection can deprive the penis of a portion of the oxygen-rich blood it needs to maintain good sexual functioning. As a result, something akin to scar tissue develops in muscle cells, which interferes with the ability of the penis to expand when blood flow is increased.

### Sex without intercourse


Create an environment for lovemaking that appeals to all five of your senses. Concentrate on the feel of silk against your skin, the beat of a jazz tune, the perfumed scent of flowers around the room, the soft focus of candlelight, and the taste of ripe, juicy fruit. Use

this heightened sensual awareness when making love to your partner.

Sex without intercourse may sound disconcerting. It requires some effort, adjustments on the part of both lovers — and change is never easy, especially

in erotic repertoire. But if you find intercourse problematic, sex without it allows hot, fulfilling lovemaking for life.

Once you get on board with sex sans intercourse, it's pretty easy. It involves the same leisurely, playful, whole-body touching, caressing, and massage that sex therapists recommend to all lovers. But it eliminates vaginal intercourse, focusing instead on all the other ways couples can enjoy marvelous genital pleasure: hand massage (your own and/or your lover's), oral sex, and sex toys, particularly vibrators and dildos for women, and penis sleeves for men.

For many couples, great sex without intercourse means experimenting, which can feel strange. But novelty is key to sexual zing. Doing things differently stimulates the brain to release dopamine, and dopamine heightens erotic intensity. In other words, if you adopt some new non-intercourse moves, lovemaking without intercourse can prove to be more pleasurable than ever. 





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# Coping with Dry Eyes



Eye are a precious faculty of human beings without which life simply is not even worth living. Taking care of our eyes is of paramount importance, if we were to enjoy all the good things in life. Here we take a look at most common eye ailments – Dry Eyes – and what we can do to protect our eyes

**BY DR GEETIKA KHURANA**

**H**arsh winter season can have adverse effect on our mind and body and our eyes are no exception to this. When it comes to eyes there are many factors that could hinder the vision during extreme winter season. One of the most common eye ailments that people are

faced with during winters is dry eyes. Dry eye is a chronic disease characterized by decreased tear production or deficiency in any of its components. In other words, it means a low quantity and/or poor tear quality. The symptoms are of burning, irritation, sensation of sand in the eyes, difficulty in staying in air-

conditioned places or in front of the computer and glazed eyes at the end of the day.

Dry eye is a leading cause for eye care in clinics, and if not properly treated, it may cause damage to the ocular surface and, in some cases, may even lead to loss of vision. However, there are ways to combat the

annoying, uncomfortable condition. First, though, there is need to understand the causes and symptoms of dry eyes.

### Why Do Eyes Get Dry In Winters?

Eyes get dry in winters due to insufficient moisturizing of the eyeball surface with tear film. The reasons for the lack of moisturizing could be:

- Infrequent blinking
- Stress on the eyes due to prolonged or improper computer use
- Overuse of contact lenses
- Working in environments with low humidity, dust or tobacco smoke
- Increased pollution
- Closed spaces with air conditioning may increase the evaporation of liquids from the eyes

During winters, air humidity is usually lower, there is constant wind and pollution reaches its highest levels which further deteriorate the problem. Usage of heaters during the winter can also dry up the already dry air, causing dryness of eyes that leads to irritation.

Dryness of eyes may also be associated with advanced age, menopause in women, medication (anti-histamines, anti-hypertensives, anti-depressants), trauma (thermal

and chemical burns), rheumatologic and other immune system diseases (pemphigoid, Stevens - Johnson syndrome).

### Symptoms of dry eyes

The following are the symptoms of dry eyes:

- Burning sensation
- Foreign body sensation
- Itching
- Watering (due to reflex tearing)
- Blurred vision (if severe)


### The following are the helpful tips to prevent dry eyes during winters

- Keep eyes moist: Drink extra fluids and use a hot- or cold-air humidifier while you're awake.
- Add tears. Lubricating eye drops provide comfort.
- Blink more. When one is concentrating on a complex visual task, such as using a computer, one doesn't blink as often, which can exacerbate winter dryness.
- Wear glasses. Sunglasses protect our eyes from the drying effects of the wind while working outdoors.
- Care while using hair dryer: When using a hair dryer, one must close



Dr Geetika Khurana

eyes or use an eye lubricant before drying hair.

