

# Double Helical

October 2016

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Spotlight

## Vicious Virus

Vector borne diseases such as dengue and chikungunya have emerged as serious threats to public health



Interview

**Dr. Vinay Agarwal**

"It is unjust to scrap the very structure of MCI"

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# The Doctor on a Mission

Dr S S Agarwal, noted physician and the National President, Indian Medical Association (IMA), New Delhi



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A COMPLETE HEALTH  
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26

COVER STORY



The Doctor on a Mission

6



Vicious Virus

22



Nurturing Your Kids

16



Time for Mandatory Heartcare

20



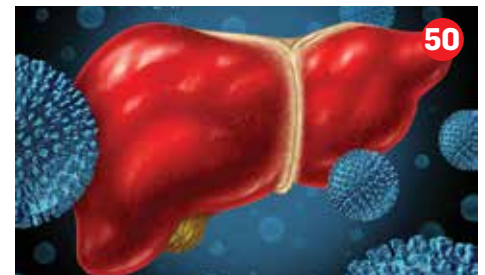
INTERVIEW: Dr Vinay Agarwal

44



No cause for Embarrassment

50



Protect Your Liver



# Now Introducing ...

## State Health Awards 2016

Dear readers, Thank you for your continuous support and encouragement to us in carrying out our commitment to bring to light and analyse the latest happenings in the Indian healthcare sector. We are glad to inform you that after successfully organising National Health Award 2016 at hotel Ashoka in New Delhi, your favourite magazine Double Helical is going to hold the Jaipur edition of the event on November 26, 2016 to honour the healthcare/allied professionals from the state of Rajasthan. More than 400 doctors from Rajasthan and Delhi are likely to witness the State Health Awards 2016 in Jaipur.

Our cover story this month "The Doctor on a Mission" brings to you an exclusive success story of Dr S S Agarwal who is a multi-faced personality – a well-known crusader for social causes, an eminent educationist, philanthropist, an eminent doctor and a great human being. Currently, the National President, Indian Medical Association (IMA), New Delhi, Dr S S Agarwal is a doctor with a healing touch. His life-long mission has been to make healthcare accessible for the masses, and bring a difference in their lives. He is credited with ensuring the delivery of affordable healthcare services in the far-flung rural areas of Rajasthan.

Driven by an inspiring vision of Health for All, he charges only a token amount from his patients coming from the poor strata of the society. The hardships and struggles Dr Agarwal faced to get proper

medical education in his young days, made him determined to do something qualitatively different for the poor and needy. He went on to contribute immensely in strengthening the health infrastructure in the country.

He started the first private ambulance of Rajasthan in 1988 and the first private sector blood bank of the state in 1995. In 1997, he started the state's first Department of Nuclear Medicine with Nuclear Imaging Gamma Camera which revolutionized the oncology field in the state while paving the way for massive advancements in diagnostic medicine.

The Union government has recently proposed the new National Medical Commission (NMC) Bill, 2016, which is being opposed by Indian Medical Association. In an interview with Double Helical, Dr Vinay Agarwal, former President, Indian Medical Association (IMA), New Delhi and Founder Chairman, Max Superspeciality Hospital, Vaishali (Ghaziabad) expresses serious concern over the NMC Bill, 2016.

As a member of IMA and IMC's ethics committee, he does not agree with the new NMC Bill that he describes as nothing else but "old wine in new bottle. According to Dr Agarwal, if the new bill is implemented, non MBBS doctors can get registered in NMR and start practising modern medicine. So, the Bill must be abandoned totally. Changes can be brought about in the MCI by retaining and strengthening its self-regulatory role and functional autonomy, and that can be achieved by making relevant

amendments to the IMC Act 1956 itself.

Healthcare is a fundamental right guaranteed under the Indian Constitution under article 21. According to Padam Shri Dr K K Aggarwal, the government must come out with an innovative and cost-effective acute heart care policy, ensuring immediate help to all heart attack patients irrespective of their financial condition. The government, says he, must ensure that no one dies of heart attack just because he or she cannot afford heart treatment.

Heart attack remains the biggest killer for both men and women in India. There is an epidemic of metabolic syndrome in India that predisposes millions of patients to heart attacks. Heart attacks occur earlier in Indian men and women than their western counterparts. Women report quite late for care when they have a heart attack. This is as a result of personal, cultural, social, financial and religious reasons.

A two-tier approach is recommended for heart attack patients when they are brought at both a private and government hospital. A patient suffering from heart attack should be encouraged to seek care at either, at the earliest, irrespective of his financial status.

There are several such informative, engaging and analytical stories carried in this October issue which, I am sure, you would love going through.

So, happy reading!

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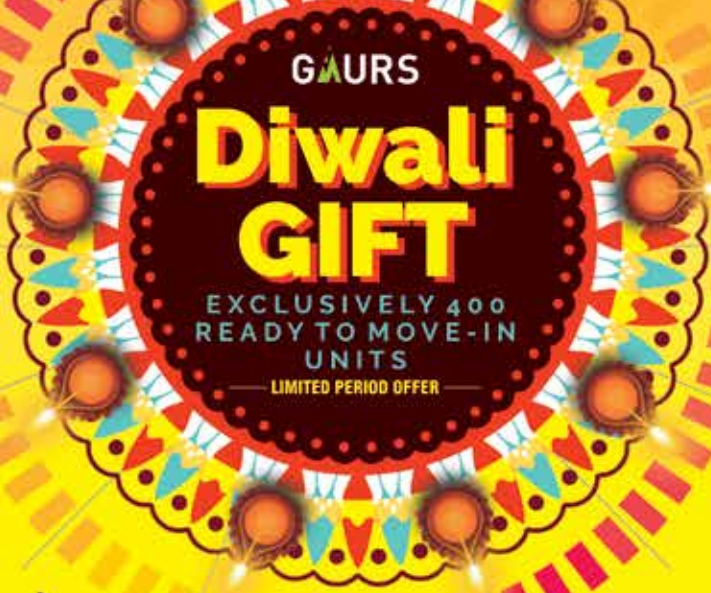
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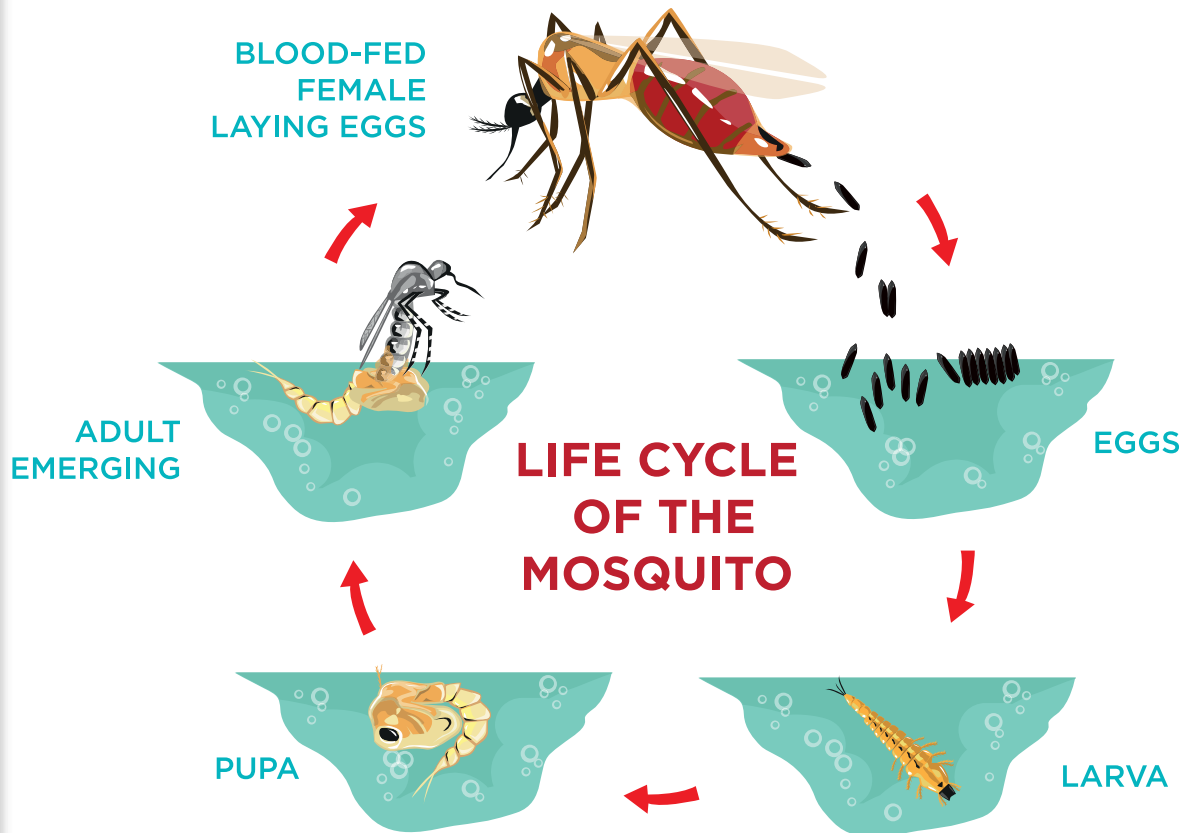


# Vicious Virus

Vector borne diseases such as dengue and chikungunya have emerged as serious threats to public health. The government authorities and the society at large need to take effective steps for the prevention and control of these diseases

BY DR SUNEELA GARG/  
DR M. MEGHACHANDRA SINGH/  
LT. COL (DR.) VIPRA MANGLA





**V**ector borne diseases are the diseases that are transmitted by living organisms also known as vectors which can transmit infectious diseases between humans or from animals to humans such as mosquitoes, fleas, ticks, sand flies, bugs etc. The vector borne diseases account for more than 17% of all infectious diseases and cause more than 1 million deaths annually.

Of all these vectors, the mosquitoes are the main disease vector which cause several diseases of public health importance namely malaria, dengue, chikungunya, yellow fever, Japanese encephalitis, lymphatic filariasis etc.

Recently, there has been an outbreak of dengue and chikungunya in the national capital territory of Delhi, affecting a large number of population. The mosquito borne diseases are largely preventable through the various vector control strategies. National Vector Borne Disease Control Programme covers the various vector control strategies for six important vector borne diseases namely malaria, dengue, chikungunya,

lymphatic filariasis, yellow fever and Japanese encephalitis. Let's take a close look at the prevention and control of three most important of mosquito borne diseases namely Malaria, Dengue and Chikungunya.

#### MALARIA

Malaria is a potentially life threatening parasitic disease caused by parasites known as *Plasmodium vivax* (*P.vivax*), *Plasmodium falciparum* (*P.falciparum*), *Plasmodium malariae* (*P.malariae*) and *Plasmodium ovale* (*P.ovale*). Recently, a fifth parasite *Plasmodium knowlesi* (*P. knowlesi*) has been found to be existing in India. However, two types of parasites of human malaria, *Plasmodium vivax*, *P. falciparum*, are commonly reported from India. Infection with *P.falciparum* is the most deadly form of malaria.

Malaria is transmitted by the bite of infective *Anopheles* mosquito. Man develops disease after 10 to 14 days of being bitten by an infective mosquito. Inside the human host, the parasite undergoes a series of changes as part of its complex life cycle in liver cells (pre-erythrocytic



Dr Suneela Garg

schizogony) and red blood cells (erythrocytic schizogony).

### Symptoms of malaria

The symptoms of malaria typically includes fever, headache, vomiting and other flu-like symptoms. As the parasite infects and destroys red blood cells, this results in easy fatigability due to anemia, fits/convulsions and loss of consciousness. In case of cerebral malaria, the malarial parasites are carried by blood to the brain and other vital organs. Malaria in pregnancy poses a substantial risk to the mother, foetus as well as the newborn infant.

### Vectors of Malaria

There are many vectors of malaria but the main vector of malaria is Anopheles culicifacies. The vector of malaria can be identified by the presence of spotted wings and resting position at an angle except Anopheles culicifacies.

### Habits of the Anopheles Mosquito

**Feeding habits:** Anopheles culicifacies is a zoophilic species (affinity towards animals) and when high densities build up, then they feed on man.

**Resting habits:** The vector rests during daytime in human dwellings and cattle sheds.

**Breeding places:** It breeds in rainwater pools and puddles, borrow pits, river bed pools, irrigation channels, seepages,



rice fields, wells, pond margins, sluggish streams with sandy margins. Extensive breeding of the mosquito is generally encountered following monsoon rains.

**Biting time:** Biting time of each vector species is determined by its generic character, but can be readily influenced by environmental conditions. Most of the vectors, including Anopheles culicifacies, start biting soon after dusk. Therefore, biting starts much earlier in winter than in summer but peak time varies from species to species.

### Treatment of Malaria

The symptoms of malaria typically includes fever, headache, vomiting and other flu-like symptoms. As the parasite infects and destroys red blood cells, this results in easy fatigability due to anemia

Chloroquine is the drug of choice for uncomplicated malaria. Drug Distribution Centres (DDCs) and Fever Treatment Depots (FTDs) have been established in the rural areas for providing easy access of anti-malarial drugs to the community.

Alternative drugs that are recommended as per the drug policy of malaria and to be used in chloroquine resistant cases include Artesunate, Artemether and Arteether.

### DENGUE

Dengue is a viral disease which is transmitted by the infective bite of Aedes aegypti mosquito also known as tiger mosquito. Man develops disease after 5-6 days of being bitten by an infective mosquito.

It occurs in two forms: Dengue Fever and Dengue Haemorrhagic Fever (DHF). Dengue fever is a severe, flu-like illness. Dengue Haemorrhagic Fever (DHF) is a more severe form of disease, which may cause death due to bleeding leading to low blood pressure and low blood volume. Person suspected of having dengue fever or DHF must visit a doctor immediately.

### Signs and Symptoms of Dengue





Lt. Col (Dr.) Vipra Mangla

The signs and symptoms of Dengue includes abrupt onset of high fever, severe frontal headache, pain behind the eyes which worsens with eye movement, muscle and joint pains, loss of sense of taste and appetite, measles-like rash (due to low platelet count) over chest and upper limbs and nausea and vomiting.

#### Vector of Dengue

The vector of dengue is *Aedes aegypti* mosquito. It is a small, black mosquito with white stripes and is approximately 5 mm in size. It takes about 7 to 8 days to develop the virus in its body and transmit the disease.