- Adjusting your computer screen at eye level also really helps to prevent dry eyes. When one keeps looking up for long intervals, the naturally produced tears from your eyes evaporate faster, leaving one with dry eyes. It is also advisable to take regular breaks if one is reading or staring at the computer for a long time.
  - Limited use of contact lenses
  - Avoid rubbing of eyes: Rubbing one's eyes when they are itching and burning is certainly going to worsen the condition. Instead, use artificial tears and keep taking the recommended breaks to lessen the pain.
  - Diet modification: Various important agents include Vitamins A, C and E, Minerals like zinc, selenium, chromium, copper gluconate, and oxidants like Alpha-Lipoic Acid and Bioflavonoids.
  - Regular exercise
- Hence, with a little lifestyle modification and topical treatment, one can have winters free from dry eyes. 



(The author is MS Ophthalmology, Senior Resident, Army College of Medical Sciences & Base Hospital, Delhi Cantt)

# Out of Breath

Chronic Obstructive Pulmonary Disease, also known as COPD, is a chronic lung ailment which makes it difficult for the sufferer to breathe. It calls for particular care during winters

**BY DR GYANENDRA AGRAWAL**



**C**OPD is a progressive, long term lung ailment which makes it difficult for the sufferer to breathe and may be a cause of serious concern at times. When you suffer from COPD, the flow of air from the lungs gets partially blocked and the condition of the patient may get worse over time, if not treated immediately.

Smoking is considered the primary cause behind occurrence of COPD. But there are a few other factors too. Environmental factors along with genetic problems can also cause COPD. Among the environmental factors, long time exposure to biomass fuels like chulha/sigri, excessive dust/


dirt, air pollution, working with chemicals at work can also be the underlying cause of COPD.

In most cases, COPD remains undiagnosed because most of its symptoms are similar to other respiratory diseases. The common symptoms of COPD are progressive breathlessness and excessive cough with mucus, which may get exacerbated during exposure to smoke, dust or even allergens. The doctor may suggest a lung function test called 'Spirometry'. In this test, obstruction in the airways (air tubes carrying air in and out of the lungs) can be measured in an objective way.

After diagnosing COPD, the first thing that all the doctors suggest a patient is to quit smoking. After that medicine is prescribed by the doctors to widen the passage of airway and to reduce the swelling in the airways. Besides, medicines are also given to treat any infection which may further cause swelling in the airways.

Treatment of COPD is simple and with regular medications one can lead a normal life. COPD medicines are usually available in the form of inhalers which can be easily taken.

Inhalers are one of the most effective and safest forms of taking medications for respiratory ailments. The drug directly reaches the lungs and does not get mixed with the blood, which may be the cause of side effects as it happens with oral therapy. The dosages of most medications in inhalers are very low, usually in micrograms; unlike tablets or syrups which contain drugs in milligrams. There is no drug in these inhalers which have the potential of addiction or habit forming.

People suffering from this ailment should avoid dusty surrounding. While going out, it is advisable to use a mask to protect oneself from dust, smoke or pollution. Also, it is recommended to avoid strong smells or fumes. 

(The author is Consultant, Respiratory and Critical Care Medicine, Jaypee Hospital)

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# Recognizing Excellence

**Geetika Singh**, a member of Navjyoti Foundation and CSR Head of Noida-based real estate firm Proplarity Group, has been given an award for her work done for women's empowerment and other contributions



**G**eetika Singh, a member of Navjyoti Foundation, an organization dedicated to the uplift of underprivileged children, won

the award of 'Mrs Talented 2015' at the Haut Monde Mrs India Worldwide 2015 organized by Sri Sai Entertainments in Myanmar recently.

The 'Mrs Talented 2015' award is given as recognition of work done towards women's empowerment and contributions made to the society. The



award has been instituted by Sri Sai Entertainments, an organization that provides a platform to young Indian and overseas Indian designers and models to showcase their talents.

Geetika, presently with Noida-based real estate firm Proplarity Group, emerged top at the event ahead of five finalists to win the title.

Showcasing her talent, she performed a Kathak dance on women's empowerment and prepared charcoal sketches on issues related to women.

Geetika also performed in the final fashion walk with 42 Indian finalists, both from India and abroad, of the age group of 25-50 years.