#### Habits of the Aedes Mosquito

a)

**Feeding Habit:** *Aedes* mosquito is a day biter and mainly feeds on human beings in domestic and peri-domestic situations. It bites repeatedly.

b)

**Resting Habit:** *Aedes* mosquito rests in the domestic and peridomestic situations especially in the dark corners of the houses, on hanging objects like clothes, umbrella, etc. or under the furniture.

c)

**Breeding Habits:** *Aedes aegypti* mosquito

breeds in any type of manmade containers or storage containers having even a small quantity of water. The eggs of *Aedes aegypti* can live without water for more than one year. The favoured breeding places of the mosquito are desert coolers, drums, jars, pots, buckets, flower vases, plant saucers, tanks, cisterns, bottles, tins, tyres, roof gutters, refrigerator drip pans, cement blocks, cemetery urns, bamboo stumps, coconut shells, tree holes and places where rainwater collects or is stored.

#### Treatment of Dengue

Intake of plenty of oral fluids and rest is advised for the patient. Symptomatic treatment is given in form of antipyretics and anti-inflammatory drugs (such as paracetamol). However, it is advisable that self medication should not be done and one should always consult the doctor immediately.

#### CHIKUNGUNYA

Chikungunya also known as Chikungunya virus disease or Chikungunya fever is a debilitating, non-fatal, viral illness that is spread by the bite of infected mosquitoes. It resembles dengue fever in presentation.

Humans are the major source or

reservoir of Chikungunya virus for mosquitoes. Therefore, the mosquito usually transmits the disease by biting an infected person and then biting someone else. An infected person cannot spread the infection directly to other persons i.e. it is not a contagious disease.

#### Signs and Symptoms of Chikungunya

Chikungunya usually starts suddenly with fever, chills, headache, nausea, vomiting, joint pain, and rash. In Swahili, "Chikungunya" means "that which contorts or bends up". This refers to the contorted or stooped posture of patients who are afflicted with the severe joint pain (arthritis) which is the most common feature of the disease. In children, usually there are no symptoms of the disease.

In Chikungunya, the patient usually recovers. However, convalescence can be prolonged and persistent joint pain may require analgesics and long-term anti-inflammatory therapy.

#### Vector of Chikungunya

Chikungunya is spread by the bite of *Aedes* mosquito, primarily *Aedes aegypti*. The habits of the *Aedes* mosquito have already been discussed above with dengue.

#### Treatment of Chikungunya

There is no specific treatment for chikungunya. Supportive therapy that helps ease symptoms involves



administration of antipyretics like paracetamol and taking plenty of rest. Infected persons should be isolated from mosquitoes in order to avoid transmission of infection to other people.

### Vector Control Strategies

The vector control strategies are largely the same for the mosquito borne diseases. The various control strategies for mosquitoes include environmental control, chemical control, biological control, personal protective prophylaxis and community participation.

**Early case Detection and Prompt Treatment (EDPT):** EDPT is the main strategy necessary for all the cases of mosquito borne diseases to prevent their transmission.

**Chemical Control:** Use of Indoor Residual Spray (IRS) with insecticides is recommended under the National Vector Borne Disease Control Programme (NVBDCP).

Chemical larvicides like Abate (Temephos) used in potable water, aerosol space spray and Malathion fogging is used during outbreaks. In case the water collection cannot be removed or has to be utilized for cattle or other purposes, then Abate can be used once a week in a dose of 1 ppm (parts per million). Pyrethrum extract of 0.1%

ready-to-use formulation should be sprayed in rooms to kill the adult mosquitoes hiding in the house.

The application of mineral oil is an accepted method of controlling mosquito larvae. The oils that are used commonly includes kerosene oil, fuel oil, diesel oil, malariol etc. Kerosene oil is the preferred oil because of its remarkable spreading property over water. The oil penetrates the breathing apparatus of the mosquito larva and kills it.

**Biological Control:** Larvivorous fish such as *Gambusia* commonly known as the Guppy fish, *Poecilia* fishes etc. are used in ornamental tanks, fountains etc. Biocides (microbes which feed on mosquito larvae) such as *Bacillus thuringiensis* var *israelensis* and *Bacillus sphaericus* are also used as part of biological control.

**Personal Prophylactic Measures:** These measures can be taken up by the individuals/communities and include the use of mosquito repellent creams, liquids, coils, mats etc., screening of the houses with wire mesh and wearing clothes such as full sleeves shirts, full pants with socks so as to cover maximum surface area of the body. Bednets treated with insecticide should be used for sleeping during night as well as day time to prevent mosquito bite.




Dr. M. Meghachandra Singh

**Community Participation:** Community participation involves sensitizing and involving the community for detection of mosquito breeding places and their elimination. NGO schemes are involved in the programme strategies and collaboration is carried out with different agencies.

**Environmental Management and Source Reduction Methods:** This strategy involves detection and elimination of mosquito breeding sources near the domestic or per-domestic areas such as management of roof tops, porticos and sunshades, proper covering of stored water, reliable water supply, channelization of breeding source and observation of weekly dry day.

The weekly dry day involves not allowing water storage for more than a week by emptying and drying the water containers weekly, straining of the stored water by using a clean cloth once a week to remove the mosquito larvae from the water and this water can then be reused. The sieved cloth should be dried in the sun to kill immature stages of mosquitoes.

Health Education imparting knowledge to common people regarding the disease and vector through various media sources like T.V., radio, cinema slides, etc. is important in controlling mosquito borne diseases. 

(The authors are from Department of Community Medicine, Maulana Azad Medical College, New Delhi)





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# Nurturing Your Kids



Parenting is an opportunity for being your children's friend, philosopher and guide. It requires utmost patience, understanding and maturity on the part of parents to ensure healthy growth and development of their progeny

BY KAUSTUBHI SHUKLA



**T**he Child is the father of Man” remarked William Wordsworth in a poem ‘My heart Leaps Up.’ Since 1802, this phrase has appeared in many references and indicates an adult is the product of his habits, manners and behavior that he inculcated during his childhood.

It has been often noted that many Indian parents perceive parenting as a punishment and engage in some practices which are counter-intuitive

to in-built parental instincts like caring, nurturing, protecting and giving.

Many of these practices are very common. Considering how often one comes across instances of usage of these techniques in practice I wonder if these are prescribed in a parenting book. These malpractices are harmful for the child’s socio-emotional development.

“We have done so much for you and look at what you’re upto.” (Tumhare

liye humne kya-kya nahi kiya aur tum ho ki...) Hearing this often-quoted statement by parents almost automatically generates guilt. Unfortunately this guilt trap technique is frequently sought after by many parents consciously or unconsciously trying to control their children (irrespective of their child’s age). This guilt trap technique is just one example of a common and socially acceptable parenting malpractice.

“Look at your brother, he has



secured such high marks," "Look at your sister, she does all her homework, but you don't" such statements can be frequently heard rising from one end of the common room of many households. Comparison between siblings is another common case which often leads in intense sibling rivalry. It can also ingrain a sense of inferiority in the child who is being looked down upon. When imbibed at a young age this notion is likely to be carried forward by the child in her/his adulthood, thwarting her/his potential markedly. Parents must be cautious about their need to compare the children. There is no scientific evidence suggesting usefulness of comparison in a child's development. If only, it adds to the existing pressure and deprives the child of motivation to maximize her/his skills.

Often middle-aged parents direct their anxieties onto the children blaming them for the failures, shortcomings and frustrations of their personal lives. "You are the reason behind these problems," (Yeh sab tumhare vajah se hai) "I could've progressed in my career if I didn't have the burden of raising you" (Agar tum na hote to main kahan ki kahan hoti). Parents must abstain from blaming their children for their failures or unfulfilled desires, because, firstly, there is very little or close to nothing that children can do to change their parents' situation, and secondly, children didn't wish bad for their parents. Instead, parents should engage in self-reflection and understand the causes of their own frustrations. Moreover, they must try to resolve those feelings of frustration through the help of their partner, peers or other experts in the society. Psychologically, holding children responsible for one's failure and unfulfilled desires can often result in harsh and unreasonable criticism of children which will in turn affect children's perceptions about self, society and life in general.


If one finds themselves gossiping about their children, using abusive

Psychologically, holding children responsible for one's failure and unfulfilled desires can often result in harsh and unreasonable criticism of children which will in turn affect children's perceptions about self, society and life in general.

language to refer to them, comparing one's child with someone else's children and/or criticizing school teachers then they must know something about their life needs immediate remedial actions. Not to criticize, not to gossip and to not watch television soaps in the child's presence can be a difficult task for many parents, but, this is the key to improve your own life and the life of your children. Your actions and choices will reflect in your style of raising the children. That, in turn, will affect their personality.

Parents are often the first and long-lasting peers of their children - this is both an opportunity and responsibility. Children look up to parents for honest answers, thoughtful explanations and sincere reasoning for the happenings in their own lives and the lives of their parents. It is healthy to share age-appropriate facts about one's financial, physical and emotional status with their children openly, instead of glossing over the truth and denying facts. Being aware about the

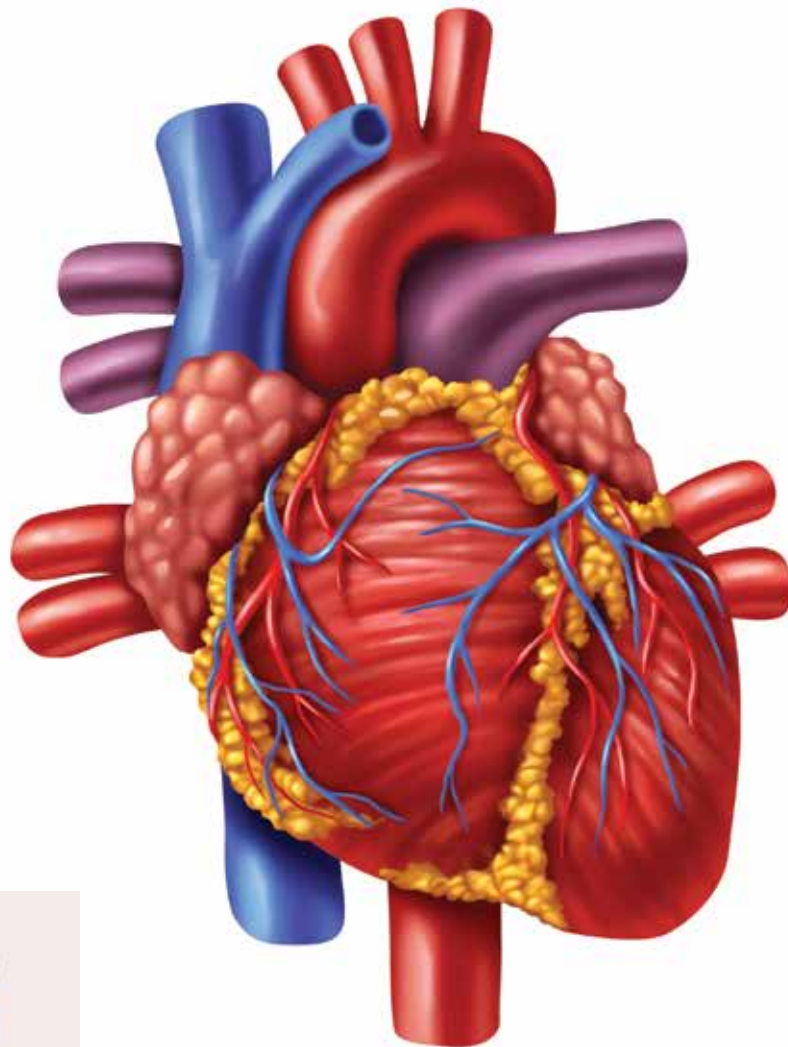
facts related to the lives of one's parents and siblings gives the power to an individual to make informed choices about their future.

Being a parent means an opportunity to live twice over, to learn and grow, this time around through your own children. Parenting can be a blissful and transformative experience when one is open to possibilities, is honest and also forthcoming in accepting challenges. Every situation in life can end in desirable or undesirable consequences. So, when things turn out to be undesirable parents must give matters time and not worry. It is advisable to resolve issues patiently and communicate effectively with children. 

(The author is Clinical Psychologist, PSRI Hospital, New Delhi)



# Time for Mandatory Heartcare



The government must come out with an innovative and cost-effective acute heart care policy, ensuring immediate help to all heart attack patients irrespective of their financial condition

BY DR K K AGGARWAL



**H**ealthcare is a fundamental right guaranteed under the Indian Constitution under article 21. The government must ensure that no one dies of heart attack just because he or she cannot afford heart treatment.

Heart attack remains the biggest killer for both men and women in India. There is an epidemic of metabolic syndrome in India that predisposes millions of patients to heart attacks. Heart attacks occur earlier in Indian men and women than their western counterparts. Women report quite late for care when they have a heart attack. This is as a result of personal, cultural, social, financial and religious reasons.

Mortality and morbidity from heart attack is much higher in India than in Europe and North America. In 2016, it is possible to dramatically lower mortality from heart attacks with pre-hospital thrombolysis or with Primary PCI. Beyond lowering the mortality, morbidity is greatly reduced as it is a long-term disability.

A two-tier approach is recommended for heart attack patients when they are brought at both a private and government hospital. It is important that both private and government institutions be included as a patient with a heart attack should be encouraged to seek care at either, at the earliest, irrespective of his financial status.

1. Heart attack patients should receive 300 mg water soluble aspirin at the onset of heart attack chest pain
2. They should be transported to nearest centre with facilities for heart attack treatment (not nearest hospital)
3. The transport must have trained people in CPR 10 to provide timely resuscitation.
4. At the centre, treatment must start within minutes.
5. For people who cannot afford heart attack treatment, the state





government must develop a system for reimbursement (up to Rs one lakh)

6. Like in RTA, no advance should be insisted at the time of admission to avoid delay. From those who can afford, assurance, cheques, credit cards, undertaking etc. must be honored.
7. No patient must be referred back to any other centre on the ground that the patient does not have money.
8. The mortality can be reduced from 10% to 1% if treatment is not delayed.
9. Survival in heart attack is not the success end point but survival with quality is.
10. This emergent treatment is cost-effective – by providing emergent care for heart attacks, future expenditures can be greatly reduced for the care of these

patients.

11. Urgent revascularization for heart attack involves an additional funding in the acute stage. However, this amount is a fraction of the long term savings from early hospital discharge, decreased long-term medications and less medical care.
12. For a nation with expanded global status, providing guaranteed support by the government and creating an innovative and cost-effective acute heart attack policy, will immensely upgrade the international status of India.
13. Once acute emergency is over, all should be rehabilitated with prevention guidelines.

Formula of 80 for living up to 80 without a heart attack

1. Keep lower BP, bad cholesterol

levels, resting heart rate, fasting sugar and abdominal girth levels all less than 80.

2. Keep kidney and lung functions more than 80%.
3. Engage in recommended amounts of physical activity (minimum 80 minutes of moderately strenuous exercise per week). Our recommendation is to walk 80 minutes a day and for 80 minutes per week, the speed should be at least 80 steps per minute
4. Eat less and not more than 80 gm or ml of caloric food each meal. Follow a healthy diet (high fiber, low saturated fat, zero trans-fat, low refined carbohydrate, low salt, high in fruits). Refined carbohydrates are white rice, white maida and white sugar.
5. Observe cereal fast 80 days a year.






6. Doing 80 cycles of parasympathetic breathing (pranayama) a day with a speed of 4 per minute
7. Spend 80 minutes to yourself every day (relaxation, meditation, helping others etc)
8. Do not smoke else you will have to spend not less than 80,000 on your illness.
9. Those who do not want to stop drinking and there is no contraindication, it is advised to limit alcohol use to no more than 80 ml per day for men (50% for women) or 80 grams per week. 10 grams of alcohol is present in 30 ml or 1 oz of 80 proof liquor.
10. Take 80 mg of aspirin if prescribed for prevention.
11. Take 80 mg atorvastatin for prevention when prescribed.
12. Keep noise levels < 80 dB
13. Keep PM 2.5 and PM 10 levels < 90 mcg/m<sup>3</sup>

For Indian Medical Association (IMA), prevention and management of heart attack represents an initiative of massive implications – as it can reduce overall mortality in the nation. For the burgeoning IMA membership, this initiative provides

Eat less and not more than 80 gm or ml of caloric food each meal. Follow a healthy diet (high fiber, low saturated fat, zero trans-fat, low refined carbohydrate, low salt, high in fruits). Refined carbohydrates are white rice, white maida and white sugar.

a cohesive, scientific and meaningful national initiative with local benefits.

A nationwide IMA fund can be created to supply stents to those who do not have any other source. In bulk bargain, the stents can be made available for the culprit vessel in acute heart attack to be as low as Rs 10,000 per patient. One does not need to tackle the non-culprit vessels in emergency. Only bare metal stent stenting is OK in such cases, as per Dr Sameer Mehta, a US specialist. IMA should file a PIL in the Supreme Court to include proper heart care among the fundamental rights. 

(The author is a Gold Medalist, recipient of Padma Shri, Vishwa Hindi Samman, National Science Communication Award and President Elect and Honorary Secretary General IMA, New Delhi. He is a recipient of Dr B C Roy National Award)

# “It is unjust to scrap the very structure of MCI”

**D**r Vinay Agarwal, former President, Indian Medical Association (IMA), New Delhi and Founder Chairman, Max Super speciality Hospital, Vaishali (Ghaziabad) expresses serious concern over the proposed National Medical Commission (NMC) Bill, 2016. According to him, all the functions enumerated therein are already being carried out by Medical Council of India (MCI) presently under the provisions of the present IMC Act which the proposed bill seeks to repeal. As a member of IMA and IMC's ethics committee, he does not agree with the new NMC Bill that he describes as nothing else but “old wine in new bottle”.

According to Dr Agarwal, if the new bill is implemented, non MBBS doctors can get registered in NMR and start practicing modern medicine. So, NMC Bill 2016 must be abandoned totally. Changes can be brought about in the MCI by retaining and strengthening its self-regulatory role and functional autonomy, and that can be achieved by making relevant amendments to the IMC Act 1956 itself. Excerpts from Dr Vinay

Agarwal's interview with Amresh Kumar Tiwary of Double Helical...

What are your views on the recently drafted National Medical Commission (NMC) Bill, 2016?

The National Medical Commission Bill, 2016 is totally flawed and will create more problems to all aspects of modern medical practice in India than any solutions. We, therefore, suggest total abandonment of the NMC Bill, 2016.

The Parliamentary Report of the Committee on the reforms of the Indian Medical Council Act 1956, appended to the draft NMC Bill, has stated that the current electoral process of appointing regulators is inherently saddled with compromises and attracts professionals who may not be best suited for the task at hand. It creates an ab-initio conflict of interest and therefore this system must be discarded in favour of one based on search and selection.

Do you find anything wrong in this premise? Why shouldn't regulators of highest standards of professional integrity and excellence be appointed through an independent and

transparent selection process by a broad-based search cum selection committee?

We object to this premise as being baseless and uncalled for. The report does not provide any proof for the statement that it “is now widely regarded as a flawed principle”. In India, the following institutions are set up under law for self-regulation of professions: Bar Council of India (BCI) formed under the Advocates Act, 1961, Medical Council of India (MCI) formed under the Indian Medical Council Act, 1956, the Institute of Chartered Accountants of India (ICAI) formed under the Chartered Accountants Act, 1949, Institute of Cost and Works Accountants (ICWAI) formed under the Cost and Works Accountants Act, 1959, Institute of Company Secretaries of India (ICSI) formed under The Company Secretaries Act 1980 and the Council of Architecture (COA) formed under the Architects Act, 1972.

Similar laws of self-regulation of such professions exist in the United Kingdom, other countries of the Commonwealth, the United States and many other







European countries as well. The professions that are allowed by law to be self-regulated, including the medical profession, are the ones that require high levels of knowledge, skill and commitment, with high levels of complexities. For such professions, self-regulation enables setting of high standards of skills and ethics, so as to preserve and improve the quality standards. Therefore, the prevalent laws of the country, such as the Indian Medical Council Act of 1956, which are in tune with the international laws, should not be trampled.

We also object to another contention in the report. If self-regulation of medical professionals creates ab-initio conflict of interest, the same must be true of all other professions, and also legislatures that make laws and procedures for themselves. By this standard, Bar Council cannot be allowed to regulate advocates, ICAI

cannot regulate chartered accountants, parliamentarians and legislators should not make laws regulating themselves, and their perks and so forth.

It is indeed very perplexing to note that the report which questions the standards of self-regulation by elected members of the MCI, goes on to self-certify the standards of the proposed Search cum Selection Committee! It is indeed baffling as to how the NITI Aayog, whose CEO has been listed as a member of the proposed Search cum Selection Committee, can certify the very same committee as independent and transparent and capable of appointing regulators of highest standards of professional integrity and excellence, disregarding the very principle of conflict of interest that it espouses to decry the MCI! NITI Aayog should be placed above this body to become eligible to critically evaluate

the search cum selection committee rather than be a part of the committee.

Further, all the discussions, media reports and the like that have been quoted in the report appear to be one sided and do not necessarily offer an objective reasoning for scrapping the Medical Council of India. It is not an unknown fact that the Medical Council of India has been interfered with time and again, and many politicians across the divide and many businessmen of various trades have succeeded in starting medical colleges of their own in the past three decades. Now to blame it all on the Medical Council of India and use that alibi to scrap the very structure of the MCI is unjust and will certainly do more harm than good.

Then, what would you propose for the draft of NMC Bill 2016?

We strongly propose that the Preamble of the Draft NMC Bill must



be discarded. Instead, the following amendment should be inserted into the Indian Medical Council Act, 1956: The words AN ACT TO PROVIDE FOR THE RECONSTITUTION OF THE MEDICAL COUNCIL OF INDIA AND THE MAINTENANCE OF A MEDICAL REGISTER FOR INDIA AND FOR MATTERS CONNECTED THEREWITH **must be replaced with the words** AN ACT TO PROVIDE FOR THE CONSTITUTION OF THE MEDICAL COUNCIL ON INDIA AND ITS SUB COMMITTEES, PROVIDING FOR THE MAINTENANCE OF A MEDICAL REGISTER FOR INDIA AND FOR ENFORCING HIGH ETHICAL STANDARDS IN ALL ASPECTS OF MEDICAL SERVICES, FOR REGULATING THE CURRICULUM AND STANDARDS OF MEDICAL EDUCATION, FOR OBJECTIVE PERIODIC ASSESSMENT OF MEDICAL COLLEGES, AND TO ENCOURAGE MEDICAL PROFESSIONALS TO INCORPORATE THE LATEST MEDICAL RESEARCH IN THEIR WORK AND TO CONTRIBUTE TO SUCH RESEARCH AND FOR OTHER MATIERS CONNECTED THEREWITH.

CHAPTER 1 and Chapter 2 of the Draft NMC Bill should be discarded. Instead, the IMC Act 1956 must be amended as below:

Section 3 (1) The Central Government shall cause to be constituted a council consisting of the following member, namely **should be amended as** Section 3 (1) The Central Government shall cause to be constituted a council called the Medical Council of India, and its subcommittees to be called as Sub Committee for Undergraduate Medical Education, Sub Committee for Postgraduate Medical Education, Sub Committee for Assessment and Accreditation of Medical Colleges and Sub Committee for Registration and Monitoring of Medical Professionals.

Chapters 3-8 of the Draft NMC Bill must be discarded. Instead, the IMC Act 1956(1) (a) One member from each state other than a Union Territory to be nominated by the Central Government in consultations with the



State Government concerned **should be amended as:**


(a) One member from each state and Union Territory, having registered with the medical council for a period of not less than 15 years, and not a teaching faculty in any medical college, to be elected by the registered medical practitioners having a qualification equal to a postgraduate diploma or a postgraduate degree or above.

(b) One member from each University to be elected from amongst the members of the medical faculty of the University by members of Senate of the University or in case the University has no Senate, by members of the Court **should be amended as** (b) One member from each state and Union Territory, having registered with the medical council for a period of not less than 15 years, to be elected by the registered medical practitioners with post graduate degree or above, and working as faculty in the medical colleges within the state.

(c) One member from each state in which a State Medical Register is maintained, to be elected from amongst themselves by persons enrolled on such register who possess the medical qualifications included in the First or the Second Schedule or in Part 2 of the Third Schedule should be

amended as (c) One member from each State and Union Territory, having registered with the medical council for a period of not less than 15 years, to be elected from amongst themselves by persons enrolled on such register who possess the medical qualifications in the First or the Second Schedule or the third Schedule that is not above level of graduation.

Apart from these, are there major drawbacks in the proposed NMC Bill?

The representative character of MCI and the fine balance between elected and nominated members has been completely given a go bye in the process. In fact in the proposed bill, there is total exclusion of the elected members, thereby, making a mockery of democratic process. There are other professional councils under Health and Family Welfare department like Dental Council of India, Nursing Council of India, and Pharmacy Council of India or under other departments like the Bar Council of India. However, the proposed bill is brought by abolishing MCI only. There is no proposal in respect of other Councils or even a whisper about such a move. There is no legitimate reason for giving such step-motherly treatment to MCI. 



## Evaluating the NMC Bill, 2016

**T**he government has proposed to appoint members of National Medical Commission (NMC) following the recommendation of a high-level search and selection committee. Similarly, the four autonomous Boards for undergraduate education (UGMEB), post-graduate education (PGMEB), assessment and rating (MARB) and medical registration (BMR), and the effective convergence in the form of NMC are well-designed and well-integrated.

The new Bill recommends that the NMC should not engage in fee regulation of private colleges. As the Committee pointed out, once a merit-based, transparent admission system is in place, there is no need to regulate fee structure. The Bill also calls for a nationwide entrance test (NEET) for undergraduate admission, and a National Licentiate Exam for granting doctors

license to practice medicine and enrolment into the Medical Register, and also for admission into postgraduate courses to ensure transparency & fairness, eliminate corruption and promote competence.

The Bill addresses challenges of rampant corruption, failure to establish and maintain standards of medical education and ineffective regulation of medical profession. It provides for second appeal on orders of Medical Accreditation and Rating Board (MARB) and later the NMC to the government with respect to the UG and PG education. As Section 27: Permission for establishment of a New Medical College Subsection 3(para 3) reads, "Provided further that the person/college shall be free to make a second appeal to the Government in case no decision is received within one year from the date of his submission or the scheme is disapproved."

This provision of second appeal to the Government is redundant and counterproductive as the members of both the MARB & NMC are appointed by the Government itself through Searchcum-Selection Committee on the basis of qualifications as per the provisions of the law.

It is proposed that up to 40% seats in private colleges should have regulated fee as per NMC norms, and the institutions should be given full freedom to charge the fees that they deem appropriate for the balance seats. All these are excellent recommendations based on past experience and future needs. However, these recommendations do not find place in the Bill. Given the ubiquitous corruption and lack of transparency in respect of admissions to private medical colleges and fees charged for unregulated seats, NitiAyog believes that relevant provisions should be incorporated in the NMC law.





The Bill seeks to give greater authority and autonomy to four vertical Boards- UGMEB, PGMEB, MARB & BMR. They have far reaching powers and functions. All these Boards are appointed by the Union Government based on recommendations of a high power search and selection committee. However, three of these Boards – UGMEB, PGMEB and MARB have a full time President, assisted by staff from the NMC secretariat. In effect, each is a single-member Board.

The 40% seats with regulated fee should be filled by NEET examination for UG admission, and by the Common Licentiate Examination for PG admission. Only those candidates willing to pay the higher fee should be considered for admission to seats with unregulated fee, but admission should be merit-based among the eligible candidates. Common Licentiate Exam is a very good intervention that would ensure the minimum standards for a medical graduate. In addition, this will serve as the national entrance test for the post-graduate courses. However, greater attention needs to be paid to the

under-graduate examination system.

According to new Bill, a fact-based assessment is a crude tool considering that medical expertise is mostly skills based rather than possessing the factual knowledge. Most of the developing countries moved towards the Objective Structured Clinical Examinations (OSCE) in addition to the MCQ based tests. These are very important tools in improving the clinical and communication skills of the doctors. These can be easily implemented in India in centralized manner –for example at state or a particular region level by a large group of examiners.

Medical specialty organizations and associations in India have evolved significantly in the recent years and have been providing excellent continuing medical education to the medical specialists. One must avail the expertise of these professional associations constructively in improving the standards of post-graduate training in the respective specialties. Involving the stakeholders with expertise directly in devising and updating the training standards of rapidly evolving medical specialties is very essential. This also serves as a mutually reinforcing mechanism strengthening the specialty associations and raising the training standards.

An important role to be played by NBE in shaping the functions of the PGMEB, and proposed that they could continue to conduct voluntary examinations with institutions / candidates willing to take part in such a process. However the transitory provisions in Section 42 of the draft Bill provide for immediate merger of The National Board of Examinations (NBE) with Post-Graduate Medical Education Board (PGMEB).