Thanking her family and friends for their immense support and encouragement, Geetika said, "I am completely overwhelmed by this honour and thankful to Haut Monde for giving me the wonderful opportunity to showcase my hidden talent on this wonderful platform and execution. She was a student of St. Agnes' Loreto Day School, Lucknow and graduated from Labella Thoburn College.

She is a Gold Medalist in graduation. She has also completed MBA in HR from Symbiosis Institute of Business Management (SIBM), Pune. Geetika also set up own placement consultancy, Career Pride. She had joined Innovions before moving to Proplarity Group. She also has a diploma in interior designing from JD Institute to her credit.

The occasion was marked by the presence of leading figures of the fashion industry like Ajay Sharma (CMD, F-Bar), Bharat Bharmar (MD, Sri Sai Entertainment), Aditi Govitrikar (model & actor), Shabab Sabri, Suresh Jhawar (Director, Oscar) and many




others as jury members.

### CSR Activities

Geetika Singh is also spearheading CSR activities undertaken at Proplarity Group, Noida office. She has great zeal to work for the women empowerment and upliftment of downtrodden children. Despite major responsibilities at work, she manages to spend some quality time with underprivileged children and prefer indulging in activities like dancing, playing games, teaching, etc. along with them. She is closely associated with Navjyoti Foundation (our CSR partner), the

NGO working under the supervision of veteran social activist, Kiran Bedi. Recently, she went to Wazirabad, Gurgaon to spread awareness about pre natal and post natal care amongst women.

**Personal Interests-** Being a trained Kathak dancer, Geetika likes to spend time with her family, indulging in shopping spree or listening to her favourite music. She loves to explore new places and her favourite holiday destination is Goa. She loves cooking and rate Indian cuisines as the best cuisines, which she can enjoy at any time of the day. 

# NBCC-AIIMS Join Hands to Develop Multi-Disciplinary Trauma Centre



In order to provide high standards of trauma care to the patients coming from all across the country and the neighbouring states, All India Institute of Medical Sciences (AIIMS) and National Buildings Construction Corporation Ltd (NBCC), the state owned Navratna PSE, have come together to develop a Rs 3000 crore Jai Prakash Narayan Apex Trauma Centre Phase-II at AIIMS, New Delhi.


An MoU to this effect has been signed between Dr Anoop Kumar Mittal, CMD, NBCC and Dr M.C. Misra, Director, AIIMS, on December 21, 2015 in New Delhi. The upcoming Trauma Centre shall provide state-of-the-art comprehensive trauma care services to acutely injured patients and those requiring specialized services. To be developed on a land of approx. 15 acres, the Centre shall have 2250 patient beds with other extended treatment facilities for digestive diseases, otolaryngology and head neck surgery, spine treatment, trauma

expansion & rehabilitation, endocrine diabetes & metabolic disorder, organ transplant, other general facilities and shall have two hostel blocks.

Once completed, the Centre will act as a centre of excellence and will function as an apex institution of the country. Apart from providing holistic Trauma Care Centre, it will also become a 'role model' for other trauma centres in terms of conceptualization, project formulation and operation. It will have a control room for effective coordination and communication besides having networking linkages with other hospitals and agencies. The Centre shall also have a helipad on its roof top so that critically injured patients can be airlifted fast from distance places for immediate medical attention.

Speaking on the occasion, Dr. Mittal and Dr. Misra also informed that apart from the development of the Trauma Centre, NBCC would also participate in the massive restructuring of AIIMS

infrastructure in order to further ease the functioning of the premier institute. This restructuring shall include Rs.5820 crore Redevelopment Work of AIIMS residential complexes at its western campus and Ayurvigyan Nagar. The redevelopment by NBCC shall comprise construction of earthquake resistant 3928 housing units in place of the present 1444 Units. The new residential units shall be exclusive ultra-modern spacious residences having unique green features in the complexes.

Dr. Mittal in this context also referred to NBCC's pioneering initiatives in respect of development and redevelopment of government properties pan India and mentioned about the ongoing development of huge 75-acre east Delhi hub and 25-acre Lake View Complex of DDA in New Delhi on TOD Norms and Smart City concept. On the occasion, he also made mention of the ongoing Rs 5000 crore East Kidwai Nagar redevelopment works by NBCC, as a Smart Sub-City. 



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