In all major nations, almost all medical graduates have the opportunity to specialize, get trained and obtain post-graduate diplomas and degrees. In India, typically around 25,577 (49%) medical graduates have that opportunity given the limited postgraduate training facilities and

seats. Among the PG seats, only 50-60% are in clinical medicine, and therefore only about 12-15% of medical graduates are able to specialize in clinical care.

As a result, there are serious deficiencies in competence and expertise in medical care. NBE has been created to meet the legitimate needs of the society and to ensure quality training of post-graduates in a flexible and effective manner. Most objective observers and experts agree that NBE has been doing a very creditable job with honesty and efficacy. MCI historically had no flexibility or institutional ethos to expand PG education. There are many institutions of excellence and credible, high-quality private hospitals which do not want to start medical colleges but are nevertheless excellent institutions for PG education.

The government should review the situation after, say five years, and then take a policy decision on merger of NBE with the new NMC.

The proposed Bill rightly provides for an appeal to the Board of Medical Registration whose decision shall be binding on the State Medical Council in section 29 Clause 1 Sub clause iii: "Where the name of any person has been removed from a State Register on a ground other than non-possession of the requisite medical qualifications, he may appeal in the prescribed manner to the BMR, whose decision shall be binding on the State Council subject to the provisions of Section 29" However, the draft Bill is silent on the composition of the State Medical Council (SMC).

Given the enormous importance of NMC's role in regulating standards of medical education, professional ethics and medical care in India, a regular framework for reporting and accountability should be institutionalized in the law itself. Therefore, we suggest that the NMC Act should provide for a mandatory annual reports to the Parliament, so that there can be effective accountability through Parliamentary debate and Committee hearings. 

# The Doctor on a Mission



A doctor par excellence, Dr S S Agarwal is a multi-faced personality – a well-known crusader for social causes, an eminent educationist, philanthropist, a dedicated representatives of the concerns and issues vital for the medical fraternity, and above all a man with an amazing zest for life

BY AMRESH KUMAR TIWARY









**N**oted physician and currently the National President, Indian Medical Association (IMA), New Delhi, Dr S S Agarwal is a doctor with a healing touch. His life-long mission has been to make healthcare accessible for the masses, and bring a difference in their lives. An MBBS and MD in internal medicine from SMS Medical College and Hospital, Jaipur, he is credited with ensuring the delivery of affordable healthcare services in the far-flung rural areas of Rajasthan. Driven by an inspiring vision of Health for All, he charges only a token amount from the patients from the lower strata of the society (as low as Rs 2) for consultation, despite being an eminent doctor with proven global credentials. He always greets patients with a smile on his face and establishes a lasting bond with them.

The hardship and struggles Dr

Agarwal faced to get proper medical education in his young days, made him determined to do something qualitatively different for the poor and needy. Born on 9th September 1953, exceptionally determined, passionate and hardworking, Dr S S Agarwal has contributed immensely in strengthening the health infrastructure in the country.

He started the first private ambulance of Rajasthan in 1988 and went on to establish the first private sector blood bank of the state in 1995. In 1997, he started the state's first Department of Nuclear Medicine with Nuclear Imaging Gamma Camera which revolutionized the oncology field in the state while paving the way for massive advancements in diagnostic medicine. Further in 1998, he opened the first nursing school of the state.

At present, Dr S S Agarwal is the chairman of Jaipur-based Swasthya

Kalyan group of institutions (established in 1982) which include blood banks, hospitals, colleges in the domains of engineering, homoeopathy, nursing, physiotherapy, Yoga and naturopathy, polytechnic and industrial training. The campuses of Swasthya Kalyan institutions are spread over Jaipur, Chaksu and Tonk.





Dr Agarwal is consulted by the government of Rajasthan on various new and existing projects in the areas of healthcare and education. He has held the position of President in Medical Practitioners Society and Private Hospitals and Nursing Homes Society (Rajasthan), and the post of Chairman in All Rajasthan Private

Doctors' Federation. He is a board member in various universities and member of various government councils. He has been BJP's National Convener of Medical Cell, Co-Convener of Training Cell, and Organizing Secretary of many state, national and international conferences. After years of being the

Honorary Secretary of Indian Medical Association (Rajasthan), in 2008 he was elected the National Vice President of IMA, New Delhi.

Swasthya Kalyan Group of Institutions

According to Dr S S Agarwal, our county is known to be blessed with



excellent medical infrastructure, technology and doctors. On one hand, we have highly specialized services such as trauma centers, neonatal units, burn centers and transplant programs available to patients. On the other, we always face shortage of blood. Despite rapid and remarkable progress made by medical science today, there is no way blood can be synthesized. Humans remain the only potential source and so the preciousness of human blood can be easily understood. Swasthya Kalyan Blood Bank, set up by Dr Agarwal, is dedicated to provide excellence in blood Services, i.e. by maintaining the highest levels of quality control and to ensure a safe and dependable blood supply for the community.

Even as Yoga has been gaining popularity across the world, there is a dearth of trained yoga instructors. Keeping this in mind, Swasthya Kalyan Institute of Naturopathy and Yoga Sciences was established in

2007. Recognized by the Government of Rajasthan and affiliated to Maharshi Dayanand University, Ajmer, it provides practical training facilities for students at Lal Kothi, Tonk Road, Jaipur. The Institute offers courses, designed to impart technical aspects of Yoga along with its philosophical and psychological background. The courses are planned in such a way that students are exposed to various aspects of both ancient and modern health science and trained to develop a broad concept of fundamental principles on which Naturopathy and Yogic Science treatments are founded.

The students are given practical sessions to understand the application of principles from the physical, biological, social and behavioural sciences for assessing health status & imparted advanced knowledge in the fields of Naturopathy and Yoga. The courses cover asana, anatomy, therapeutic applications and health benefits of

Yoga, nutrition, and philosophy.

Swasthya Kalyan Institute of Medical Technology and Nursing Education was established in the year 1998. Its diploma & degree courses in Nursing are approved by the Govt. of Rajasthan. The institute is affiliated to Rajasthan University of Health Sciences & recognized by Rajasthan Nursing Council and Indian Nursing Council.

Says Dr Agarwal, "A nurse is vital part of the healthcare services, making invaluable contribution to the healing process through the touch of compassion and care. Nurses focus on the needs of the individual, rather than specific illnesses or conditions.





They help individuals and their families to live more comfortable lives by providing care, advice and counseling.”

At the institute, nursing personnel are trained to develop professional aptitude and provided necessary theoretical knowledge as well as practical training in nursing in all types of illness. They are imparted skills in management, research and teaching in nursing as well as guidance and counselling of patients. The students are trained in recognizing and interpreting intelligently the physical, and mental and emotional manifestation of illness and to plan nursing care to

patients on the basis of their individual needs. Building up moral and ethical values and evidence based practice with regard to nursing, they are trained to work in mutual co-operation with medical and para-medical personnel and to purposefully participate in various programmes for the prevention of diseases and for the promotion of health in the community.

Homoeopathy is the fastest growing system of medicine in the world. The World Health Organization (WHO) has declared Homoeopathy to be the second-most used medical system internationally. It has the capacity to get to the root cause of

illness, and is a complete healing system within itself and since its inception.

Swasthya Kalyan Homoeopathic Medical College and Research Centre was established in the year 2002. The Bachelor of Homoeopathic Medicine & Surgery (BHMS) course offered by the institution is a full time course with the aim to produce competent, confident, caring Homoeopaths who become an asset to the profession. The college is approved by Govt. of Rajasthan, recognized by the Central Council of Homoeopathy (CCH), New Delhi and affiliated to Dr. Sarvapalli Radhakrishnan Rajasthan Ayurved University, Jodhpur. The campus has



the biggest (build-up area) among the private Homoeopathic colleges in the country.

This institution, set up with the prime objective of promoting and providing education and research in the field of Homoeopathy, aims to

provide students with a solid foundation based on therapeutic principles together with the incorporation of modern concepts. Aided by extensive clinical orientation through live clinical workshops, students learn to relate well to




patients, colleagues and other healthcare professionals.

The Journey Continues...

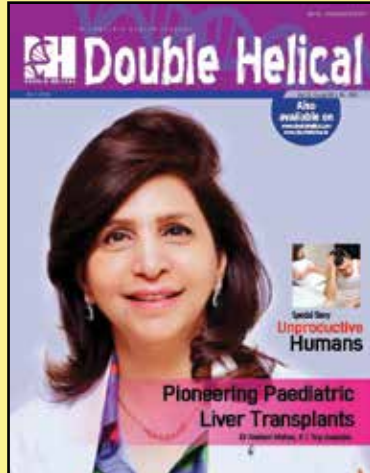
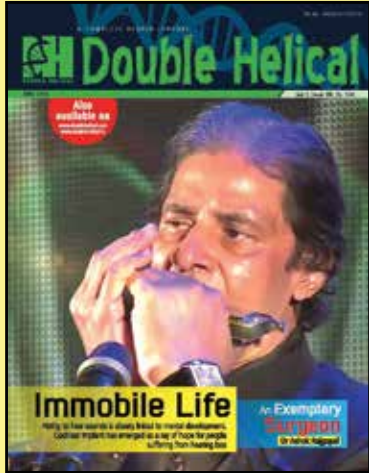
Dr Agarwal has been in the forefront of creating a strong inter & intra-organizational support system for the medical practitioners across the country. Significantly, he has been a medical activist since his residency years when he was the president of Rajasthan Association of Resident Doctors.

His other notable associations include: member, Indian Red Cross Society Managing Body, New Delhi; member, Medical Tourism & Wellness Board, Union Ministry of Tourism; member, Central Council of Health & Family Welfare-MOPFW; and member of Rajasthan Medical Council. He is trustee of International Network for Cancer Treatment & Research (INCTR) in official relation with WHO.

Dr Agarwal has travelled worldwide to more than 25 countries for various conferences and paper presentations. He has to his credit more than 100 papers and publications in national & international journals, dailies and magazines and has given more than 1000 lectures at different forums across the country. He has received numerous awards and felicitations. In 2001, he was awarded a cash prize with appreciation certificate by the Governor of Rajasthan on the occasion of Republic Day for his exemplary social services. He has also received National ISBTI Award and many lifetime achievement awards by various organizations across the world. And, he is determined to achieve many more milestones in his life and career. 



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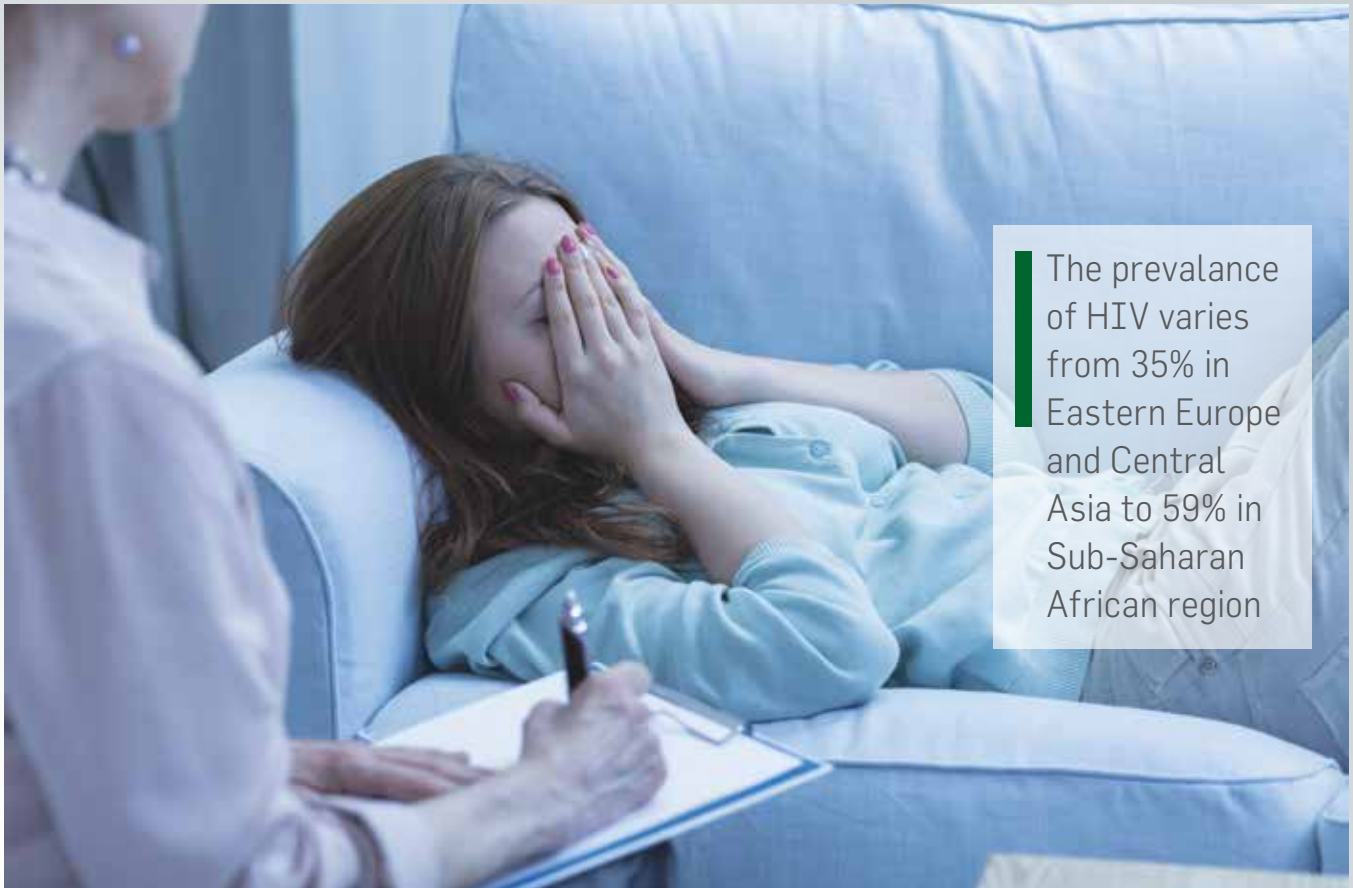
# Battered Existence

Women and girls are particularly vulnerable to HIV/AIDS due to gender inequalities still prevailing in many parts of the world

BY DR SUNEELA GARG,  
DEEKSHA KHURANA







The prevalence of HIV varies from 35% in Eastern Europe and Central Asia to 59% in Sub-Saharan African region

**G**ender is an inseparable part of HIV/AIDS equation. A disproportionately high number of women and young children bear the burden of this epidemic. According to World Health Organization (WHO) 2014 data, globally 17.4 million women are living with HIV which constitutes nearly 50% of all the adults (36.9 million) living with HIV. According to the WHO, worldwide HIV/AIDS is the leading cause of death among women of reproductive age. In the words of Michel Sidibé, Executive Director of UNAIDS, "This epidemic unfortunately remains an epidemic of women".

There are significant regional differences in the proportion of women living with HIV as compared to men. The prevalence of HIV varies from 35% in Eastern Europe and Central Asia to 59% in Sub-Saharan African region.

Women and girls face the following challenges that make them vulnerable to HIV/AIDS:-

#### Gender Inequality

Gender Inequality is a key driver of the HIV epidemic. Early marriages are still common worldwide, with young girls often forced into marriage and sexual relations resulting in interrupted education and maternal health risks, including exposure to HIV. In most societies, there is power imbalance between men and women where men folk are more dominant as compared to their female counterparts.

Women are often the primary caregivers in the family, including for family members living with and affected by HIV, which can limit their economic opportunities. Also, as sex is considered as taboo in most societies, women have limited access to sexual health information.

#### Violence against women

Gender-based violence (GBV) is a pervasive public health and development problem throughout the world that severely increases women's vulnerability

to contracting HIV/AIDS. Studies have shown that the proportion of women, who have experienced physical or sexual violence by an intimate partner in their lifetime, ranges from 15% to 71% globally.

Violence and the threat of violence not only hamper women's ability to protect themselves from HIV infection but also in healthy sexual decision making. A woman also can be at heightened risk of violence or rejection by disclosing her HIV-positive status.

#### Lack of access to healthcare services

In some countries, women face significant barriers to accessing healthcare services. A lack of access to comprehensive HIV and sexual and reproductive health (SRH) services means that women are less able to look after their sexual health and reduce their risk of HIV infection. Moreover, healthcare providers often lack the training and skills to deliver youth-friendly services and do not fully



**Global summary of the AIDS epidemic | 2014**

<b>Number of people living with HIV in 2014</b>	<b>Total</b> 36.9 million [34.3 million – 41.4 million]
	<b>Adults</b> 34.3 million [31.8 million – 38.5 million]
	<b>Women</b> 17.4 million [16.1 million – 20.0 million]
	<b>Children (&lt;15 years)</b> 2.6 million [2.4 million – 2.8 million]
<hr/>	
<b>People newly infected with HIV in 2014</b>	<b>Total</b> 2.0 million [1.9 million – 2.2 million]
	<b>Adults</b> 1.8 million [1.7 million – 2.0 million]
	<b>Children (&lt;15 years)</b> 220 000 [190 000 – 260 000]
<hr/>	
<b>AIDS deaths in 2014</b>	<b>Total</b> 1.2 million [980 000 – 1.6 million]
	<b>Adults</b> 1.0 million [890 000 – 1.3 million]
	<b>Children (&lt;15 years)</b> 150 000 [140 000 – 170 000]

understand laws around the age of consent and abortion legislation. This can lead to women choosing to have an abortion because they are misinformed about their options and how to protect their health as well as their child's. Stigma and discrimination create additional barriers. Judgmental attitudes of healthcare professionals around youth sexuality can result in the denial of healthcare services.

**Lack of access to education**  
When girls attend school, the likelihood that they get married or pregnant at a young age decreases. As many girls drop out of school, they are less likely to access comprehensive sex education. SRH education builds awareness of HIV and how to negotiate relationships, so it


is crucial that access to education is scaled up for women.

However, many women who do remain in school do not receive adequate HIV and sex education. Statistics reveal that young women in many countries lack awareness about how to protect themselves from HIV.

HIV testing and counselling for women  
A major gap in HIV service provision for women can be found in HIV testing and counseling. In many parts of the world, access to HIV testing is particularly low among young women. Community and home-based testing have been put forward as an effective way of reducing the social and economic costs of going to a facility to test. Moreover, all testing and counseling should be provided confidentially and voluntarily.

Antiretroviral treatment (ART) for women

Prevention of Mother to Child Transmission programs serve as an important entry point for women to access HIV treatment and care services. Although substantial progress has been made in providing services to prevent the mother-to-child transmission of HIV, 27% of pregnant women living with HIV in 2014 still didn't access antiretroviral drugs (ARVs) for PMTCT.

Countries across the globe are working towards mainstreaming gender into prevention, treatment, and care Programs of HIV. The international agencies are working to reduce gender inequalities and gender-based abuse and violence; expanding priority gender activities; and integrating gender considerations throughout all programming areas. Implementing a five pronged strategy in the form of increasing gender equity in HIV/AIDS activities and services; reducing violence and coercion; addressing male norms and behaviors; increasing women's legal protection and increasing women's access to income and productive resources would go a long way in addressing and combating HIV in women. 

(The authors are from Department of Community Medicine, Maulana Azad Medical College, New Delhi)





# A New Perspective

Ayurveda sees dengue as a reflection of strong vitiation of vata and pitta doshas. Accordingly, it prescribes the right kind of food we should eat and lifestyle we should lead

BY DR PARTAP CHAUHAN



Dr Partap Chauhan

**T**hough bacterial infections are always discussed with tremendous seriousness, it is the viral infections that often prove to be more dreadful.

While polio has been almost eradicated and influenza has not remained a threat any more, viral diseases such as dengue and swine flu continue to wreck havoc intermittently in many parts of the world.

Dengue epidemic during the Commonwealth Games 2010 in Delhi had become a big issue and forced many

foreign players to pull out of the games.

## Causes

Like most of the other febrile illnesses, dengue too is spread mostly by mosquitoes. *Aedes aegypti* mosquito usually carries this virus from one person to another. The mosquito breeds well in water reservoirs and pot holes. So dengue epidemics are often seen during monsoon months in India when water tends to accumulate at various places and provides a fertile ground for mosquitoes to flourish. Apart from



mosquito bites, the other ways by which the dengue virus can gain entry into the human body is through the injections of blood, serum & plasma. However in majority of the cases, it is the *Aedes aegypti* mosquito that spreads the virus in community. The female mosquito acquires the virus by biting an infected individual suffering from fever. The virus then grows inside the body of the mosquito and reaches even its saliva. As this mosquito generally prefers human blood as its food and lays eggs in domestic water containers, the spread of the virus becomes quite easy. A single bite of such a mosquito is sufficient to infect a healthy individual with

the virus.

#### Fever Attack

Once the mosquito makes an entry into the human body, it may produce the dengue fever within 3 to 15 days. Not all people bitten by the mosquito develop dengue fever as quite a few remain symptomless. Less than 20% people suffer from the disease and display the classical symptoms.

The first febrile phase is marked by fever, headache, body ache, nausea, vomiting, pains in muscles & joints and goes on for 2 to 7 days. The virus attacks the blood cells as a result of which the blood starts oozing out of small capillaries and starts accumulating below the skin. This causes rashes on skin. As these symptoms are seen in many other diseases as well, the diagnosis of dengue is confirmed by detecting dengue antibodies in patient's serum.

Though the fever attack generally subsides within a week and most of the symptoms start disappearing, in few patients bleeding inside the body cavities may occur. This happens because the virus attacks the bone marrow as a result of which platelet production is reduced. Since the platelets are essential for

successful blood clotting, reduction in their count results in haemorrhages.

This haemorrhages phase is however generally followed by the complete recovery when the body reabsorbs the leaked fluids from the blood stream. The weakness caused by the fever however persists for several weeks. In few cases however, life-threatening situation may arise and requires intensive treatment.

#### Ayurvedic View & Treatment

From Ayurvedic perspective dengue fever reflects strong vitiation of vata and pitta doshas. As usual the pathogenesis begins with the weakening of gastric fire and production of ama (toxins). This further leads to the vitiation of vata & pitta doshas as a result of which various symptoms appear. While muscle and joint pains indicate aggravation of vata, the haemorrhages reflects aggravation of pitta.

Ayurvedic treatment for dengue includes complete bedrest. The aggravated vata requires avoidance of all such activities that can aggravate vata.

Patient's body should be covered by a blanket to prevent exposure to cold climate and further spread of the infection by mosquito bites.

Since gastric fire of dengue patients is generally weak and toxins dominate the digestive system, the patient is advised very light meals and digestible food. Soups prepared from various pulses or vegetables, rice and porridge etc are recommended.

Fried, spicy, sour foods and items made from white flour should be avoided as they generate toxins in body and create conducive environment for fever.

Sufficient water should be drunk to avoid dehydration. Papaya leaves juice should be drunk as it







increases platelet count which can be taken on regular basis.

Medicines are given for digesting the toxins, stimulate gastric fire, pacify vata & pitta and bring down the fever. Herbs such as Guduchi, musta, parpatak, khus, sandal, dhanwayas, tulsi and patha are useful as they meet all the above purposes. To pacify pitta and arrest haemorrhages, cooling medicines like khus, sandal, Kamadudha ras, Chandrakala ras are particularly useful.

Patient should be given warm water to drink and body sponging should be done instead of full-fledged bath.

#### Prevention, Diet & Lifestyle

Most of the mosquito-spread infections can be prevented by discouraging the proliferation of mosquitoes. Keeping the surroundings clean, preventing unhealthy accumulation of water, spreading the water reservoirs with mosquito repellent chemicals & insecticides and keeping the domestic water covered reduces the scope for mosquito breeding and applies breaks on diseases like dengue.

Hunting down mosquitoes becomes particularly important during the epidemics of the disease and in the unclean areas. Accumulation of water can be prevented in such areas by filling up the ditches and closing up the drainages.

Maintaining individual health by proper diet, exercises and mental relaxation is important. As said already, not all people bitten by the mosquito develop the disease. So having strong immunity, balance of doshas and strong dhatus (tissues) certainly reduces the possibility of acquiring the disease and protects the individual health even if there is no vaccine for the disease.

Use of mosquito repellents, mosquito

Use of mosquito repellents, mosquito nets and covering the body by sufficient clothes can protect oneself from the mosquito bite and subsequent infection of virus


nets and covering the body by sufficient clothes can protect oneself from the mosquito bite and subsequent infection of virus.

Eating spicy, oily food, fried items and non-veg articles which can burden the gastric fire should be avoided completely and diet should be restricted to vegetarian alternatives. While fruits like citrus fruits, figs, papaya are acceptable, heavy fruits like banana and mangoes should not be eaten.

Food from open stalls and eateries should be avoided and water from unknown or unclean sources should not be drunk. Chyawanprash may be consumed to boost immunity.

Getting wet in rains should be avoided and in case of such an incident, wet clothes should be changed immediately.

Travelling into the areas where dengue is prevalent should be avoided.

Doing yoga, pranayama and spiritual reading proves useful and burning camphor or other similar latex discourages mosquito growth. 

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



# Keep your Heart Healthy

Follow the wisdom of Ayurveda to ensure proper care of your heart, and lead a long and healthy life

BY AYURVEDACHARYA DR PARTAP CHAUHAN



Dr Partap Chauhan

**A**ccording to Ayurveda, the heart is one of the three main marma (vital organs). There are many types of srotas (channels) responsible for the circulation of various materials like dhatus (tissues), energy, wastes and prana (life air).

Prana vaha srotas, which are responsible for the flow of prana in the body, are the main srotas. The heart is the root of prana vaha srotas. All the main blood vessels originate from the heart. The heart is also the seat of the

consciousness or soul. It is also related to ojas (vital fluid), which sustains the consciousness or soul and keeps the person alive. Modern science too emphasizes the importance of the heart. The heart is the basis of life and we should take proper care of it. The heart is the seat of emotions like love. So, to establish love, harmony and peace, it is important that one has a healthy heart.

Taking care of your heart

- According to Ayurveda, ama is the main cause for heart diseases. Ama






is the toxic material that is produced by undigested food. Therefore, one must make sure that one eats only the amount and type of foods one can digest properly.

- Avoid over-eating and eating frequently. Eat a light breakfast and dinner. Lunch should be the main meal. Milk products, fried foods, cold foods and acidic foods should be taken in small quantities. White flour products and foods that contain chemical preservatives and additives should be avoided. Animal products,



According to Ayurveda, ama is the main cause for heart diseases. Ama is the toxic material that is produced by undigested food.

especially red meat, are not good as they take a long time to be digested, and create a lot of toxins in the stomach.

- Seasonal fruits and fresh vegetables (steamed or cooked), wholemeal bread or chapatti, salad, sprouts, vegetable soup, buttermilk, cottage cheese (paneer), a little quantity of fresh milk and ghee (clarified butter) make up an ideal list of food items to choose from. Anything sweet should be taken in moderation. Honey and jaggery are healthier than purified sugar.
- Amla (Indian gooseberry) is very beneficial for the heart. It can be taken fresh, preserved or in powder form.
- A very common cause of heart diseases is mental stress. Regular practice of yoga and pranayama (breathing exercises) reduces stress levels. Also, meditation has been scientifically proven to prevent as well as cure heart diseases.
- A gentle head massage with or without oil several times a week is very beneficial. A full-body self-massage with oil once a week is also good.
- Too much tea, coffee, alcohol and smoking is not good for the heart and should be given up. They weaken the liver and digestive power, and so form ama.
- Drinking water kept overnight in a copper pot strengthens the heart.
- A herb that has been scientifically proven to prevent and cure heart diseases is Arjuna (*Terminalia arjuna*). It can be taken in powder form or the bark of the tree can be boiled to make a tea.
- Rudraksha, which is a fruit from a tree found mainly in the Himalayas, also has a beneficial effect on the heart. These seeds can be strung together and worn in the form of a necklace, or the seeds may be soaked in water overnight and the water should be taken early in morning.
- Obesity is a very common reason for heart disorders. If you have put on some extra pounds, you must reduce them by regular physical exercise and diet control. 

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





# The Key to Health

What kind of food we should eat to stay fit and healthy? An expert viewpoint...

BY DEBJANI BANERJEE

**N**utrition plays an integral part in every human being's life. The food choice that individuals make each day affects the health in a great way. Good nutritious food is a way of leading a healthy lifestyle. Eating a balanced diet is vital for good health and well being.

The food that we eat everyday provides essential vitamins, fats, proteins, minerals and energy to our body that help us to grow and function properly. A healthy and a balanced diet include whole grains, fruits, vegetables, fat free milk or milk products, meat, fish, nuts or





seeds etc. A balanced diet with physical activity can help you to maintain a healthy weight and promotes good health. A balanced diet must ensure:

**Protein:** Protein is a macronutrient which means that a human body requires it in large quantity. Most of the cells in a human body are made up of proteins, in fact your hair and nails are too made up of proteins. The body uses protein that helps to build and repair tissues. Proteins are an essential building block for your bones, cartilage, muscles, skin and blood. Proteins come from a variety of sources like milk, soy, fish, eggs, beans, nut butters etc.

**Vitamins:** Vitamins have numerous role to maintain the health and functions of your body. Vitamin C is associated with the immune system of your body and prepares the body to fight against various infections. This vitamin can be taken from citrus fruits like oranges and lemons. Vitamin D works for the healthy bone formation. Vitamin E is essential for nail, hair and skin health. Both these vitamins can be obtained from fish oils and nut oils. Vitamin B closely works for breaking down carbohydrates and changing them into energy for body functioning. Meat, grain and green leafy vegetables are a good source of vitamin B. Vitamin K plays an important role in the formation of blood clots and can be obtained from green leafy vegetables. Vitamin A is important for ocular health and vision and fish oil and cod liver oil are a great source for it.

**Fats:** All foods contain fats in some or the other way. Fats are extremely important for our body to function properly. Fats are essential for the growth and development of the body. Our brain contains large amounts of essential fats in order to send out electrical signals. Moreover fats are also required to carry certain vitamins in our body. Fats can be obtained from meat, cheese, butter, milk, cream and eggs.

**Minerals:** Minerals are essential for maintaining bones, teeth, hair, blood,



A healthy diet can benefit people suffering from these diseases. Eating healthy keeps you both mentally and physically fit. When you feel good from within yourself you have the self confidence to face the world

skin, hair, nerve function, muscles and for various other metabolic activities that convert the food we consume into energy. Green leafy vegetables, meat, eggs, dry fruits, tomatoes, whole grains, fruits etc are great sources of minerals.

**Carbohydrates:** These are essential nutrients that our body needs. Carbohydrates are a great energy source that give us most of the energy that our body needs. Moreover carbohydrates can also help boost your mood. Carbohydrates are found in a wide variety of foods like bread, sugar, fiber, potatoes, beans etc.

Eating a nutritious diet reduces the risk of chronic diseases like heart problems, diabetes, obesity and some kind of cancers. Strength, endurance,

co-ordination and level of performance are all powered by the types of food we eat. A healthy diet enables the body to execute each and every move with ease. However, a poor diet with unhealthy choices of food can not only increase stress levels in your body but also makes the body movements tough causing pain and strain. Food supplies power for your brain that has a great impact on your mental and emotional health. Unhealthy food habits can cause health problems like depression, Alzheimer's disease, Parkinson's disease. A healthy diet can benefit people suffering from these diseases. Eating healthy keeps you both mentally and physically fit. When you feel good from within yourself you have the self confidence to face the world.

It is very important for each and every individual to follow a nutritious diet since nutrition plays a great role in shaping your mind and body. If a person is healthy then they have a stronger immune system that fights off infections. Moreover when a person is fit, he/she not only looks good but also feels healthy from inside. 🍌

(The author is Nutrition & Dietetics at PSRI Hospital, New Delhi)



# No cause for Embarrassment

Got too enlarged breast? It is no big abnormality. You may just be suffering from gynecomastia, enlargement of breast in men which is just a hormonal imbalance

BY DR RAKESH KUMAR SANDHIR







**G**ynecomastia (woman's breast) is a condition of enlargement of breast in males. It may affect both or one side only. It is a common problem for which males ask for cosmetic relief. The flat chest is considered a male character by lay public. The levels of both testosterone (male hormone) and estrogen (female hormone) may be normal in an individual. The ratio however may be altered.

The gynecomastia occurs physiologically in infants, at puberty and above the age of 50 years. It is present in newborns and disappears in 2 weeks' time. Nobody is usually concerned about it. The old ladies of the house explain it by the common knowledge that mother's blood (medically hormones) passes into the foetus.

The young adults between the age group of 13-30 years seek the advice most commonly. They complain of enlargement, pain and tenderness. The boys at puberty have some enlargement of breasts due to hormonal changes. It disappears in about 2 years. It may however persist in some boys. The treatment is requested for emotional reasons and the embarrassment which occurs at the hands of peer groups and at public places. The problem can be gauged from the following cases.

- 1: A 17 years old boy agreed to fill the forms for admission in a college only when his parents got his surgery done for gynecomastia. He felt that with chest like girls, it will not be possible for him to adjust in college.
- 2: A man of 24 years joined a company as a salesman. His assumption was that to look smart for the job he should wear tight shirts. This he could not do with his chest condition. He underwent surgery with desired result and faced his clients with more confidence.
- 3: A 26-year-old man was to get married. He requested surgery so that he could look manlier to his wife.


These boys usually have no other

abnormality of endocrine, liver or kidney organs. The patients ask for medical treatment. It may be effective in some cases. It, however, is not effective if the condition is present for more than one year.

The mainstay of treatment is surgical. The surgery is subcutaneous mastectomy. It is done either alone or liposuction assisted. The liposuction assisted means that the fat portion is removed by liposuction. The glandular breast has to be removed by excision surgery. There are various incisions to perform it. The periareolar is a commonly used incision. The operation is safe with low incidence of complications which include skin

The gynecomastia occurs physiologically in infants, at puberty and above the age of 50 years. It is present in newborns and disappears in 2 weeks' time. Nobody is usually concerned about it.

necrosis and hematoma formation. The recovery occurs in 5-7 days. The patients feel happy to see their flat chest. It along with psychological relief is reflected on their face.

The patient usually does not undergo surgery if it occurs after the age of 50 years in our scenario. The investigations are done to exclude carcinoma breast, kidney or liver failure. These investigations are indicated because gynecomastia may occur pathologically at any age. The history of alcohol abuse, antihypertensive or chemotherapy is taken. The drugs like amphetamines and marijuana may also cause gynecomastia at any age. 

(The author is Consultant Plastic Surgeon, Kailash Hospital and Heart Institute, Noida)



# Minimizing Risks

Though there are no definite causes for autism, it is advisable to avoid birth defects by taking all safeguards during pregnancy

BY DR MANISHA YADAV

**A**utism or Autism Spectrum Disorder (ASD) is a complex disorder of growth of brain. Such disorders are illustrated in fluctuating degrees, by challenges in verbal and nonverbal correspondence, social interaction and redundant practices. According to a research, all autism imbalances were converted into single diagnosis of ASD. Actually, they were perceived as particular subtypes that include childhood disintegrative disorder, autistic disorder, pervasive developmental disorder and asperger syndrome.

ASD can be related with challenges in motor coordination, intellectual disability and physical wellbeing issues, like gastrointestinal and sleep disturbances. A few persons with ASD excel in music, maths, visual skills and art. It seems to develop its roots in early phases of brain development. But, the most evident indications and symptoms of autism tend to rise somewhere around 2 and 3 years of age. Autism responds to subsidizing research on robust strategies for earlier diagnosis, since early intervention with proven behavioral treatments can improve the outcomes.

Autism is common

Autism has increased by ten times in predominance in last 40 years. According to latest research, autism is four to five times more basic among boys as compared to the girls.

What Causes Autism?

In the recent past, the only answer to this question was – no idea. However, research is currently conveying the answers. Most importantly, we now realize that there is no particular reason for autism as there are several types of autism. Throughout the most recent five years, researchers have





recognized various uncommon changes, or transformations in genes that are connected to it. Most of its instances appear to be caused by a blend of autism risk genes and environmental factors affecting the early mental health.

In the wake of hereditary predisposition to autism, various environmental or nongenetic stresses seem to further build the child's risk. The clearest confirmation of such factors includes events before and amid the birth. They incorporate progressed parental age at time of origination, maternal disease amid pregnancy and certain complications amid birth, especially those including times of oxygen deprivation to the infant's mind. It is imperative to remember that these elements are not directly responsible to cause autism. But combined with hereditary risk components, they compound the problem.

What signs suggest that someone has an ASD?

Basically, ASD is distinguished before a child begins school and most of them are currently analyzed from an extremely young age. Generally, guardians, a childcare worker or health professional notice something strange in the child's behaviour. Illustrations incorporate inability to react with proper social practices, for example, smiles or other facial expressions, poor dialect advancement, and absence of different types of correspondence, for example, indicating and waving. A few kids are not even diagnosed until they are at school and a diagnosis may happen in late adulthood or adolescence. Those diagnosed at an older age are more functioning and have less serious side effects. Nevertheless, they encounter correspondence, social and behaviour difficulties.

How to prevent Autism?


Despite the fact that the cause for autism is not known, it is the opinion of numerous researchers that genetics is liable for 90% of the risk of a child

developing autism. The uncommon cases might be caused by chemical exposure and different agents that cause birth defects. To avert the danger of having a kid with autism, follow the below-given tips:

- Routine checkup, healthy diet, yoga and exercise and take all suggested minerals, vitamins and supplements at the time of pregnancy.
- Try not to take drugs amid pregnancy unless your doctor approves; this is especially valid for some anti-seizure pharmaceuticals.
- Try not to drink alcoholic beverages of any sort at the time of pregnancy.
- In case, you've been diagnosed with celiac sickness or PKU, get treatment.
- Getting vaccinated against German measles (rubella) before pregnancy can anticipate rubella-related autism.

Management of autism

Till date, Autism has no treatment. It is an intricate disorder with myriad manifestations. Early intervention can reduce difficulties related with it and strengthen the quality of life. Not even a single treatment is ideal and management requires to be modified as per the needs of the child. In majority of cases, the perfect blend of treatment techniques is more effective. Broadly, its management includes the following:

- Behavioural management therapy
- Cognitive behaviour therapy
- Early intervention
- School-based and educational therapies
- Joint attention therapy
- Medication treatment
- Nutritional therapy
- Occupational therapy
- Parent-mediated therapy
- Physical therapy
- Social skills training and
- Speech-language therapy. 

(The author is Medical Practitioner, New Delhi)



# Decoding Dengue

Do you know that only female species of *Aedes aegypti* mosquito can spread dengue or chikungunya? Read about more such important facts to raise your awareness.

BY DR A K AGGARWAL

**D**engue, a common communicable disease, caused by dengue virus, is characterised by high fever, severe body aches, intense headache and other symptoms.

Dengue fever is spread by mosquitoes called the *Aedes* mosquitoes which are very tough and bold and can bite even during the day time. Dengue fever occurs more frequently in the rainy season and immediately afterwards (July to October) in India. The most

dangerous mosquitoes like Female *Anopheles* or *Aedes aegypti* are primarily responsible for spreading dengue. Also, only female mosquitoes can spread dengue or chikungunya. Males do not bite or spread disease (in fact, males are not primarily responsible for spreading dengue).

They most commonly infest ponds, marshes, swamps and other wetland habitats. However, they are capable of thriving in a variety of locations and can successfully grow in numbers even

when not in their natural habitat. Many species of mosquitoes use containers of water as egg-deposit sites.

## Dengue Mosquito's Life Cycle

Female *Aedes aegypti* commonly lays eggs on the inner walls of artificial containers. When the containers fill with water, mosquito larvae hatch from the eggs. After developing through four larval stages, the larvae metamorphose into pupas.

Both male and female mosquitoes



are nectar feeders, but the females of many species are also capable of hematophagy (drinking blood). Females do not require blood for their own survival, but they do need supplemental substances such as protein and iron to develop eggs. Our blood is essential for mosquitoes as it provides the protein mosquito eggs need for development. While fertilization occurs only after a blood meal, the blood does not fertilize the eggs. Mosquitoes reproduce sexually, and they drink blood. Often, it is only the females which drink blood, and they use this food as fuel for creating eggs. Mosquito-borne diseases or mosquito-borne illnesses are diseases caused by bacteria, viruses or parasites transmitted by mosquitoes. They can transmit disease without being affected themselves.

*Aedes aegypti* is the species of mosquito which is primarily responsible for spreading dengue. Other *Aedes* species such as *Aedes albopictus*, can also spread dengue and chikungunya, but *Aedes aegypti* is the main vector and it is this species that is responsible for almost all of the dengue epidemics. *Aedes albopictus* is often cited as a dengue vector and can indeed spread the disease but it is not very efficient. Other mosquito species bite humans but do not spread dengue fever.

#### Prevention of dengue fever

Prevention of dengue is mainly targeted towards preventing breeding of mosquitoes and protection from mosquito bites. Following tips will help you in these aspects:


- Make sure there is no stagnant water in and around your house. Get the blocked drains cleaned. Fill the ditches. Empty the water from air coolers and flower vases completely at least once in 7 days and let them dry. Remove old containers, tyres, pots, etc.
- Tightly cover the water tanks and containers so that the mosquitoes cannot enter them.
- If it is difficult to drain the water completely from room cooler, you can add two tablespoons (30 ml)



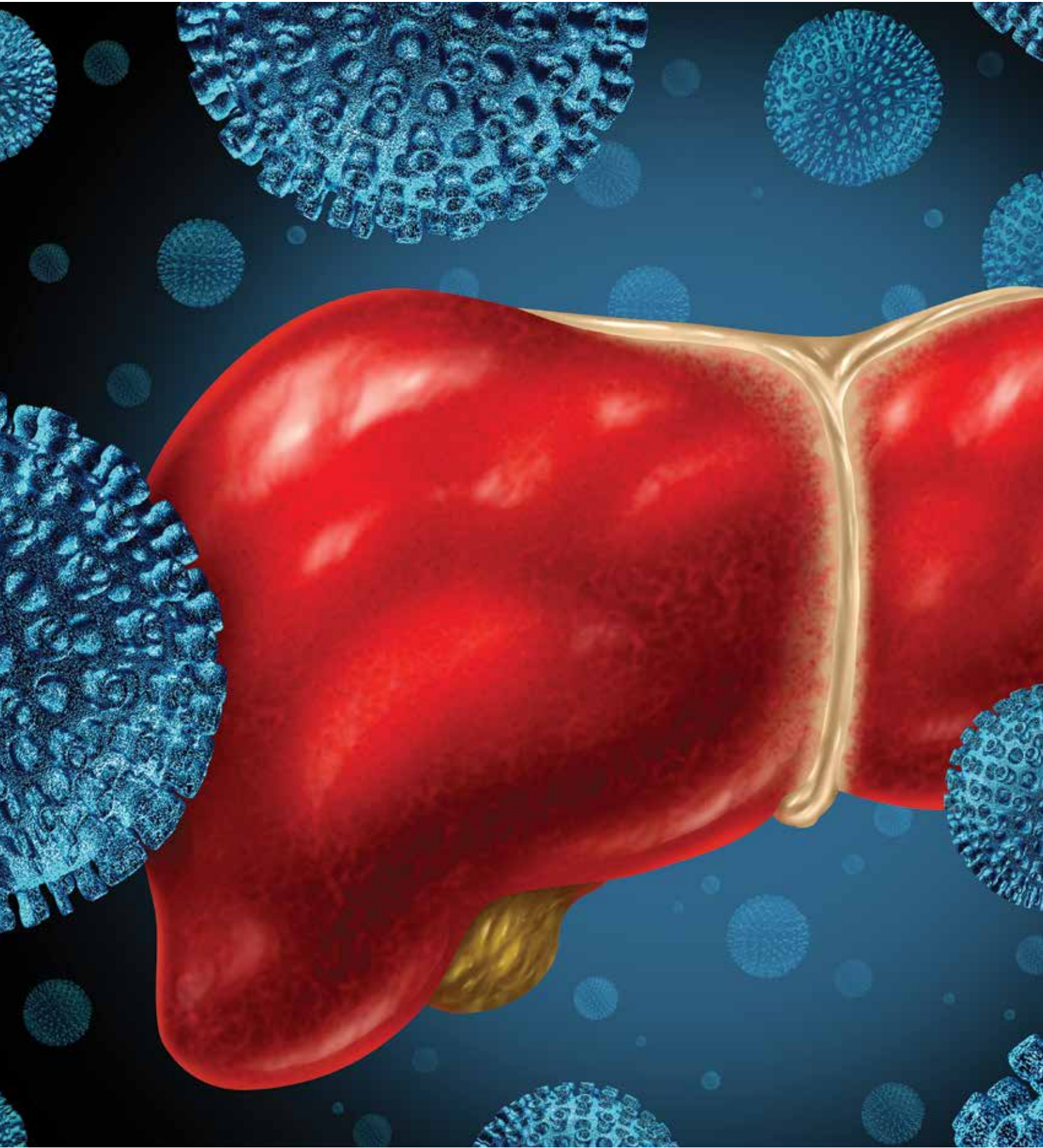
Both male and female mosquitoes are nectar feeders, but the females of many species are also capable of hematophagy (drinking blood). Females do not require blood for their own survival, but they do need supplemental substances such as protein and iron to develop eggs.

- of petrol or kerosene oil for each 100 litres of water. This will prevent the mosquitoes from breeding. Repeat this procedure every week.
- Get wire mesh fixed to your doors and windows of the house, so that the mosquitoes cannot enter the room.
- Use mosquito repellent creams, sprays, coils or liquids to protect

yourself from mosquito bites.

- Always sleep under a mosquito net. Also, make sure small children sleep under mosquito net even during the day.
- Wear clothes which cover your hands and legs like full sleeves shirt/T-shirt, full pants, socks and shoes.
- Use insecticidal spray in the house at least once a week. Don't forget to spray behind the sofa, bed, curtains, etc.
- Keep the surroundings of your house clean. Avoid littering garbage and cover your dust bin or trash can.
- Don't allow wild plants to grow around your house. They act as a hiding place for mosquitoes.
- Do remember, that *Aedes* mosquitoes can bite even during day time. Therefore, you should protect yourself against bite during day time also.
- Lastly, make sure that a patient of dengue fever is kept under a mosquito net during the first 5-6 days of illness. This isolation will help in preventing the spread of infection to others in the community. 

(The author is Medical Advisor, Apollo Hospital, New Delhi, Professor of Excellence, and Ex Dean, Maulana Azad Medical College, New Delhi)





# Protect Your Liver

It is important for people to stay alert towards liver ailments, and avoid alcohol abuse, unhealthy diet, obesity and a sedentary lifestyle

DR PIYUSH RANJAN

Over two lakh people lose their lives every year in India due to liver disease. One in every five Indians suffers from liver problems and the most frequent causes are alcoholic liver disease, Hepatitis B, Hepatitis C and obesity-related liver disease. Liver transplantation is the most effective treatment for an acute and chronic liver and it is the only available treatment for the end-stage liver disease. While around 20,000 people require liver transplantation, only 2,000 transplantations are done in the country on annual basis.

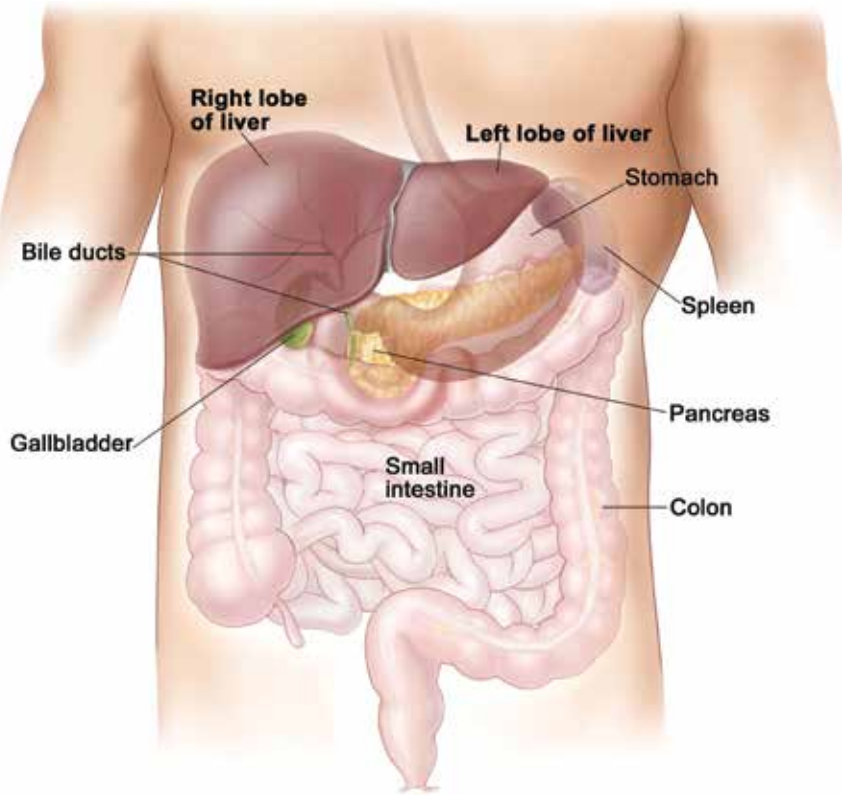
In more than 90% cases, patients don't realise that they have a liver disease until it is late. What is worse is that the cost of treatment for liver ailments especially in later stages is exorbitantly high.

According to WHO data published in May 2014, liver disease deaths in India reached 216,865 or 2.44% of total deaths. The age adjusted death rate stood at 21.96 per 100,000 of population.

Contrary to popular belief, even non-



alcoholics can fall prey to deadly liver diseases. Though alcohol usage itself is not so good for health, the least people should know beyond which point it can pose a health risk. Alcohol abuse continues to cause maximum cases of liver cirrhosis. But in recent years, viral hepatitis infections as well as non alcoholic fatty liver disease (NAFLD) associated with diabetes, obesity and sedentary lifestyle too are



on the rise.

It is important for people to stay alert towards liver ailments, as liver diseases are a silent killer. People would not even realise that they have this problem till one day when it becomes serious. There are usually no early symptoms and even later it may present itself as simple fatigue, anaemia, recurrent jaundice and swelling in leg or a low platelet count. While early detection of liver ailments can be done by simple screening tests, preventive measures especially for high risk groups are crucial.

#### Common liver problems:

The liver is situated on the upper right side of the abdomen, just below the diaphragm. It is the largest internal organ of the human body and weighs around 1.5kg in the average adult. Blood from the digestive system must first filter through the liver before it travels anywhere else in the body.

The principal roles of the liver include removing toxins from the body, processing food nutrients and helping to regulate body metabolism. A range

of conditions can prevent the liver from performing its vital functions. Culprits include fat accumulation, alcohol misuse, viral infection, iron or copper accumulation, toxic damage and cancer.

#### Functions of the liver

Some of the many functions of the liver include:

- Drugs, including alcohol, are filtered through the liver and neutralised or converted into other forms by special enzymes.
- Bile, produced by the liver, is stored in the gall bladder and used to help break down dietary fats.
- Fat soluble vitamins A, D, E and K need bile in order to be absorbed by the body.
- The liver converts carbohydrates into glucose for instantly available energy and converts glucose into its storable form (glycogen). When blood sugar levels drop, glycogen is converted back into glucose.
- Amino acids from protein are sent to the liver for the production of

body proteins such as hormones.

- The liver changes ammonia (a toxic by-product of protein metabolism) into urea, which is then excreted in urine.

#### Symptoms of disease

Symptoms of liver disease depend on the disorder, but can include:

- Jaundice (the skin or whites of the eye turn yellow)
- Dark urine
- Nausea
- Vomiting
- Diarrhoea
- Appetite loss
- Weight loss
- General malaise
- Fever
- Bloating abdomen, swollen ankles
- Abdominal pain in the upper right side
- Anaemia, vomiting blood or passing black stools (denoting altered blood)
- Changes in mental state – altered sleep pattern (awake at night), confusion, and drowsiness.





#### Common liver diseases

- Fatty liver – This is the most common of the alcohol-induced liver disorders. Fat accumulates inside the liver cells, causing cell enlargement (steatosis) and sometimes cell damage (steatohepatitis), and can lead to cirrhosis. Similar changes are also seen in people who do not drink excessive amounts of alcohol but are overweight, obese or have diabetes. The liver becomes enlarged, causing discomfort on the upper right side of the abdomen.
- Cirrhosis – This has many causes but is commonly due to hepatitis infection or excessive alcohol intake. The cells of the liver are progressively replaced by scarred tissue, which seriously impairs liver functioning.
- Hepatitis – A general term meaning inflammation of the liver. It is also used to refer to infections of the liver by specific viruses (hepatitis A to E).
- Haemochromatosis – This inherited disease makes the body absorb and store higher than normal amounts of iron. This damages many organs including the liver, pancreas and heart.
- Autoimmune liver disorders – An abnormal increase in immune cells damages the liver cells. These rare conditions include autoimmune hepatitis and primary biliary cirrhosis (mostly women affected) and primary sclerosing cholangitis (more common in men).
- Cancer – Primary cancers can arise in the liver, most often from chronic hepatitis with cirrhosis. Stray cancer cells from a tumour elsewhere in the body may cause a secondary tumour in the liver.
- Galactosaemia – The body's reaction to particular milk sugars damages the liver and other organs. This is a rare inherited disorder.
- Alpha 1-antitrypsin deficiency – Another rare inherited disorder that can cause cirrhosis of the liver.
- Wilson's disease – The liver can't excrete copper. Various organs of the body, including the liver and

The liver is situated on the upper right side of the abdomen, just below the diaphragm. It is the largest internal organ of the human body and weighs around 1.5 kg in the average adult. Blood from the digestive system must first filter through the liver before it travels anywhere else in the body.


brain, are affected by the excessively high copper levels.

#### Complications of liver disease

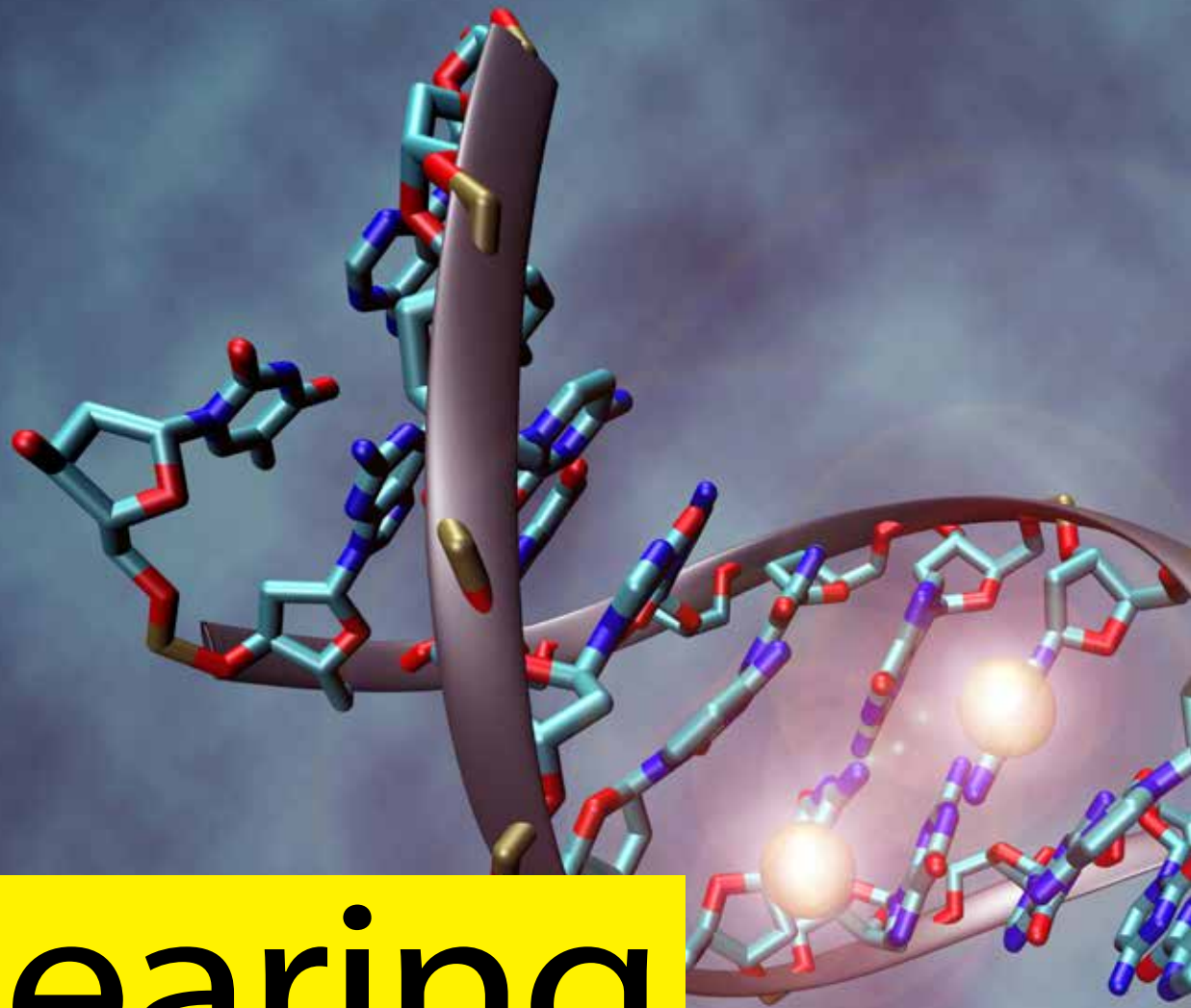
Without treatment, a person with liver disease is susceptible to a wide range of complications, including:

- Hepatic encephalopathy – Scar tissue prevents the proper flow of blood through the liver, so that toxins remain. These circulating toxins, particularly ammonia, affect brain functioning and can lead to a coma.
- Ascites – Liver disease can cause a build-up of body sodium ('salt'), which leads to fluid retention in the abdominal cavity (ascites) and in the legs, feet and back (oedema).
- Liver failure – The liver cells are destroyed faster than the liver can replace them, until the organ can no longer function adequately.
- Cancer – cirrhosis or some forms of hepatitis can make the liver more susceptible to primary cancer (cancer that originates in the liver).
- Gastrointestinal bleeding – The veins that normally travel through the liver may be blocked because of cirrhosis. These veins then bypass the liver and may travel along the stomach or oesophagus lining, where they may rupture and bleed.

#### Precautions to protect liver

- Avoiding alcohol and any drugs that might damage the liver
- A well-balanced, nutritious diet – some people require a modified diet (for example, low salt)
- Medications, such as antiviral drugs to treat viral infections
- Specific medications to manage Wilson's disease. 

(The author is Sr Consultant, Gastroenterology, Sir Gangaram Hospital, New Delhi)

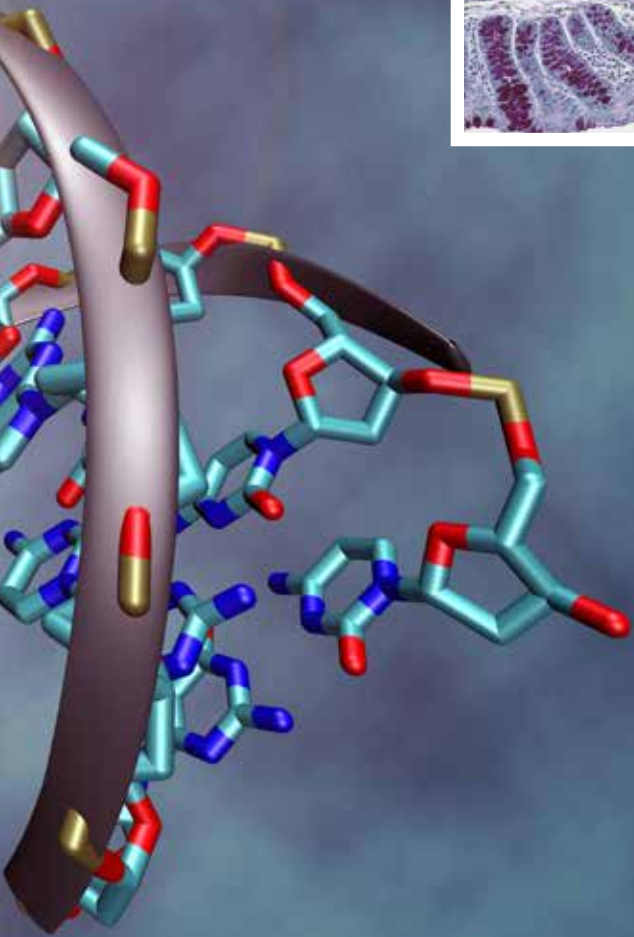
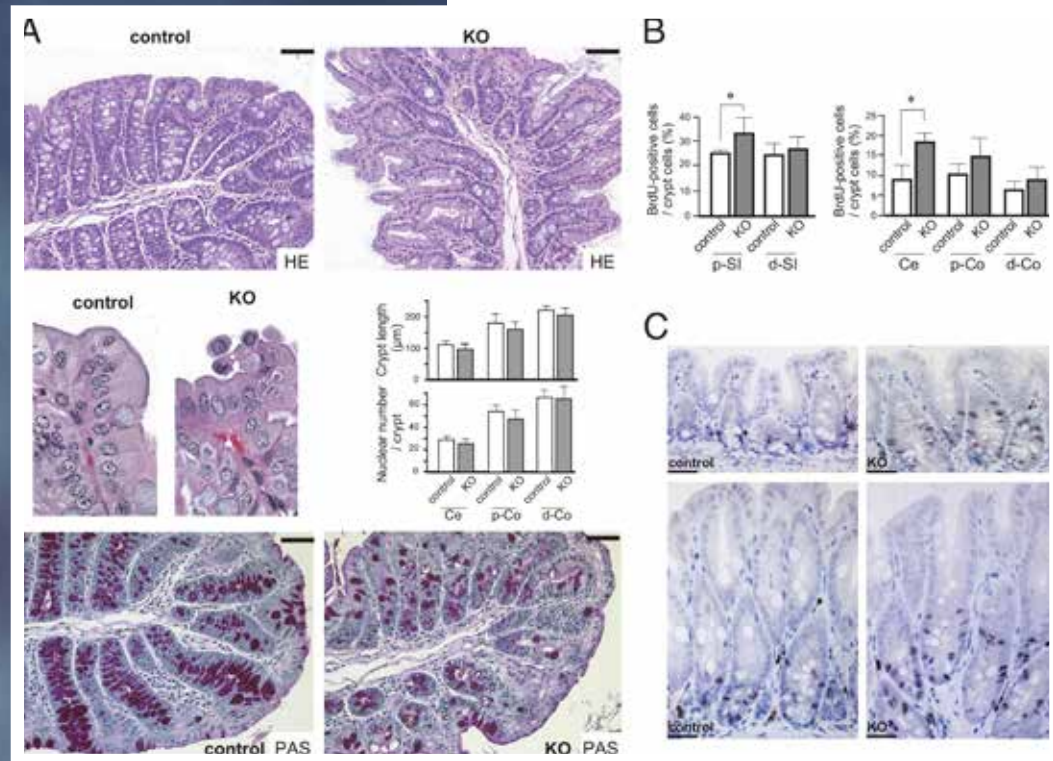


# Clearing the Air

In critical illnesses such as cancer, a patient should not hesitate in seeking a second opinion about any aspect of diagnosis or treatment. It can clarify a diagnosis or provide appropriate treatment options

BY DR NAVEEN AGARWAL





**S**econd opinion from a good Oncopathologist is very much needed in the current oncology practice. A case in point is a doctor from Ludhiana who was diagnosed to have lung cancer and given initial treatment in US. His case was referred to an Oncologist in Action Cancer hospital for further management. As routine protocol, slides were reviewed.

I suspected this case of non-pulmonary origin and asked for detailed Immuno histochemistry (IHC) work up. It was tough to convince him for these tests as authenticity of US hospital work up was very high. However, IHC proved it to be kidney cancer. These results were communicated back to hospital in the US and they reviewed this case again and finally acknowledged their mistake. The patient's chemotherapy protocol was changed and he benefited by correct diagnosis in terms of increased survival.

Cancer is often a confusing and frightening diagnosis. It may be hard to make decisions about treatment options. Because treatments are continually improving, it is important to



find someone who has experience with your type of cancer. Many people seek the knowledge and advice of more than one doctor to confirm a diagnosis and evaluate treatment options. This is called a second opinion.

A second opinion may provide an idea about confirmation of a diagnosis, additional details about the type of cancer and its stage, like description of where the cancer is located whether the cancer has spread and whether it is affecting other parts of the body

Asking for a second opinion is common practice. It may help you feel more comfortable with the healthcare decisions you make. Gather all relevant medical records including blood or imaging tests at the time of appointment. Often, the doctor providing a second opinion will request the results of any tests or procedures you have already undergone. Many

local hospitals, regional cancer centres and institutions have physician referral services that provide consultations for second opinions.

This eliminates repeat testing. It is

Problematic situations may arise with pathology review, especially if the patient has already undergone definitive treatment and is referred to an academic institution in remission. Difficulties can also arise when patients do not understand the limitations of diagnosing disease on small biopsies

also helpful to have the actual images from your most recent imaging tests. Typical testing images include a computed tomography (CT) scan, and the pathology slides from the biopsy used to confirm your diagnosis. Cancer.Net has a variety of medical forms you can download to help keep all your information organized.

Seeking a second opinion from an expert in the patient's specific cancer can provide another viewpoint. Such an expert could suggest clinical trials the patient's doctor might be unaware of or confirm a treatment recommendation.

Support groups and other cancer survivors can also be good sources for recommending oncologists and specialists. The pathology review is performed for patients when care is transferred to a tertiary care center after diagnostic tissue has been



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obtained. While it has many benefits, this practice can lead to unforeseen difficulties in doctor-patient communication and patient well-being, especially if a diagnosis is overturned or modified years after treatment.

The aim of this analysis is to identify clinical situations in which pathology review can result in challenging discussions between patients and oncologists. The patient's representative case scenarios are presented in the subspecialty area of hematopathology. Analysis of the clinical benefits and possible harm to patients, pathologists, and treating oncologists that may ensue from pathology review is performed.

Pathology review may result in a valuable second opinion and expert sub classification. However, problematic situations may arise with pathology review, especially if the patient has already undergone definitive treatment and is referred to an academic institution in remission. Difficulties can also arise when patients do not understand the limitations of diagnosing disease on small biopsies.

The patient may receive a different diagnosis or it may become apparent that the diagnosis could have been made more expeditiously. These discrepancies must be communicated to the patient and may cause confusion and distress.

Pathology review can be beneficial or potentially harmful depending on the clinical situation. Preliminary recommendations are provided for selecting patients for review. Limiting pathology review to certain clinical situations and encouraging patients to get second opinions before initial treatment at local referral centers may be helpful in minimizing reassignment of diagnoses after definitive treatment.


Every patient has the option to get a second opinion about any aspect of diagnosis or treatment. In fact, several situations could actually call for one.

Whether there is concern about a recommended treatment or just a desire to hear the diagnosis confirmed from another physician, a second



opinion is appropriate. Patients might also seek a second opinion if the pathologist is having difficulty making a diagnosis, if they have a rare type of cancer that their doctor is unfamiliar with, if they think their doctor underestimates the seriousness of their disease or if their medical insurance plan requires one.

So, the patients can request a second review of their pathology slides or another opinion on treatment if their choices are numerous and they want reassurance they have chosen wisely. In some cases, a second opinion

can clarify a diagnosis or provide treatment options about which they might not have been aware. Patients should seek a second opinion from a physician outside the same practice as their current doctor. They should not worry about offending their doctor; most oncologists expect patients to seek a second opinion. Some suggest it and offer recommendations. 

---

(The author is Senior Consultant Pathologist and Head, Department of Laboratory Services, Balaji Action Cancer Hospital, Delhi)



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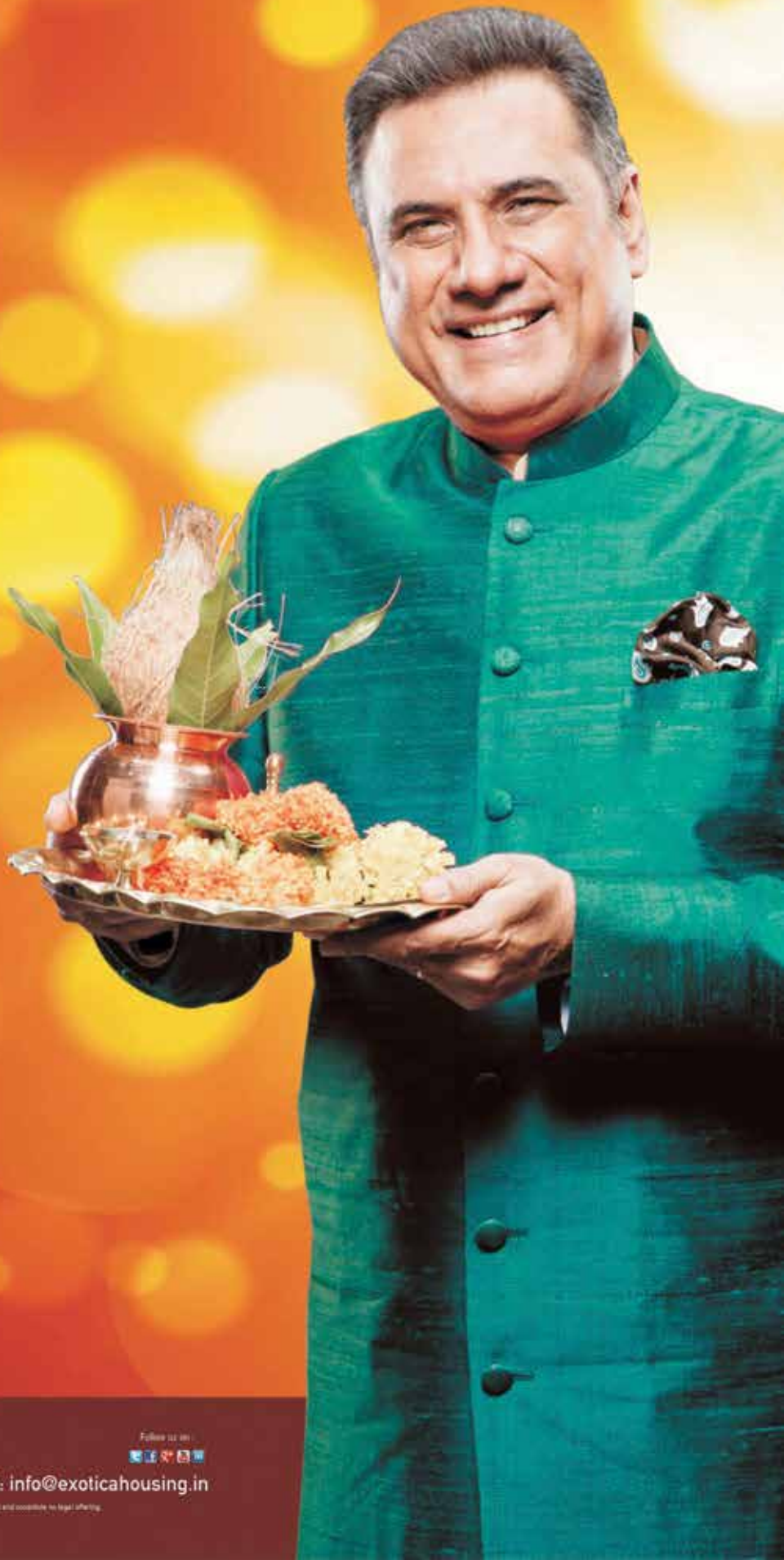
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